Florida State University Law Review

Volume 45 | Issue 1 Article 1

Fall 2017

The Problem With Inference and Juvenile Defendants

Jenny E. Carroll
University of Alabama School of Law

THE PROBLEM WITH INFERENCE AND JUVENILE DEFENDANTS

JENNY E. CARROLL*

ABSTRACT

Much of criminal law relies on proof by inference. The value of evidence frequently lies in what it suggests as much as what it shows. An outstretched hand in a dark alley is either an illicit drug deal or a handshake; a semi-coherent moan is either encouragement of, or resistance to, a sexual advance; shouted words to "fuck up" a school principal could be either a promise of harm to come or meaningless bravado. In criminal law, fact finders untangle not only what happened, but why it happened, or perhaps more accurately, what the defendant's state of mind was when it was happening. As all other superfluous facts fall away, the question of mental state lingers as a fulcrum around which culpability swings in criminal law. Reaching the answer to the mental state question, however, is a deceptively complex one. The fact finder must engage in an interpretive act, considering not only what can be seen or heard as evidence, but also the significance of that testimonial or physical evidence in real-world contexts—both the world in which the events occurred, and the fact finder's own world. This act of interpretation seeks to give evidence meaning that the law can recognize.

Developments in neuroscience suggest that in the context of juvenile defendants, this moment of interpretation is fraught with particular risks. The emergence of functional magnetic resonance imaging (fMRI) technology has provided significant insights into adolescent brain development and its effect on adolescent thought processes. As a result, scientists (and courts) recognize that adolescent actors are more likely to engage in risky behavior, fail to properly comprehend long-term consequences, and overvalue reward. In short, science has proven what most long suspected: kids think and react differently than do adults.

Although criminal law has long accounted for this difference procedurally, particularly in the creation of an independent juvenile justice system, there has been little exploration of its significance in the realm of substantive criminal law. This Article argues that what is known of adolescent brain development suggests that adult fact finders are poorly positioned to accurately assess a juvenile defendant's state of mind. In short, current treatment of the state of mind element is insufficient and risks inaccurate results. The current approach to assessing mental state relies on judgments by fact finders who, as adults, lack the perspective of those whose actions and words they seek to interpret in the process of judgment—juvenile defendants. Rather than asking adult fact finders to perform the impossible task of placing themselves in an adolescent's mind, substantive criminal law should instead acknowledge the difference in perspective between adults and adolescents. Further, it should permit evidentiary presentation and jury instructions akin to defenses which rely on the defendant's actual, as opposed to imagined, perspective.

---

* Wiggins, Childs, Quinn & Pantazis Professor of Law, University of Alabama School of Law. I would like to thank Adam Steinman, Michael Risinger, Michael Pardo, Elizabeth Scott, Christopher Slobogin, Andrea Roth, Deborah Denno, Ronald Krotoszynski, Steven Hobbs, Alice Ristroph, Rachel Godsil, Steven Rushin, Pam Pierson, Anna Roberts, Kate Levine, Michael Cahill, Margaret Lewis, Megan Ryan, Matthew Tokson, Hank Greely, Cynthia Godsoe, Corina Lain, Charisa Kiyô Smith, and the good people at CrimFest and BioLaw Palooza—all of whom listened to me and helped me work through the arguments in this Article. I would also like to thank the men and women on the front lines of juvenile defense who supported this work, including (but not limited to) Simmie Baer, Marty Beyer, B.J. Casey, Gar and Nettie Blume, Wendy Wolf, and my own juvenile clients who first sparked the idea for this Article in me. Finally, I owe thanks to the editorial staff of the Florida State University Law Review, in particular Tyler Stokes, who did a fantastic job editing the piece. I appreciate everyone's hard work and careful attention to detail. Any mistakes in this Article are my own, but whatever coherent argument emerges from it is the product of a team of folks who read drafts, made suggestions, and pushed back when the argument needed it.

I. INTRODUCTION

Much of criminal law relies on proof by inference.[1] The value of evidence frequently lies in what it *suggests* as much as what it *shows*.[2] An outstretched hand in a dark alley is either an illicit drug deal or a handshake; a semi-coherent moan is either encouragement of, or resistance to, a sexual advance; shouted words to "fuck up" a school principal could be either a promise of harm to come or meaningless bravado. In criminal law, fact finders untangle not only what happened, but why it happened. It is answering the "why" question—not as a matter of motive (though motive may well be relevant), but as a matter of the defendant's state of mind—that places an act and

1. Inferences, or presumptions, are used as synonymous terms by the courts and scholars to describe the legal construct that permits juries to "infer an essential element of a crime from proof of some other fact commonly associated with it." *See* Charles R. Nesson, *Reasonable Doubt and Permissive Inferences: The Value of Complexity*, 92 HARV. L. REV. 1187, 1187 (1979).

2. *See* Sandstrom v. Montana, 442 U.S. 510, 512-13 (1979) (permitting circumstantial evidence alone to satisfy the beyond a reasonable doubt proof requirement of mens rea by holding "[t]he law presumes that a person intends the ordinary consequences of his voluntary acts"). The Court's position that inference does not violate due process requirements by lessening the burden of proof is not without controversy. *See, e.g.*, John Calvin Jeffries, Jr. & Paul B. Stephan III, *Defenses, Presumptions, and Burden of Proof in the Criminal Law*, 88 YALE L.J. 1325, 1327 (1979) (arguing that inferences, while facilitating ease of proof, create significant constitutional concerns including lessening and/or impermissible shifting the burden of proof); Nesson, *supra* note 1, at 1187; James F. Ponsoldt, *A Due Process Analysis of Judicially-Authorized Presumptions in Federal Aggravated Bank Robbery Cases*, 74 J. CRIM. L. & CRIMINOLOGY 363, 363 (1983).

its result on the legal spectrum of liability.[3] To reach that answer, the fact finder must engage in an interpretive act, considering not only what can be seen or heard, but the significance of that testimony or physical evidence in the context of both the world in which they occurred and the fact finder's own world.

The significance of a handshake, or a moan, or shouted words to criminal law depends both on the context in which each occurred and the fact finder's own perception of the events and their context.[4] The outstretched hands of two men in an alley become a drug deal in the context of testimony by police officers that drug paraphernalia littered the alleyway and that both men ran when the police shone lights on them. The outstretched hands of the two men become a drug deal as jurors consider their own perception of the area in question and the defendant himself. Would they ever enter that alley in *that* part of town if they weren't buying drugs? Would they ever sit hunched and sallow at counsel table looking nervously around the courtroom, as the defendant did, if they weren't addicted to drugs? As the fact finder deliberates on the guilt of a defendant, he inevitably recalls not only the evidence presented at trial, but how that evidence conforms to his own observations, life experiences, and expectations.

To cabin this process as a mere credibility analysis is to belie the full scope of its significance. In this process, the fact finder does more than merely assess whether or not the evidence is true or believable; he engages in an act of interpretation by which he assigns a legal meaning to evidence in light of his own worldview.[5]

This act of interpretation is fraught with the risk of error or bias.[6] Procedurally, criminal law seeks to control and to reduce such risks.[7]

---

3. Distinct from motive, the "why" question asks what the actor intended and so assigns legal significance to the act and result. *See* Jenny E. Carroll, *Brain Science and the Theory of Juvenile Mens Rea*, 94 N.C. L. REV. 539, 545 (2015) (noting that the mental state behind an action serves as a means of distinguishing the criminal from the purely accidental and calibrates degrees of culpability); Stuart P. Green, *Why It's a Crime to Tear the Tag Off a Mattress: Overcriminalization and the Moral Content of Regulatory Offenses*, 46 EMORY L.J. 1533, 1547-48 (1997) (contending that mens rea distinguishes degrees of legal blameworthiness).

4. *See* ALEX STEIN, FOUNDATIONS OF EVIDENCE LAW 2-3 (2005) (discussing evidence law's efforts to ensure decisional accuracy by controlling the flow of information to the fact finder).

5. *See* Andrea Roth, *Machine Testimony*, 126 YALE L.J. 1972, 1984 (2017) (noting that credibility assessments aside, a significant value of evidence lies in the fact finder's ability to assess it based on "their own powers of observation and reasoning").

6. *See* REID HASTIE ET AL., INSIDE THE JURY 22-23 (1983) (discussing potential sources of juror bias and error in interpretation); Ronald J. Allen, *Unexplored Aspects of the Theory of the Right to Trial by Jury*, 66 WASH. U. L.Q. 33, 37 (1988) ("[J]urors' experiences and perspectives are crucial variables in determining the effect of the words that a witness speaks at trial . . . .").

7. One of the most significant efforts to prevent error and bias is to promote a representative cross section in juror selection. *See* Taylor v. Louisiana, 419 U.S. 522, 530 (1975)

Before the trial even begins, jurors submit to the tedium of juror questionnaires and the rigor of voir dire in an effort to ascertain potential bias and to instill a sense of duty and seriousness of purpose in the juror.[8] Prior to deliberation, jury instructions seek to channel juror discretion by defining the boundaries and terms of interpretation.[9] Likewise, judicial discretion is bounded by precedent[10] and statutory definition.[11] Threat of impeachment, appellate review, and—in the case of elected judges—voter mutiny also serve to constrain judicial discretion or caprice.[12] In the trial itself, evidentiary rules' twin guardians of relevancy and reliability set limits on admissible evidence and insulate against prejudice.[13]

In reality, however, facts—or, more accurately, their faithful interpretation—are as much a product of the evidence used to support them as the inferences drawn from them. In this aspect, procedural safeguards risk failure not because they lack rigor (though they may), but because they overlook a critical component of the substantive law they apply to—the fact finder's interpretation. This interpretation is based not only on the law's construct but on the fact finder's own view of that construct in the context of his sense of the world as

---

("[B]road representative character of the jury should be maintained, partly as assurance of a diffused impartiality . . . ." (quoting Thiel v. S. Pac. Co., 328 U.S. 217, 227 (1946) (Frankfurter, J., dissenting)); JON M. VAN DYKE, JURY SELECTION PROCEDURES: OUR UNCERTAIN COMMITMENT TO REPRESENTATIVE PANELS 18 (1977) ("[J]urors bring to the jury box prejudice and perspectives gained from their lifetimes of experience" but this variance can be mitigated with a mix of jurors who "will be impartial in the sense that they will reflect the range of the community's attitudes"). In the context of evidence, evidentiary and procedural rules work together to limit the risks of interpretation by limiting admissible evidence and promoting impeachment, corroboration, and timely production. *See* Roth, *supra* note 5, at 1984-85; Roger C. Park, *"I Didn't Tell Them Anything About You": Implied Assertions as Hearsay Under the Federal Rules of Evidence*, 74 MINN. L. REV. 783, 788 (1990) (noting in the context of implied assertions that the accuracy of the interpretation of language or evidence relies on the perceptive abilities of the listener).

8. *See* Cynthia Lee, *A New Approach to Voir Dire on Racial Bias*, 5 U.C. IRVINE L. REV. 843, 846-47 (2015) (describing the value of juror selection processes); *see also Developments in the Law—The Civil Jury*, 110 HARV. L. REV. 1408, 1451-56 (1997).

9. *See* Elizabeth Ingriselli, Note, *Mitigating Jurors' Racial Biases: The Effects of Content and Timing of Jury Instructions*, 124 YALE L.J. 1690, 1729 (2015) (arguing for a variety of innovative reforms to jury instruction models, but noting that such instructions offer a mechanism to guide interpretation).

10. *See* Cooper v. Aaron, 358 U.S. 1, 7 (1958) (holding that lower federal courts are bound by Supreme Court precedent).

11. *See* Scott Fruehwald, *Pragmatic Textualism and the Limits of Statutory Interpretation:* Dale v. Boy Scouts of America, 35 WAKE FOREST L. REV. 973, 973-80 (2000) (noting that regardless of different theories of judicial interpretation, statutes by necessity limit the scope and type of discretion available to judges).

12. Admittedly, these may be limited checks on judicial power, but even their rarely utilized existence suggests some effort to curtail discretion.

13. *See* STEIN, *supra* note 4, at 104-05.

it is or ought to be. We interpret the acts of others through our own subjective lens, reflecting our life experiences onto those we judge.

In the context of juvenile defendants, this habit of ascribing our own potential motive to others is deeply problematic. In the past two decades, advances in neuroscience have revealed what many, including the court system, long suspected: kids simply do not reason like adults.[14] Their thought processes are not merely immature versions of their future adult selves;[15] they are different in kind and reflect evolving epistemological mechanisms that carry with them fundamentally different valuations of risk,[16] consequence,[17] and reward.[18] In everyday life, this difference matters and is reflected in a variety of protective rules for juveniles. To varying degrees, juveniles cannot

14. The following periodicals summarize such studies. *See* Richard J. Bonnie & Elizabeth S. Scott, *The Teenage Brain: Adolescent Brain Research and the Law*, 22 CURRENT DIRECTIONS PSYCHOL. SCI. 158, 159-60 (2013) [hereinafter Bonnie & Scott, *The Teenage Brain*]; Emily Buss, *What the Law Should (and Should Not) Learn from Child Development Research*, 38 HOFSTRA L. REV. 13, 48-51 (2009); Carroll, *supra* note 3, at 574-76; Terry A. Maroney, *Adolescent Brain Science After* Graham v. Florida, 86 NOTRE DAME L. REV. 765, 766 (2011) [hereinafter Maroney, *Brain Science After* Graham]; Terry A. Maroney, *The False Promise of Adolescent Brain Science in Juvenile Justice*, 85 NOTRE DAME L. REV. 89, 146-48 (2009) [hereinafter Maroney, *False Promise*]; Elizabeth S. Scott & Laurence Steinberg, *Blaming Youth*, 81 TEX. L. REV. 799, 801 (2003) [hereinafter Scott & Steinberg, *Blaming Youth*]; Christopher Slobogin & Mark R. Fondacaro, *Juvenile Justice: The Fourth Option*, 95 IOWA L. REV. 1, 17-21 (2009).

15. *See, e.g.*, B.J. Casey & Kristina Caudle, *The Teenage Brain: Self Control*, 22 CURRENT DIRECTIONS PSYCHOL. SCI. 82, 82-83 (2013) (noting distinct differences between adolescent and adult thought processes and further noting that such differences are the norm, as opposed to a deviation). For a description of the law's treatment of this difference, see Elizabeth S. Scott, *The Legal Construction of Adolescence*, 29 HOFSTRA L. REV. 547, 558-62 (2000).

16. *See, e.g.*, William Gardner, *A Life-Span Rational-Choice Theory of Risk Taking*, *in* ADOLESCENT RISK TAKING 66, 78-79 (Nancy J. Bell & Robert W. Bell eds., 1993) (positing that a lack of life experience may account for a willingness to take risks in adolescents) [hereinafter Gardner, *Life-Span Rational-Choice Theory*]; William Gardner & Janna Herman, *Adolescents' AIDS Risk Taking: A Rational Choice Perspective*, *in* ADOLESCENTS IN THE AIDS EPIDEMIC 17, 25-26 (William Gardner et al. eds., 1990) [hereinafter Gardner & Herman, *Adolescents' AIDS Risk Taking*] (noting that adolescents tend to be less risk averse than adults and tend to weigh rewards more heavily than risks in making choices); Jeffrey Arnett, *Reckless Behavior in Adolescence: A Developmental Perspective*, 12 DEVELOPMENTAL REV. 339, 348-54 (1992) [hereinafter Arnett, *Reckless Behavior*]; Elizabeth S. Scott et al., *Evaluating Adolescent Decision Making in Legal Contexts*, 19 LAW & HUM. BEHAV. 221, 223 (1995); Marilyn Jacobs Quadrel et al., *Adolescent (In)vulnerability*, 48 AM. PSYCHOLOGIST 102, 102 (1993).

17. *See, e.g.*, A.L. Greene, *Future-Time Perspective in Adolescence: The Present of Things Future Revisited*, 15 J. YOUTH & ADOLESCENCE 99, 105-11 (1986) (noting as individuals gain life experience they are better able to project events into the future).

18. *See, e.g.*, Jeffrey Arnett, *Sensation Seeking: A New Conceptualization and a New Scale*, 16 PERSONALITY & INDIVIDUAL DIFFERENCES 289, 292-94 (1994) [hereinafter Arnett, *Sensation Seeking*] (discussing adolescent focus on novel sensation seeking in decisionmaking processes).

marry, drink, vote, join the army, get a tattoo, or engage in consensual sexual activity.[19]

In criminal law, this difference in thought processes creates a dilemma in determining a juvenile's mental state (or mens rea). In the vast majority of cases, the accused's mental state defines the degree of culpability and offers justification for punishment.[20] Although most mental state elements contain an objective component or are objective in nature, such a mental state requires a fact finder to consider the accused's thought processes and perceptions in an effort to ascertain his actual, as opposed to hypothetical, guilt.[21]

Despite the crucial role that mens rea plays in criminal law, the mental state element is an elusive one. Unlike other elements of a criminal offense, assessing mens rea requires the fact finder to make an assessment of what a defendant was *actually* thinking, whether through the defendant's own statements or through inferences drawn from objective evidence. Unfortunately, however, when an adult fact finder contemplates a juvenile defendant's mental state, he seeks to interpret what a juvenile defendant was thinking through the lens of his own adult thought processes.[22] The significance of the juvenile's actions or reactions is calibrated and checked against what they would mean in the adult fact finder's life. How would the juror or judge act or react in a like situation? As a result, this determination is as much about what the fact finder *perceives* of the person being judged as it is about what that person *actually* thought at the moment of the offense.

Other elements may offer the certainty and the comfort of objective fact. The victim was shot, or he was not. The defendant shot him, or she did not. The victim's injury was caused by the shot, or it was not. But to ask—"Did the defendant intend the shot?" "Did he know with any certainty of the accuracy of his aim and the harm it would

---

19. *See* Carroll, *supra* note 3, at 569-74 (describing restrictions on juvenile activities).

20. In general, modern criminal law scholars tend to uniformly argue that criminal offenses should carry a mental state element and strict liability offenses should be severely limited. *See* Sanford H. Kadish, *Fifty Years of Criminal Law: An Opinionated Review*, 87 CALIF. L. REV. 943, 954-59 (1999); Laurie L. Levenson, *Good Faith Defenses: Reshaping Strict Liability Crimes*, 78 CORNELL L. REV. 401, 425-28 (1993); Francis Bowes Sayre, *Public Welfare Offenses*, 33 COLUM. L. REV. 55, 56 n.5, 78-83 (1933).

21. *See* John L. Diamond, *The Myth of Morality and Fault in Criminal Law Doctrine*, 34 AM. CRIM. L. REV. 111, 123 n.73 (1996) (discussing the ALI's regularization of mental states into categories based on subjective or objective classifications—all of which required proof that the mental state alleged was in fact the defendant's mental state).

22. All jurisdictions in the United States require jurors to be at least eighteen years of age and many jurisdictions link juror rolls to voter registration, property records and/or driver's license records—all of which carry an age eligibility component. *See* VAN DYKE, *supra* note 7, at 258-62. In practice, most jurors tend to be significantly older than eighteen, though some states do set age limits on who can serve as a juror. *Id.*

cause?" "Did he fire out of carelessness, or fear, or malice?"—is to stumble down a path of interpretation in which the fact finder overlays each question with his own, fundamental inquiry: "What would the defendant's actions or words signify in my own life? What would I have been thinking?"

Thus, accuracy in assessing mens rea depends on the fact finder's ability to approximate the defendant's own subjective thought process. Yet, as advances in neuroscience increase our knowledge of adolescent brain development, it has become increasingly apparent that procedural protections surrounding both selection of fact finders and admission of evidence fail to account for the risk that fact finders lack the proper context through which to assess the adolescent actor's mental state. The stark reality is that the juvenile justice system relies on a false inferential rubric and, in the process, invites an imperfect application of the substantive law. As adult fact finders (whether judge or jury) contemplate a juvenile offender's guilt, they inevitably contemplate the juvenile's state of mind. In doing this, the adult fact finder utilizes a distinct perspective that the defendant himself likely does not share—that of an adult. Put another way, there is a conceptual gap in the current application of substantive criminal law to juvenile offenders. Juveniles are tried and convicted based on what an *adult* believes their state of mind would have been, as opposed to the juvenile's actual *adolescent*-centered state of mind.

This Article seeks to address this conceptual gap by arguing that the fundamental value of neuroscience in the juvenile justice system is not as a litmus test of guilt or responsibility, but rather as a means to properly calibrate and contextualize the fact finder's calculation of the offender's mental state. To be clear, I am not arguing for the creation of a new "juvenile centered" substantive law, but rather to hold the current law to its purported aim: to assess each defendant's actual state of mind based on the evidence presented. In the context of juveniles, this requires re-centering the fact finder's consideration of mens rea through an interpretive rubric that considers what is known of the juvenile brain and thought processes.

Such an approach will produce a more accurate understanding of the significance of the adolescent defendant's thoughts and words, and will more precisely assess the juvenile's culpability. It will allow the law to maintain a "cognitive integrity"—preserving the conceptual core of substantive criminal law as it seeks to assign culpability based on state-of-mind analysis—while recognizing the fundamental differences between youth and adulthood. The need to address this problem is especially urgent in light of the ongoing trends of an in-

creasingly punitive juvenile justice system,[23] and an increasingly rigorous application of transfer laws that move juvenile offenders to the adult court system.[24] Despite a better understanding that adolescents are, in fact, different from adult actors, juvenile suspects are frequently treated as adults and punished as such.[25]

Although a handful of judicial opinions and scholars have suggested a limited role for neuroscience in the context of Fifth[26] and Eighth Amendments[27] jurisprudence as applied to juveniles, both judges and academics have largely failed to explore the significance of adolescent brain science to the mental state question with sufficient depth.[28]

---

23. Despite President Obama's recent ban on juvenile solitary confinement in the federal system, juveniles in state facilities are still subjected to such confinement. Juliet Eilperin, *Obama Bans Solitary Confinement for Juveniles in Federal Prison*, WASH. POST, (Jan. 26, 2016), https://www.washingtonpost.com/politics/obama-bans-solitary-confinement-for-juveniles-in-federal-prisons/2016/01/25/056e14b2-c3a2-11e5-9693-933a4d31bcc8_story.html?utm_term=.2c884dc84f63 [https://perma.cc/VW78-8UNN]. In addition, given that Obama's ban was the product of an Executive Order, it is possible that even this advancement may be undone by the new administration. For a description of trends in the increasingly punitive treatment of juvenile offenders, see generally Ira M. Schwartz, *Juvenile Crime-Fighting Policies: What the Public Really Wants*, *in* JUVENILE JUSTICE AND PUBLIC POLICY: TOWARD A NATIONAL AGENDA 214, 214-16 (Ira M. Schwartz ed., 1992); Catherine L. Carpenter, *Throwaway Children: The Tragic Consequences of a False Narrative*, 45 SW. L. REV. 461, 462-63 (2016); *see also* Andrew J. Harris et al., *Collateral Consequences of Juvenile Sex Offender Registration and Notification: Results From a Survey of Treatment Providers*, 28 SEXUAL ABUSE 770, 771 (2015) (describing this punitive trend in the context of juvenile sex offenders).

24. *See* Cara H. Drinan, *The* Miller *Revolution*, 101 IOWA L. REV. 1787, 1793-94 (2016) (noting the increase of direct file or direct transfer statutes that resulted in greater numbers of juvenile offenders being tried and sentenced as adults); David O. Brink, *Immaturity, Normative Competence, and Juvenile Transfer: How (Not) to Punish Minors for Major Crimes*, 82 TEX. L. REV. 1555, 1574 (2004) (arguing that trends towards greater transfer is not diminishing crime rates among juvenile offenders).

25. *See* Jodi Kent Lavy, *Supreme Court's Will on Juvenile Offenders Thwarted*, U.S.A. TODAY (Feb. 2, 2017), https://www.usatoday.com/story/opinion/columnists/2017/02/02/supreme-courts-juvenile-offenders-thwarted/97432956/ (noting that despite the Supreme Court's ruling in *Montgomery v. Louisiana* requiring hearings for children sentenced to life without parole, states are either balking at providing hearings (Montgomery, who is now seventy years old, still has not received a hearing) or judges are denying access to experts and are using hearings to reinstate the life without parole sentence).

26. *See* J.D.B. v. North Carolina, 564 U.S. 261, 271-77 (2011) (requiring courts to take juvenile brain development into account when assessing the reasonableness of a custody perception for *Miranda* purposes).

27. *See* Miller v. Alabama, 567 U.S. 460, 476-80 (2012) (using neuroscience to hold mandatory life without parole sentences for nonhomicide offenses unconstitutional as applied to juvenile offenders); Graham v. Florida, 560 U.S. 48, 67-71 (2010) (using neuroscience to hold life without parole sentences for nonhomicide offenses unconstitutional as applied to juvenile offenders); Roper v. Simmons, 543 U.S. 551, 567-71 (2005) (using neuroscience to hold the death penalty unconstitutional as applied to juvenile offenders).

28. This is not to say scholars have not written about neuroscience and the juvenile justice system, but it is to say that most have dismissed the notion that adolescent brain development provides useful insights to mental state questions. This dismissal is premised

This Article makes three arguments in support of implementing neuroscience to guide the assessment of mental states and, ultimately, the guilt of juvenile actors.

First, this Article argues that there is value in the recognition that juvenile offenders are distinct from their adult counterparts. Just as the juvenile system recognized this difference at its genesis, emerging science now confirms the reality of this difference. Although the justice system has constructed procedural safeguards around this notion of difference—both with the creation of a separate juvenile justice system and, increasingly, in the application of the Eighth Amendment in adult court systems and the Fifth Amendment across both systems—these procedural protections fail to remedy the substantive disconnect created when adult fact finders apply criminal law to juvenile actors.

Second, this Article contends that adult fact finders lack the context and perspective to assess mental state elements in juvenile offenders accurately. To be sure, criminal law seeks to measure the "actual" (as opposed to imagined) mental state of a defendant, but in undertaking this task, it relies on inherently flawed interpretive vessels. Even though adult fact finders were once adolescents and, as such, enjoyed adolescent thought processes, time and aging have erased or mitigated this perspective. Put another way, almost any adult can recount, likely with a degree of nostalgia, all the "stupid" things he or she did as a teenager, but few, if any, are capable of recounting why those "stupid" things seemed like a good idea when the adult was a teen. For an adult to understand this would require turning back time and neurological development, to return to a way of thinking that the adult brain has abandoned. It is to reassess and reprioritize basic cognitive influences such as risk, reward, and the value of peer approval.[29] In this, the criminal law asks the adult fact finder to undertake an impossible task.

Third and finally, this Article offers a new vision of how the system should assess juvenile mens rea—a vision that allows such judgments to be informed by what neuroscience knows of adolescent thought processes. For several reasons, I do not advocate a broad rule preclusion of juvenile culpability nor do I argue that juveniles are incapable of forming mental states as articulated in criminal law.

---

on the inability of neuroscience to either predict future or recall past mental states. *See* Maroney, *False Promise*, *supra* note 14, at 148.

In contrast, this Article makes the more nuanced argument that neuroscience provides evidence of adolescent thought processes that serve to contextualize and inform the fact finder's analysis of evidence of the juvenile offender's mental state.

29. *See supra* notes 15-18.

The data supports neither global conclusion. Instead, this Article recognizes that there are limits to the value of neuroscientific evidence and proposes a series of limitations to permit admission of neuroscience to facilitate its proper use in the calculation of the state of mind element.

First, evidentiary rules of relevancy should permit the introduction of neuroscience evidence akin to testimony that establishes context. Just as a police officer is permitted to testify, often without expert qualification, that based on years of experience she recognized that the proffered hand in the alley was a drug deal, so should a neuroscientist be permitted to testify that an adolescent's decision to shout that he would "fuck up" the school principal is evidence of his immature thought process as opposed to his genuine intent to assault a school administrator. Such testimony contextualizes factual evidence for the jury and offers a perspective that the fact finder may otherwise lack.

Second, jury instructions should be tailored to incorporate what is known about adolescent brain development to provide a rubric assessing the state of mind element. Similar to proposed instructions on implicit or cultural bias, or defenses such as battered women's, PTSD, or self-defense, such instructions would recognize that fact finders may be ill-equipped or unable to fully understand the significance of the defendant's thought process without guidance. In the context of adolescent thought processes, such instructions would recognize that although the fact finder might have once been an adolescent and engaged in adolescent thought processes, that does not mean the fact finder is capable now, as an adult, of properly interpreting the legal significance of facts as they apply to the juvenile actor's mental state. The model jury instruction would provide the context through which the fact finder can interpret the evidence of the defendant's state of mind.[30]

My argument for these proposed changes in the treatment of neuroscience evidence proceeds in three parts. Parts II and III lay the groundwork. Part II considers the genesis of the juvenile court and its development over the last century, including the emphasis on the

30. Based on instructions used in the context of other defenses that hinge on the defendant's perspective, a model jury instruction might suggest that the fact finder "could infer the defendant's state of mind from her actions, however, such an inference should be made in light of the established fact that an adolescent such as the defendant may lack the ability to properly calculate or appreciate risk in the same way an adult might. This failure to properly calculate risk may render the defendant unable to understand the significance of her actions or words. As a result, a defendant's actions which if taken by an adult might suggest one mental state, might suggest a wholly different, lesser mental state in the context of an adolescent."

emergence and use of neuroscience in the context of Fifth and Eighth Amendments jurisprudence. Part III considers the evidentiary construct of proof in criminal law—in particular, the entwined roles of relevance and inference. Part IV considers the intersection of these concepts of proof with the aims of the juvenile system and what neuroscience has revealed about adolescent brain development. It concludes that criminal law's construction of relevancy and reliance on inference to prove the mental state are fundamentally flawed in their application to juvenile defendants. As adult fact finders seek to interpret evidence in an effort to assess a juvenile defendant's mental state, they seek to imagine a perspective they no longer enjoy. In this exercise of imagination, the purported goal of substantive criminal law to assign culpability based on a defendant's actual state of mind is lost, and we risk inaccurate and unjust outcomes for juvenile defendants.

II. THE STORY OF THE JUVENILE JUSTICE SYSTEM AND THE ADOLESCENT BRAIN

A. In the Beginning

The history of the American juvenile justice system is, in many ways, the history of the nation's evolving vision of children themselves. Until the early nineteenth century, the American legal system made no age distinction.[31] Courts treated children who committed crimes in the same way as adult offenders. Child suspects were charged, tried, convicted, and sentenced in the same manner as their adult counterparts.[32] This treatment of children as "small" adults was consistent with social norms of the time that drew few distinctions between adult and child actors.[33]

This early justice system was not completely without acts of mercy. Judges might, and at times did, dismiss charges against children. Juries nullified their verdicts, acquitting what appeared to be factu-

31. *See* CLIFFORD E. SIMONSEN & MARSHALL S. GORDON III, JUVENILE JUSTICE IN AMERICA 16-25 (1979); David S. Tanenhaus, *The Evolution of Juvenile Courts in the Early Twentieth Century: Beyond the Myth of Immaculate Construction*, *in* A CENTURY OF JUVENILE JUSTICE 42, 43 (Margaret K. Rosenheim et al. eds., 2002); Barry C. Feld, *A Century of Juvenile Justice: A Work in Progress or a Revolution That Failed?*, 34 N. KY. L. REV. 189, 193-94 (2007).

32. *See* DAVID J. ROTHMAN, CONSCIENCE AND CONVENIENCE: THE ASYLUM AND ITS ALTERNATIVES IN PROGRESSIVE AMERICA 213 (1980) [hereinafter ROTHMAN, CONSCIENCE]; ROBERT C. TROJANOWICZ & MERRY MORASH, JUVENILE DELINQUENCY: CONCEPTS AND CONTROL 12 (3d ed. 1983); JOHN C. WATKINS, JR., THE JUVENILE JUSTICE CENTURY: A SOCIOLEGAL COMMENTARY ON AMERICAN JUVENILE COURTS 3-4 (1998).

33. *See* WATKINS, *supra* note 32, at 214 (describing social attitudes towards childhood).

ally guilty children.[34] But these acts of mercy were the product of extra-legal sympathies and social attitudes.

The common law defense of infancy did provide a legal doctrine to shelter accused children, but the doctrinal cover of the defense was limited.[35] Infancy sought to differentiate actors who lacked criminal responsibility and, as such, were not culpable for their acts.[36] Only children who were so young that they could not differentiate right from wrong were immune under the doctrine.[37] Common law presumed that children under the age of seven lacked criminal capacity and those over fourteen were fully responsible or as responsible as adults.[38] Those in between the ages of seven and fourteen enjoyed a rebuttable presumption that they lacked criminal capacity.[39] Outside of the limited defense of infancy, substantive criminal law offered little shelter for youth, and procedural protections for youth did not exist.

1. The Progressives and the Kids

As social constructs of childhood began to evolve, most notably in the early nineteenth century with the recognition of adolescence as a distinct developmental stage, support for the criminal law's treatment of children as no different than adults began to wane.[40] As early social reformers began to create special institutions for children, they pushed back on the court system that would seek to hold children criminally liable as if they were adults.[41]

---

34. *See* JOHN R. SUTTON, STUBBORN CHILDREN: CONTROLLING DELINQUENCY IN THE UNITED STATES, 1640-1981, at 51 (1988) (describing informal acts of mercy shown towards juvenile defendants).

35. *See* Andrew Walkover, *The Infancy Defense in the New Juvenile Court*, 31 UCLA L. REV. 503, 511-12 (1984) (describing the historical requirements of the infancy defense).

36. *See generally* 2 WAYNE R. LAFAVE, SUBSTANTIVE CRIMINAL LAW § 9.6(a) (2d ed. 2003).

37. *Id.*

38. *See* Walkover, *supra* note 35, at 510-11.

39. *See* LAFAVE, *supra* note 36.

40. *See* SIMON I. SINGER, RECRIMINALIZING DELINQUENCY: VIOLENT JUVENILE CRIME AND JUVENILE JUSTICE REFORM 27-39 (1996) (describing how social changes, including changing views of children, fueled reform in the juvenile justice system); WATKINS, *supra* note 32, at 46 (describing the early Progressive argument for a "disassociate" juvenile law to reflect the reality that children were different than adults).

41. Early reformers created Houses of Refuge that served as age-segregated institutions and in turn created opportunities for charity organizations to intervene on behalf of youth and to provide a social safety network for children. *See* THOMAS J. BERNARD & MEGAN C. KURLYCHEK, THE CYCLE OF JUVENILE JUSTICE 48-52 (2d ed. 2010); JOSEPH HAWES, CHILDREN IN URBAN SOCIETY: JUVENILE DELINQUENCY IN NINETEENTH-CENTURY AMERICA 169-73 (1971); DAVID J. ROTHMAN, THE DISCOVERY OF THE ASYLUM: SOCIAL ORDER AND DISORDER IN THE NEW REPUBLIC 206-14 (1971) [hereinafter ROTHMAN, THE ASYLUM]; ROTHMAN, CONSCIENCE, *supra* note 32, at 219-21; SUTTON, *supra* note 34, at 70-74.

It was not long before the first juvenile court appeared in Chicago and its model spread throughout the country.[42] Founded on Progressive ideals, the early juvenile court focused on the interlocking premises that childhood was a distinct period and that children required social control in ways that adults might not.[43] As such, the prototype juvenile court systems sought to foster opaque and normative values such as morality and good citizenship.[44] They eschewed the adult criminal court's allegiance to formalized procedure and punitive sentencing schemes, instead adopting informal methods and dispositions that promoted the child's best interests and rehabilitation.[45]

While the history of the juvenile court system is well-documented, it is worth a brief discussion of the historical factors that drove its creation.[46] By the end of the nineteenth century, America itself had begun to change significantly. Modernization and industrialization fueled significant demographic changes.[47] Large populations began to migrate from rural communities to urban centers with their promise of industrial work.[48] At the same time, burgeoning immigrant populations, fleeing oppression and poverty in Europe and Asia, flooded to the same industrial centers.[49] These influxes not only altered the American landscape but also posed distinct social problems.[50] Growing populations in urban centers translated to a growing class of ur-

---

42. *See* HAWES, *supra* note 41, at 170 (citing Juvenile Court Act, § 3, 1899 Ill. Laws 131, 132 (regulating the treatment and control of dependent, neglected and delinquent children)); Julian W. Mack, *The Juvenile Court*, 23 HARV. L. REV. 104, 107 (1909) (describing the establishment of the first independent juvenile justice system in the United States in Chicago in 1899); Simon I. Singer, *Criminal and Teen Courts as Loosely Coupled Systems of Juvenile Justice*, 33 WAKE FOREST L. REV. 509, 511-518 (1998) (summarizing scholarly discussion of the juvenile court system).

43. *See* ROTHMAN, CONSCIENCE, *supra* note 32, at 43-81; Mack, *supra* note 42, at 107.

44. *See* Barry C. Feld, *The Transformation of the Juvenile Court*, 75 MINN. L. REV. 691, 693-95 (1991) [hereinafter Feld, *Transformation*] (noting that the Progressives believed that benign state intervention would prevent and reduce delinquency); Mack, *supra* note 42, at 107.

45. *See* Feld, *Transformation*, *supra* note 44, at 693 (noting the informality of the emerging juvenile system).

46. *See, e.g.*, HAWES, *supra* note 41, at 170; ROTHMAN, CONSCIENCE, *supra* note 32, at 206-07; SUTTON, *supra* note 34, at 68-77; WATKINS, *supra* note 32, at 46; Barry C. Feld, *The Juvenile Court Meets the Principle of the Offense: Legislative Changes in Juvenile Waiver Statutes*, 78 J. CRIM. L. & CRIMINOLOGY 471, 474 (1987) [hereinafter Feld, *Legislative Changes*]; Singer, *supra* note 42.

47. *See* SAMUEL P. HAYS, THE RESPONSE TO INDUSTRIALISM, 1885-1914, at 7-14 (2d ed. 1995); RICHARD HOFSTADTER, THE AGE OF REFORM: FROM BRYAN TO F.D.R. 3-12 (1955); MICHAEL MCGERR, A FIERCE DISCONTENT: THE RISE AND FALL OF THE PROGRESSIVE MOVEMENT IN AMERICA, 1870-1920, at 233-36 (2003); Robert W. Gordon, *Critical Legal Histories*, 36 STAN. L. REV. 57, 67-68 (1984) (discussing the effect of modernization on law).

48. *See* HAYS, *supra* note 47, at 8.

49. *See* WATKINS, *supra* note 32, at 31.

50. *See* Feld, *Transformation*, *supra* note 44, at 693.

ban poor—particularly, poor urban youth, replete with crowded housing environments, poor labor conditions, and often informal or absent social support systems.[51]

Changes in family structure and functions accompanied migration and economic changes.[52] Women's roles became more domestic—with women described as the primary familial role model, even as many women bore extra-familial work responsibilities.[53] Childhood and adolescence were recognized as distinct and critical periods of development.[54] Children were no longer viewed as smaller versions of adults but were viewed as vulnerable, passive, and innocent.[55] Children were not born inherently "ready for life"—they needed adults to prepare them and nurture them.[56] As notions of children shifted, so did notions of parental responsibility, as the new-found preparatory responsibility for children fell in greater force upon the parent.[57]

Viewed through the lens of Progressivism, this new vision of childhood and parenting encompassed an obligation to ensure moral and social development.[58] Progressives viewed the state, with its power to create social agencies, as bearing a responsibility for the burgeoning urban populations.[59] Progressives imagined the state as a benevolent and unifying force that could address social ills through the creation of public agencies that would introduce and reinforce middle-class social values while promoting assimilation.[60] Immigrant populations would be "Americanized," and the poor would be rendered virtuous.[61] An overview of Progressive reform programs demonstrates a strong allegiance to child-centered change.[62] Progressives champi-

---

51. *See* MCGERR, *supra* note 47, at 14, 99-102, 118.

52. *See* CARL N. DEGLER, AT ODDS: WOMEN AND THE FAMILY IN AMERICA FROM THE REVOLUTION TO PRESENT 73-74 (1980).

53. *Id.*; SHEILA M. ROTHMAN, WOMAN'S PROPER PLACE: A HISTORY OF CHANGING IDEALS AND PRACTICES, 1870 TO THE PRESENT 22-23 (1978).

54. *See* JOSEPH F. KETT, RITES OF PASSAGE: ADOLESCENCE IN AMERICA 1790 TO THE PRESENT 142-43 (1977); *see also* ROTHMAN, CONSCIENCE, *supra* note 32, at 43-81; Mack, *supra* note 42, at 107.

55. Feld, *Transformation*, *supra* note 44, at 694.

56. ROTHMAN, CONSCIENCE, *supra* note 32, at 43-76 (describing Progressives' creation of public institutions such as compulsory public schools, hospitals, and child refuge organizations designed to help foster the child's moral development); Feld, *Transformation*, *supra* note 44, at 693-94 (stating that during this period, the idea emerged that children should be treated differently than adults due to their lack of life experience and maturity).

57. *See* KETT, supra note 54, at 168-70.

58. *See* DEGLER, *supra* note 52, at 97-100; SUTTON, *supra* note 34, at 61.

59. Singer, *supra* note 42, at 511-12.

60. *See* Feld, *Transformation*, *supra* note 44, at 693 ("Progressives believed that benevolent state action guided by experts could alleviate social ills . . . .").

61. WATKINS, *supra* note 32, at 32; ROTHMAN, CONSCIENCE, *supra* note 32, at 51.

62. *See* Singer, *supra* note 42, at 511-12.

oned anti-child labor movements, welfare laws, compulsory school attendance laws, and the creation of a distinct juvenile court system.[63]

The Progressive concept of social ills did more than just create juvenile-centered reform, however. It also drove the resulting juvenile justice system's sense of the source of juvenile delinquency itself. While criminal law historically attributed the cause of crime to the free will of actors, the emerging study of criminology cast crime in more positivist terms.[64] Progressives were quick to adopt this ideological perspective. As such, crime was determined rather than chosen. Efforts to remedy crime, therefore, required the identification of the causes of criminal behavior.[65] In the process, the previously dominant question of the actor's moral responsibility receded, and the inquiry was refocused on reforming the offender and the circumstances that created him.[66] Progressives drew a causal line between moral decay and criminal behavior.[67]

Accordingly, they fashioned a juvenile justice system meant to address moral failing and, as a side benefit, delinquency. This system's goal was rehabilitation of the offender.[68] Possible remedies for findings of delinquency ranged from mentorship to removal from the family[69] to removal from the jurisdiction on an orphan train.[70] This model

63. *See id.*; ROTHMAN, CONSCIENCE, *supra* note 32, at 51-53.

64. *See* DAVID MATZA, DELINQUENCY AND DRIFT 5 (1964); ROTHMAN, CONSCIENCE, *supra* note 32, at 50-51 (describing positivism theories as identifying the antecedent variables that produced crime and deviance in contrast to classic formulations which attributed crime to free will).

65. *See* TROJANOWICZ & MORASH, *supra* note 32, at 40-42 (describing the rise of positivist theories of criminology).

66. *Id.*

67. *See id.* at 41-42.

68. *See* Janet E. Ainsworth, *Re-Imagining Childhood and Reconstructing the Legal Order: The Case for Abolishing the Juvenile Court*, 69 N.C. L. REV. 1093, 1097-1100 (1991) (noting that the juvenile court purports to act in the child's best interests as opposed to recognizing that the state often has goals that are inconsistent with and undermine the child's autonomy).

69. *See* HAWES, *supra* note 41, at 169.

70. This misnamed phenomenon was popular in major metropolitan centers including New York, Boston, and Chicago, and actually predated the Progressive Movement. *See generally* Rebecca S. Trammell, *Orphan Train Myths and Legal Reality*, 5 MOD. AM. 3, 3-6 (2009). These orphan or mercy trains, removed "misplaced," "at risk," foundling, and orphaned children from urban centers and placed them in foster houses primarily in the Midwest. *See* STEPHEN O'CONNOR, ORPHAN TRAINS: THE STORY OF CHARLES LORING BRACE AND THE CHILDREN HE SAVED AND FAILED, 106-07 (2001). In the 1850s, faced with a growing problem of vagrant and often gang-affiliated children, police in New York began arresting children, and holding them and trying them as adults. Social organizations intervened offering first Houses of Refuge and eventually what became known as "orphan trains." *Id.* at 106; NINA BERNSTEIN, THE LOST CHILDREN OF WILDER: THE EPIC STRUGGLE TO CHANGE FOSTER CARE 198 (2001). These trains sought to remove children from urban centers and return them to rural communities where they could be raised with "Christian values."

rejected the adversarial system. In the juvenile justice system the Progressives envisioned, judges, probation officers, police, and prosecutors were all representatives of a benevolent state intent on "rescuing" the wayward child.[71] This conceptualization of the system justified addressing juvenile delinquency prior to any criminal act *actually* occurring.[72] In addition, juveniles in this system required neither procedural protections nor counsel, as all actors in the system—from the prosecutor to the probation officer to the judge—acted in the child's best interest substituting as parent and moral compass.[73]

This model was not without difficulties. One Progressive's humanitarian, "child saving" model is another's expansion of social control over poor, minority, and/or immigrant populations.[74] It is beyond the scope of this Article to delve deeply into the devastating effect such "well intended" systems had on families and juveniles. However, it

---

While the trains themselves were organized by charitable welfare organizations, the early juvenile court system often used the trains as a "rehabilitative" alternative. Though the trains were supervised, once a child was placed in a foster home, there was little supervision to ensure that the child was treated well. Tim Hacsi, *From Indenture to Family Foster Care: A Brief History of Child Placing*, 74 CHILD WELFARE 155, 168-69 (1995) (noting that orphan train programs were often poorly organized and there was little monitoring of placements). Foster parents were screened only for their self-proclaimed need for a child and for their "moral standing." *Id.* As a result, the record of placement from orphan trains was mixed. Kurt Mundorff, *Children as Chattel: Invoking the Thirteenth Amendment to Reform Child Welfare*, 1 CARDOZO PUB. L. POL'Y & ETHICS J. 131, 176-77 (2003). Some charities that ran orphan trains monitored placements and removed children from abusive or inappropriate homes. *See* Amanda C. Pustilnik, *Private Ordering, Legal Ordering, and the Getting of Children: A Counterhistory of Adoption Law*, 20 YALE L. & POL'Y REV. 263 (2002). Andrew Burke and John Brady, both orphan train riders, grew up to become governors of North Dakota and Alaska, respectively. For other children, the placements were not nearly as successful. *See* LEROY ASHBY, ENDANGERED CHILDREN: DEPENDENCY, NEGLECT, AND ABUSE IN AMERICAN HISTORY 139-40 (1997). Children suffered physical and sexual abuse in foster homes. Some farmers saw the children as nothing more than a cheap source of labor. Joan Gittens, *Friendless Foundlings and Homeless Half-Orphans*, 24 CHI. HIST. 40, 69 (1995) (noting that a common criticism of orphan trains was that they promoted indentured servitude of children). The runaway rate, particularly among boys, was high as was the rejection rate by foster families. DUNCAN LINDSEY, THE WELFARE OF CHILDREN 14, 17 (1994); Mundorff, *supra*, at 176-77.

71. *See In re* Gault, 387 U.S. 1, 15 (1967) (noting that juvenile offenders were made to feel that the juvenile justice system was "saving" them from immorality and a criminal career, and that the state was acting in their best interests); Feld, *Legislative Changes*, *supra* note 46, at 476-77; W.J. Keegan, *Jury Trials for Juveniles: Rhetoric and Reality*, 8 PAC. L.J. 811, 811 (1977).

72. *See* Feld, *Legislative Changes*, *supra* note 46, at 477 (noting that under the Progressive model, juvenile proceedings "were initiated by a petition in the welfare of the child, rather than by a criminal complaint").

73. *See id.* at 476-77; Keegan, *supra* note 71, at 811 (stating that the state assumed the role of the surrogate parent).

74. For an excellent discussion of competing views of the juvenile justice system and the results of its reform efforts, see ANTHONY M. PLATT, THE CHILD SAVERS: THE INVENTION OF DELINQUENCY, at xxiv, 36, 46, 98-100 (2d ed. 1977).

would be remiss in this brief history of the juvenile court system not to acknowledge the disparate impact that orphan trains, juvenile homes, and even Houses of Refuge had on the poor and children of color.[75] It would also be remiss not to acknowledge the gendered component of the Progressive reform movement, which created and endorsed an early juvenile justice system that punished girls for sexual promiscuity and boys for unruliness under a blanket charge of incorrigibility, on the premise that such behavior was a harbinger not only of immorality but of corruption and criminality to come.

At its core, the Progressive movement viewed adolescent autonomy as a source of criminality. Children needed guidance, and the Progressives structured a juvenile court system around this proposition. The juvenile court claimed jurisdiction over incorrigible, unruly, and promiscuous children.[76] It reinforced parental control, and when parental influence was deemed inadequate or nonexistent, it allowed the state to intervene. [77] Through the legal doctrine of parens patriae, the state assumed the role of parent to justify ever-widening circles of control and intervention and ever-decreasing circles of formality and procedure.[78] The juvenile court had to be able to diagnose the causes of delinquency and to ascertain the cure.[79] To constrain the court with procedural requirements—such as counsel, juries, or doctrines against self-incrimination—would only hinder its underlying mission to rehabilitate rather than punish.[80]

2. The Constitution and the Kids

Fifty years ago, the Supreme Court's decision in *In re Gault* upended the Progressive's benign vision of the juvenile justice system. In granting limited constitutional procedural rights to youth in delinquency hearings, the Court noted that the rosy presentation of the juvenile system shrouded a much darker reality in which children were punished without process and often for behavior or characteristics that were not criminalized.[81]

Gerald Gault was fifteen years old on June 8, 1964, when he was taken from his home by a county sheriff's deputy after a neighbor

75. *Id.*; BERNARD & KURLEYCHEK, *supra* note 41, at 91; ROTHMAN, CONSCIENCE, *supra* note 32, at 51; Trammell, *supra* note 70, at 3-4.

76. *See* BERNARD & KURLEYCHEK, *supra* note 41, at 91.

77. *See id.* at 87-89.

78. *See* Mack, *supra* note 42, at 109 (describing budding Progressive ideals and promoting the doctrine of parens patriae, arguing that the state be permitted to act as parent when parental supervision was inadequate or absent); Keegan, *supra* note 71, at 811.

79. *See* ROTHMAN, CONSCIENCE, *supra* note 32, at 50-52.

80. BERNARD & KURLEYCHEK, *supra* note 41, at 91.

81. *See In re* Gault, 387 U.S. 1, 14 (1967).

complained about having received an offensive call originating from the Gault family trailer.[82] Gault's parents were never notified that he had been taken, and when his mother attempted to retrieve him from the sheriff's department later that evening, she was turned away.[83] The next day, Gault appeared without counsel at a preliminary hearing where, after hearing the statement of probable cause, the presiding judge told Gault he would think about whether or not to release him.[84]

A few days later, and without any explanation, Gault was released, and his family received a single notice that the judge had set the matter for trial.[85] At trial, again unrepresented, Gault was convicted and ordered to be confined at a State Industrial School for the period of his minority, which was until twenty-one years old under state law, or for a lesser period as deemed appropriate.[86]

Gault was convicted of having made a "lewd call" without either supporting sworn testimony from witnesses or any meaningful opportunity to contest the charge.[87] The victim never even appeared in court, having been informed that it was unnecessary for her to do so as she would not be giving testimony.[88] The judge found that Gault had confessed to the call, an issue his family, and Gault himself, disputed.[89] No transcript of the proceeding was made.[90] If convicted as an adult, Gault would have faced a maximum sentence of two months imprisonment, or a fine between five dollars and fifty dollars.[91]

Gault challenged his conviction, claiming that for all its rhetoric about rehabilitation and protection of the child's best interest, the juvenile justice system had deprived him of his liberty arbitrarily.[92] In its decision, the Supreme Court acknowledged the historical motives behind the creation of the juvenile system.[93] Describing the historical treatment of juveniles, the Court observed that early reformers rejected formalism and procedural protections in an effort to recast juvenile court not as a criminal proceeding with punitive motives, but as a civil proceeding driven by rehabilitative aims and the

82. *Id.* at 4.
83. *Id.* at 5.
84. *Id.* at 6.
85. *Id.*
86. *Id.* at 7-8.
87. *Id.* at 7.
88. *Id.*
89. *Id.* at 7-10.
90. *Id.* at 5-6.
91. *Id.* at 8-9.
92. *Id.* at 9-10.
93. *Id.* at 14-18.

child's best interests.[94] The Court noted that despite the benevolent motivations that led to the system's genesis, the day-to-day practice of the juvenile system presented a different story.[95] Juveniles suffered from the "unbridled discretion" of a system that sought to grant the state the power of the parent.[96] This discretion, the Court reasoned, even if motivated by the best of intentions, "is frequently a poor substitute for principle and procedure."[97]

The Court further noted that "[t]he absence of substantive standards has not necessarily meant that children receive careful, compassionate, individualized treatment"[98] and "[t]he absence of procedural rules based upon constitutional principle has not always produced fair, efficient, and effective procedures."[99] Instead, children like Gault were as likely to suffer from arbitrariness as they were to experience "justice" in the juvenile court system.[100] The Court famously concluded, "[u]nder our Constitution, the condition of being a boy does not justify a kangaroo court."[101] Accordingly, the Court found that the Due Process Clause applied to juveniles charged in juvenile court.[102] Procedural protections, the Court reasoned, were necessary to avoid unfairness, "inadequate or inaccurate findings of fact," and arbitrary dispositions.[103] For his trouble, Gault won the right to counsel, the right to formal notice of charges against him, the right to formal notice of his right against self-incrimination, and the right to confront witnesses.[104]

This grant of procedural rights in juvenile court was limited. Four years later in *McKeiver v. Pennsylvania*, the Court reconsidered the appropriate levels of procedural protections in the juvenile justice system.[105] The *McKeiver* Court concluded that the procedural protections the Court had contemplated in *Gault* did not extend so far as to create a constitutional requirement of juries in juvenile courts.[106] The Court in *McKeiver* expressed frustration that *Gault* was both too

94. *Id.* at 15-18.
95. *Id.* at 17-19.
96. *Id.* at 17-18.
97. *Id.* at 18.
98. *Id.*
99. *Id.*
100. *Id.* at 27-28.
101. *Id.* at 28.
102. *Id.* at 57.
103. *Id.* at 19-20.
104. *See id.* at 41-57.
105. 403 U.S. 528, 541 (1971).
106. *Id.* at 545.

broad and too narrow.[107] It was overly broad in the sense that the opinion lambasted the informality of the juvenile system.[108] But it was also too narrow in the sense that the *Gault* Court had limited its procedural requirements to four rights, declining to reach the question of other procedural rights.[109]

This left state courts uncertain of the precise procedural requirements of the juvenile court system post-*Gault*.[110] *McKeiver* was not the first opinion to attempt to draw procedural boundaries for the juvenile justice system. Prior to *McKeiver*, the Court's decisions in *Haley*, *Gallegos*, *Kent*, *DeBacker*, and *In re Winship* all attempted to define the precise procedural protections required in the juvenile court system.[111] In the process, the Court confronted a post-*Gault* paradox.

On the one hand, the Court in *Gault* had rejected the juvenile court system's informality and lack of procedural protections.[112] But on the other hand, in *Gault* and the cases that followed, the Court attempted to maintain the core value of the juvenile court system—to protect the child.[113] Central to the maintenance of this goal was the acknowledgment that children were fundamentally different than adults, simultaneously more vulnerable and more redeemable. A distinct juvenile justice system served this difference—focusing on the child's particular needs and not just his guilt.[114] As a result, the juvenile system was not constitutionally compelled to follow the same procedural requirements as the adult court system, particularly when such requirements jeopardized the restorative power of the juvenile court.[115] So when the presence of a jury threatened to undermine the goals and objectives of the juvenile justice system by being less sensitive to the unique condition of youth, the Court found it was not constitutionally required.[116] The Court reasoned that a juvenile

107. *Id.* at 538-39.

108. *Id.* at 538-39, 541.

109. *Id.* at 538.

110. *Id.* at 541-42.

111. *Id.* at 531-33 (describing each case).

112. *See In re* Gault, 387 U.S. 1, 27-28 (1967).

113. *See McKeiver*, 403 U.S. at 547-50.

114. The *McKeiver* Court noted that while " 'faith in the quality of the juvenile bench is not an entirely satisfactory substitute for due process,' the judges in the juvenile court 'do take a different view of their role than that taken by their counterparts in the criminal courts.' " *Id.* at 539 (citations omitted).

115. *Id.* at 547-51.

116. *Id.* at 550.

court judge as fact finder might offer more promise of mercy and redemption for the child defendant.[117]

Thus, the *McKeiver* Court held that juvenile court systems must balance the need for procedural protections with the underlying goal to protect and promote the child's best interests.[118] Striking this balance, however, has long been a contested proposition and at various points, the fulcrum of this balance has shifted. As juvenile crime rates rose in the 1980s and 1990s, a new narrative emerged.[119] Politicians began to speak not of the need to protect children within the juvenile court system, but of the need to protect society from a growing class of "super predators."[120] "Super predator" was a term used to describe children whose raw criminality not only rendered them incorrigible and unruly, to borrow the Progressive's diagnosis, but bent on committing increasingly violent or predatory crime.[121]

---

117. *Id.* at 534 (holding that a judge who was accustomed to juvenile cases was more likely than a jury to be sensitive and schooled to the realities of the juvenile justice system).

118. *See id.* at 550-51.

119. "Between 1984 and 1994, the number of murders involving only juvenile offenders increased by 150% . . . ." Howard N. Snyder, *Law Enforcement and Juvenile Crime*, JUV. OFFENDERS & VICTIMS: NAT'L REP. SERIES BULL. 1, 5 (2001), http://www.ncjrs.gov/pdffiles1/ojjdp/191031.pdf [https://perma.cc/W8UL-FFRT]; *see also* Barry C. Feld, *Race, Politics, and Juvenile Justice: The Warren Court and the Conservative "Backlash"*, 87 MINN. L. REV. 1447, 1454 n.18, 1515-18, 1527-28 (2003) [hereinafter Feld, *Juvenile Justice*] (arguing that the increase in black youth homicide rates in the late 1980s produced "get tough" crime policies). It is worth noting that during this period there was a surge in crime rates generally nationwide. *See* DAVID GARLAND, THE CULTURE OF CONTROL: CRIME AND SOCIAL ORDER IN CONTEMPORARY SOCIETY 90 (2001).

120. *See* Sara Sun Beale, *The News Media's Influence on Criminal Justice Policy: How Market-Driven News Promotes Punitiveness*, 48 WM. & MARY L. REV. 397, 400-05 (2006) (arguing that the news media's coverage of crime resulted in punitive criminal and juvenile justice policies); Feld, *Juvenile Justice*, *supra* note 119, at 1517-18, 1527-28 (arguing that increasing rates of violent juvenile offenses, particularly black youth homicide rates, in the late 1980s "provided the immediate political impetus to 'get tough' and to 'crack down' on youth crime" and that the "[n]ews media coverage . . . overemphasiz[ed] the role of minority perpetrators in the commission of violent crime," so that "distorted news coverage . . . allows [politicians] to enact racial animus in the guise of crime policies."); William R. Montross, Jr. & Patrick Mulvaney, *Virtue and Vice: Who Will Report on the Failings of the American Criminal Justice System?*, 61 STAN. L. REV. 1429, 1429-36 (2009) (arguing that American crime reporting is "succinct, superficial, and devoid of context" and that criminal justice reporting is practically nonexistent); *see also* Jerry Kang, *Trojan Horses of Race*, 118 HARV. L. REV. 1489, 1551-57 (2005).

121. The term "super predator" was coined by the conservative criminologist John DiIulio. *See* WILLIAM J. BENNETT, JOHN J. DIIULIO, JR. & JOHN P. WALTERS, BODY COUNT: MORAL POVERTY...AND HOW TO WIN AMERICA'S WAR AGAINST CRIME AND DRUGS 27 (1996). Interestingly enough, DiIulio did not recommend either increasing adult prosecution of juveniles or prolonged incarceration for "super predators." Rather he recommended faith-based rehabilitation for juveniles. *Id.* at 205-08. For a discussion of the term, and phenomenon of "super predators," see Joseph Margulies, *Deviance, Risk, and Law: Reflections on the Demand for Preventive Detention of Suspected Terrorists*, 101 J. CRIM. L. & CRIMINOLOGY 729, 732-58 (2011); Jane Rutherford, *Juvenile Justice Caught Between The Exorcist and A Clockwork Orange*, 51 DEPAUL L. REV. 715, 720-21 (2002). DiIulio later regretted the

In response to the threat of super predators, states scrambled not only to increase the rate of transfer from juvenile court to adult court, often at increasingly younger ages, but to increase sentencing regularity in juvenile court.[122] Children were not only more likely to be tried as adults as a result of fear over super predators, but if they were retained in the juvenile court system, they faced a sentencing regime that resembled the adult system more closely.[123] Like their adult analog, juvenile dispositions were divided into presumptive sentencing ranges with decreased judicial discretion.

While the predicted class of super predators failed to materialize, the reforms they prompted lingered. The rate of transfer of juveniles to the adult court system remains high, as does the rate of automatic state transfer regimes or statutes that permit transfer of the child with no hearing or procedural protection.[124] Likewise, sentencing schemes in the juvenile court system continue to bear a strong resemblance to the adult court system, with presumptive ranges calculated based on a combination of prior criminal history and the level of the offense.[125] Beyond this, states show increasing willingness to allow juvenile adjudications of guilt to "score" in calculation of the adult criminal history for future adult sentences.[126]

In the last two decades, the post-*Gault* conundrum has both retrod old ground and taken on a new dimension. Advances in neuroscience have reaffirmed the premise of early Progressives and the post-*Gault* Court alike—children are, in fact, fundamentally different than adults. In this sense, the Supreme Court's most recent line of cases exploring the constitutionality of the juvenile system, and the scientific evidence upon which it is based, revisits the debate raised by *Gault*: how to properly balance the needs and interests of the child within the juvenile justice system.

---

creation of the term and rejected the sentencing reforms and statutory modifications that resulted. *See* Margulies, *supra*, at 752. DiIulio actually joined an amicus brief in the *Miller* case which argued that life without parole sentences were inappropriate for juveniles.

122. *See, e.g.*, Margulies, *supra* note 121, at 750-51; *see also* Steven Friedland, *The Rhetoric of Juvenile Rights*, 6 STAN. L. & POL'Y REV. 137, 138 (1995) (describing judicial and prosecutorial response to the super predator threat).

123. *See* Margulies, *supra* note 121, at 751-52.

124. *See, e.g.*, Janet C. Hoeffel, *The Jurisprudence of Death and Youth: Now the Twain Should Meet*, 46 TEX. TECH L. REV. 29, 38-41 (2013) (describing juvenile transfer standards). This trend towards auto-transfer may be lessening slightly. *See, e.g.*, Ohio v. Aalim, 83 N.E.3d 862 (Ohio 2016) (overturning Ohio's statute which permitted the transfer of juveniles to the adult court system without a hearing); H.B. 3718, 99th Gen. Assemb. (Ill. 2015) (signed into law in 2015 and raised the age at which a juvenile's case may be automatically filed in adult court); 2015 Conn. Acts 15-183 (Reg. Sess.) (which reduced the types of cases for which juveniles' may be automatically transferred to the adult court system).

125. Hoeffel, *supra* note 124, at 41.

126. *Id.*

But the Supreme Court's recent decisions and the insights of modern neuroscience raise a question not previously addressed by the post-*Gault* decisions: given the fundamental differences between adults and children, should substantive criminal law be applied to children in precisely the same way as adults? Or do differences between juveniles and adults require a recalibration of substantive law?

3. Science, the Constitution, and the Kids

In some ways, the Supreme Court's recent case law shares an affinity with the Progressive's early vision of the juvenile justice system, albeit a modernized version of that vision. Children are recognized as different and, as such, their perceptions of custody and the calculation of their culpability must be recalibrated. In a series of cases starting with *Roper v. Simmons*,[127] the modern Court has done what previous Courts failed to do: it created an Eighth Amendment jurisprudence informed by the age of the offender. In *J.D.B. v. North Carolina*,[128] the Court extended its logic, with regard to youth, to the custodial analysis required by *Miranda*. While these cases struck new ground in the context of the Fifth and Eighth Amendments, the basis for the ruling drew heavily on the Court's previous treatment of the condition of youth. From tattooing to marriage to contracts to prayer in schools to conscription to alcohol consumption, the Court and the legislative branch have consistently drawn a protective line around youth and in the process designated the condition of "youth" as a critical factor to legal analysis.[129] In each of these rulings, a jurisprudence of youth has developed that is premised on the fundamental notion that juveniles in general—and adolescents in particular—are a distinct class of actors, and that distinction carries a legal significance.[130] Scientific evidence confirms this premise.

a. Youth and the Eighth Amendment

Prior to the Court's decisions in the *Roper* line of cases and in *J.D.B.*, the Court had begun to develop an Eighth Amendment jurisprudence based on the premise that juveniles categorically lacked the mental sophistication of adults and that this immaturity could affect

127. 543 U.S. 551, 578-79 (2005).

128. 564 U.S. 261, 265 (2011).

129. *See* Carroll, *supra* note 3, at 569-74 (discussing regulations and decisions based on the "jurisprudence of youth").

130. *See id.*

culpability.[131] While these early cases did not have the benefit of modern neuroscientific studies and did not categorically overturn punishments for juveniles over the age of sixteen, they laid the critical groundwork for the Court's more recent decisions linking notions of culpability to the science of cognitive development.[132]

In 2005, in *Roper v. Simmons*,[133] the Court concluded that the Eighth Amendment categorically precluded the execution of juvenile offenders.[134] In doing this, the Court rejected the need for an individualized assessment of the juvenile offender.[135] Relying on scientific evidence, the Court found that the differences between juvenile and adult offenders were "too marked" and "well understood" to require individual analysis.[136] Juveniles were simply "categorically less culpable than" adult criminals.[137] Their lack of fully formed identity,[138] their lack of control,[139] and their incomplete cognitive and behavioral development[140] all led the Court to conclude that the behavior of a

131. *See* Johnson v. Texas, 509 U.S. 350, 367-68 (1993) (holding that age should serve as a mitigator at sentencing because "[a] lack of maturity and an underdeveloped sense of responsibility are found in youth more often than in adults and are more understandable among the young" and "[t]hese qualities often result in impetuous and ill-considered actions and decisions" which, while rendering the child dangerous and his decisionmaking poor, are also transient, and likely to subside as the child matures, counseling toward leniency at sentencing); Stanford v. Kentucky, 492 U.S. 361, 368-71, 380 (1989) (limiting *Thompson* but holding that the minimum age for execution was sixteen as those younger lacked a demonstration of culpability based on their immaturity and susceptibility to peer influence); Thompson v. Oklahoma, 487 U.S. 815, 822-23, 833, 835, 837 (1988) (holding that the Eighth Amendment barred the execution of defendants who were under the age of sixteen at the time they committed their offense because these juveniles lacked experience, education, and intelligence compared to adults); Eddings v. Oklahoma, 455 U.S. 104, 115-16 (1982) ("Even the normal 16-year-old customarily lacks the maturity of an adult.").

132. In 2002, the Court first used neuroscience to draw categorical conclusions about culpability, though not in the context of juvenile offenders. In *Atkins v. Virginia*, the Court held that the Eighth Amendment prohibited the execution of mentally retarded persons. 536 U.S. 304, 320-21 (2002). The *Atkins* Court based its holding in no small part on its conclusion that mentally retarded individuals lacked the cognitive capacity to warrant the death penalty. *Id.* at 318 ("[T]here is abundant evidence that [persons with mental retardation] often act on impulse rather than pursuant to a premeditated plan, and that in group settings they are followers rather than leaders."). For a more complete discussion of *Atkins* and the cases referenced in note 131, see Carroll, *supra* note 3, at 562-66.

133. 543 U.S. 551, 578-79 (2005).

134. *Id.*

135. *Id.* at 572.

136. *Id.* at 572-73.

137. *Id.* at 567.

138. *Id.* at 570 (citing ERIK H. ERIKSON, IDENTITY: YOUTH AND CRISIS (1968)).

139. *Id.* at 569 (citing Laurence Steinberg & Elizabeth S. Scott, *Less Guilty by Reason of Adolescence: Developmental Immaturity, Diminished Responsibility, and the Juvenile Death Penalty*, 58 AM. PSYCHOLOGIST 1009, 1014 (2003)).

140. *Id.*

juvenile could not be equated to that of an adult.[141] Accordingly, the Constitution prohibited the execution of child actors.[142]

In the subsequent cases of *Graham v. Florida*[143] and *Miller v. Alabama*,[144] the Court held that given what was known about juvenile decisionmaking processes and cognitive development, sentencing juvenile offenders to life without parole for nonhomicide offenses after a sentencing hearing[145] and automatically for homicide offenses[146]categorically violated the Eighth Amendment's prohibition on cruel and unusual punishment.[147]

b. Youth, Reasonableness, and the Fifth Amendment

In 2011, a year after the Court's decision in *Graham* and the year before *Miller*, the Supreme Court once again considered brain science—this time in the context of the *Miranda*[148] custody analysis.[149] In *J.D.B. v. North Carolina*, the Court held that the test for determining whether or not a juvenile was in custody must be evaluated based on what was reasonable for a juvenile, not what was reasonable for an adult.[150]

Writing for the majority, Justice Sotomayor ruled that a child suspect's age was relevant in determining whether or not he reasonably believed he was free to leave, and so was relevant to the necessity of the *Miranda* warning.[151] Citing brain science data similar to that discussed in *Roper* and *Graham*, the Court noted that the risk of coercion is "all the more acute" during youth.[152] Accord-

141. *Id.* at 570.

142. *Id.* at 571-73 (holding that given juvenile's incomplete neurodevelopment, juvenile offenders were neither the most culpable offenders nor did the death penalty offer a deterrent benefit).

143. 560 U.S. 48 (2010).

144. 567 U.S. 460 (2012).

145. *Graham*, 560 U.S. at 74.

146. *Miller*, 567 U.S. at 465.

147. The Court again rejected the need for an individualized analysis of the juvenile offender in question, noting in *Graham* that "[c]ategorical rules tend to be imperfect . . . one is necessary here." 560 U.S. at 75. In reaching this conclusion, the Court noted that advances in "psychology and brain science continue to show fundamental differences between juvenile and adult minds. For example, parts of the brain involved in behavior control continue to mature through late adolescence." *Id.* at 68.

148. *See* Miranda v. Arizona, 384 U.S. 436, 444 (1966) (holding that prior to questioning, suspects in police custody "must be warned that he has a right to remain silent, that any statement he does make may be used as evidence against him, and that he has a right to the presence of an attorney, either retained or appointed.").

149. *See* J.D.B. v. North Carolina, 564 U.S. 261, 271-72 (2011).

150. *Id.* at 272.

151. *Id.* at 272, 277.

152. *Id.* at 269.

ingly, officers and courts must take the suspect's youth into account in determining whether or not *Miranda* should be administered.[153]

Justice Sotomayor noted that the law has long recognized that children are different than adults and that they may feel bound to submit to police questioning under circumstances in which an adult might feel free to terminate the encounter.[154] As a result, she concluded that "a child's age must inform the *Miranda* custody analysis"[155] and that this conclusion should apply to "children as a class."[156] She noted that unlike idiosyncratic or particularized characteristics that the Court had previously rejected under the *Miranda* line, relevant characteristics including susceptibility to influence and "outside pressures" were shared by all children and "in no way involves a determination of how youth 'subjectively affect[s] the mindset' of any particular child."[157] In short, to understand the effect of the interrogation on J.D.B., Sotomayor reasoned that the Court must put the event of the interrogation into the context of his thirteen-year-old mindset.[158] Further, to ignore the child's age in this analysis undermines the purpose of *Miranda*'s protection and produces an artificial judicial inquiry that ignores the coercive effect of the interrogation on the juvenile defendant.[159] Courts must therefore take the suspect's age into account when evaluating the circumstances of the interrogation.[160]

B. Science and Kids' Brains

The Court's most recent line of cases on the difference of youth draws heavily from a burgeoning body of scientific study. The emergence of imaging technology, including fMRIs, coupled with longitudinal studies have significantly increased our knowledge of adolescent brain development.[161] Emerging data suggests that adolescents display four broad categories of traits that are relevant to legal doctrines.[162] First, they lack maturity and have an underdeveloped

153. *Id.* at 277.

154. *Id.* at 264-65.

155. *Id.*

156. *Id.* at 272.

157. *Id.* at 275 (internal citations omitted).

158. *Id.* at 276, 278 n.9.

159. *Id.* at 278-79.

160. *Id.*

161. For a discussion of such advances, see B.J. Casey, Rebecca M. Jones & Todd A. Hare, *The Adolescent Brain*, 1124 ANN. N.Y. ACAD. SCI. 111, 115-16 (2008).

162. Though, as will be discussed shortly, there are admittedly limitations to the value of this data. For a more detailed description of these findings, traits, and their limitations, see Carroll, *supra* note 3, at 575-591.

sense of responsibility. Second, they are more vulnerable or susceptible to negative influences and outside pressure. Third, their character is not well formed, and their personalities are transitory. Fourth, their decisionmaking processes differ from their adult counterparts.[163]

Turning first to their lack of maturity and underdeveloped sense of responsibility, teens are "more likely both to underappreciate risk[164] and [to] engage in reckless behavior."[165] Compared to adults, adolescents suffer deficiencies in their capacity for risk perception[166] and the calculation of future consequences.[167] In real terms, this means that adolescents tend to under-appreciate the risks they engage in while overvaluing the reward or benefit of such risks.[168]

Second, adolescents are especially vulnerable to outside influence and pressure. Compared to adults, adolescents not only suffer deficiencies in their capacity for autonomous choice[169] and

163. I do not mean to suggest that these four categories are not interlinked; in fact, they are. But I do mean to suggest that each category presents different behavior and that this behavior may have different legal consequences.

164. *See* Arnett, *Reckless Behavior*, *supra* note 16, at 344; Gardner, *Life-Span Rational-Choice Theory*, *supra* note 16, at 78-79 (positing that a lack of life experience may account for a willingness to take risks in adolescents); Scott et al., *supra* note 16, at 223; Laurence Steinberg & Elizabeth Cauffman, *Maturity of Judgment in Adolescence: Psychosocial Factors in Adolescent Decision Making*, 20 LAW & HUM. BEHAV. 249, 267-68 (1996). Elizabeth Scott and Laurence Steinberg suggest that risk taking may be linked to an adolescent's limited capacity to think hypothetically and into the future, which causes them to value short-term gain or loss disproportionally. *See* Scott & Steinberg, *Blaming Youth*, *supra* note 14, at 814.

165. Carroll, *supra* note 3, at 581; *see also* Arnett, *Reckless Behavior*, *supra* note 16, at 344-46.

166. *See* Quadrel et al., *supra* note 16, at 111; *see also* Gardner & Herman, *Adolescents' AIDS Risk Taking*, *supra* note 16, at 25-26 (noting that adolescents tend to be less risk averse than adults and tend to weigh immediate rewards more heavily than future risks in making choices).

167. *See* Greene, *supra* note 17, at 105-11 (noting that as individuals gain life experience they are better able to project events into the future).

168. *See* Beatriz Luna, David J. Paulsen, Aarthi Padmanabhan & Charles Geier, *The Teenage Brain: Cognitive Control and Motivation*, 22 CURRENT DIRECTIONS PSYCHOL. SCI. 94, 96-99 (2013) (describing studies cataloging adolescents heightened reward response that may contribute to their failure to properly control or inhibit risky behavior); Adriana Galván, *The Teenage Brain: Sensitivity to Rewards*, 22 CURRENT DIRECTIONS PSYCHOL. SCI. 88, 90-91 (2013) (noting that adolescents display a heightened sensitivity to reward as evidenced by an increased dopamine response to reward compared to adults).

169. Steinberg & Cauffman, *supra* note 164, at 253-54; *see also* Catherine C. Lewis, *How Adolescents Approach Decisions: Changes Over Grades Seven to Twelve and Policy Implications*, 52 CHILD DEV. 538, 539 (1981); Luna et al., *supra* note 168, at 99 (noting that even when adolescents are capable of exercising control akin to adults, they show less consistency and less integration of brain processes in decisionmaking).

self-management,[170] but they are also more susceptible to peer influence.[171]

Third, their personalities are not well developed and often shift dramatically during adolescent development.[172] Adolescence is a period in which children attempt to figure out where precisely they "fit in," both in terms of their peer groups and in terms of adult social groups.[173] As a result, adolescents may try different identities on for size before settling on their more permanent adult persona. Adolescent brain development and the corresponding maturity such development generates is a constantly evolving event.[174] As adolescents grow, so do their decisionmaking capabilities and their identities.[175]

Finally, adolescents' decisionmaking processes differ significantly from adults' decisionmaking processes. Generally, and not surprisingly, studies of adolescents reveal that teens as a class are less competent decisionmakers than adults.[176] Even as teens' cognitive capacities approach that of adults in mid-adolescence, they are less skilled than their adult counterparts in using these capacities to make real-life decisions.[177]

From the standpoint of criminal law, each of the scientific conclusions outlined above are significant in their own right, but collec-

---

170. *See* Casey & Caudle, *supra* note 15, at 83, 86 (arguing that in emotional contexts akin to real world situations, impulse control of adolescents is severely taxed relative to adults or children).

171. *See* Dustin Albert, Jason Chein & Laurence Steinberg, *The Teenage Brain: Peer Influences on Adolescent Decision Making*, 22 CURRENT DIRECTIONS PSYCHOL. SCI. 114, 114-15 (2013) (describing heightened susceptibility to peer influence and resulting increased risky behavior in adolescents); Leah H. Somerville, *The Teenage Brain: Sensitivity to Social Evaluation*, 22 CURRENT DIRECTIONS PSYCHOL. SCI. 121, 125 (2013) (noting disproportionate effect of peer reaction on juveniles compared to adults).

172. *See* Scott & Steinberg, *Blaming Youth*, *supra* note 14, at 801.

173. *See* B.J. Casey, *The Teenage Brian: An Overview*, 22 CURRENT DIRECTIONS PSYCHOL. SCI. 80, 80 (2013).

174. *See id.*

175. *See* Steinberg & Cauffman, *supra* note 164, at 260 (noting that both impulsivity and sensation seeking increases between mid-adolescent years and early adulthood, but declines thereafter).

176. *See* Scott & Steinberg, *Blaming Youth*, *supra* note 14, at 801.

177. Even when adolescents show neural capacities on par with adults, other factors, including external factors such as susceptibility to peer influence and internal factors such as inefficient decisionmaking processes, result in poorer decisionmaking capabilities. *See* Casey & Caudle, *supra* note 15, at 86; Luna et al., *supra* note 168, at 96-99; *see also* Shawn L. Ward & Willis F. Overton, *Semantic Familiarity, Relevance, and the Development of Deductive Reasoning*, 26 DEVELOPMENTAL PSYCHOL. 488, 492 (1990) (concluding that while teens are capable of making decisions that approximate those of their adult counterparts in familiar settings, their inability to fully engage in deductive reasoning and their limited experiences render them comparatively poor decisionmakers in unfamiliar situations).

tively they confirm that the behavior and curtailed decisionmaking they describe are the products of normal adolescent development and are common across the age class. These characteristics distinguish adolescents from adults.[178] They confirm that adolescents engage in different decisionmaking processes than adults do as a necessary and ordinary part of their development.[179]

As valuable as this science is in explaining adolescent brain development and thought processes, it has its limitations. First, it risks "over application." While there has been a historical lure to use science as a means of injecting certainty into legal classifications and sentences, there is no data that suggests that current neurological studies can either predict future criminal activity or determine a mental state in the past.[180] Likewise, while science is able to describe general adolescent characteristics, such generalizations fail to provide any information about whether or not a particular defendant suffers the described traits.[181] The information about what is common among adolescents may provide little insight into how a fact finder should treat a particular adolescent who happens to be the defendant. This problem of making generalizations from the data is further complicated by evidence of variations within the general class of adolescence. Girls, for example, mature more quickly than boys.[182] Induction of trauma before and during adolescence can alter developmental trajectories in unpredictable and highly individualized ways.[183] Factors such as IQ, learning disabilities, and mental illness all introduce variables that can alter adolescent development as described in studies.[184] Given the number of moving parts in any analysis of adolescent brain development, the utility of scientific studies to a legal analysis may appear dubious.

Beyond these critiques, the science and its findings remain relatively nascent and opaque. While it may be clear that an adolescent may be particularly susceptible to outside influence or that he may engage in a different decisionmaking process than his adult counter-

178. Casey & Caudle, *supra* note 15, at 82-83 (noting that while it may be understandable to characterize adolescent behavior as deviant given high rates of mental health issues and crime during this period, this over-generalization is inaccurate).

179. *Id.* at 82 (cautioning against pathologizing adolescent behavior and noting that risk-taking and immature decisionmaking are necessary components of maturing).

180. *See, e.g.*, Bonnie & Scott, *The Teenage Brain*, *supra* note 14, at 160-61; Buss, *supra* note 14, at 133-34; Maroney, *Brain Science After* Graham, *supra* note 14, at 769-72; Maroney, *False Promise*, *supra* note 14, at 94, 146-49; Slobogin & Fondacaro, *supra* note 14, at 47-48.

181. *See, e.g.*, Maroney, *False Promise*, *supra* note 14, at 94, 146-49.

182. *See* Casey, *supra* note 173.

183. *Id.*

184. *Id.*

parts, it remains unclear what effect that should have on substantive criminal law's analysis. Even as the Court has identified some value to generalized discussions of adolescent brain development (despite the critics' warnings), it has limited the use of such material to two narrow realms. The underdeveloped nature of the adolescent brain may have given the Court pause in attempting to discern if a child was truly the worst of the worst for sentencing purposes,[185] or if the child reasonably believed he was in custody for *Miranda* purposes.[186] But does it or should it have the same effect in the context of substantive criminal law's analysis of elements and guilt? And how, as a practical matter, might the system recognize the crucial difference between juvenile and adult decisionmaking? To answer these questions, it is informative to examine a second area of scientific study, one that focuses not on the accused juvenile but rather on the adult fact finder.

C. Science and How Adults Think About Facts

Despite having once been adolescents, it is clear that developmentally normal adults do not share adolescent thought processes. Maturity and its corresponding neurobiological development alters not only the physical structure of the brain but the mechanisms by which adults make decisions and judge risks and rewards.[187] This change not only bodes well for society but impacts the way that adults interpret facts. While adults may remember decisions made as teenagers, they are unlikely to remember the thought processes that produced such decisions. To the contrary, they are likely to impose their own thought processes onto such decisions[188]—often concluding that what seemed like a great idea in youth was, in retrospect, a bad idea.

In the context of criminal law, generally, and in assessing a defendant's state of mind, in particular, these studies suggest that con-

185. *See supra* notes 133-48 and accompanying text (discussing the *Roper* line).

186. *See supra* notes 148-60 and accompanying text (discussing *J.D.B.*).

187. *See* Charles A. Nelson III et al., *Neural Bases of Cognitive Development*, *in* CHILD AND ADOLESCENT DEVELOPMENT: AN ADVANCED COURSE 19, 25, 38-40 (William Damon & Richard M. Lerner eds., 2008) (describing the development of the brain from childhood to adulthood).

188. *See* Raymond S. Nickerson, *How We Know—and Sometimes Misjudge—What Others Know: Imputing One's Own Knowledge to Others*, 125 PSYCHOL. BULL. 737, 745-49 (1999) (comparing studies that indicate people tend to attribute their own thought processes to others in assessing facts); Boaz Keysar et al., *States of Affairs and States of Mind: The Effect of Knowledge of Beliefs*, 64 ORG. BEHAV. & HUM. DECISION PROCESSES 283, 284 (1995) ("[P]eople's tendency to behave as if others have access to their own privileged information—even when they are fully aware that they do not."). For an excellent discussion of this interpretive failure in the context of judicial decisionmaking, see Matthew Tokson, *Judicial Resistance and Legal Change*, 82 U. CHI. L. REV. 901, 913-16 (2015).

trary to Justice Sotomayor's claim, a fact finder's ability to evaluate a juvenile's perspective may not be intuitive at all.[189] In fact, it is dubious to assume an adult fact finder, merely because he or she was at one point an adolescent, is capable of accurately assessing the juvenile's state of mind based on circumstantial evidence. While adults may be capable of remembering their youth, adults lack the ability to replicate their youthful thought processes. Therefore, they are more likely to mistakenly interpret state of mind evidence through the rubric of their own adult thought processes.

III. CONSTRUCTING PROOF

Armed with a basic understanding of the jurisprudence of youth and neuroscientific conclusions surrounding adolescent brain development, this Part turns to the evidentiary construct of proof in criminal law, in particular, the role of relevance and inference. When courts and scholars speak of evidence, they often resort to epistemological dichotomies. Evidence is either testimonial or physical;[190] relevant or not;[191] direct or circumstantial.[192] Each division is driven by the desire to find truth.[193] But these categorizations alone are insufficient to accomplish the goal of decisional accuracy. Additional classifications and protections regulate the admission of evidence and the narrative of a trial in the hope of providing fact finders with the necessary information upon which to deliberate while excluding information that is either irrelevant to the decision before the fact finder or likely to produce decisional inaccuracy.[194]

---

189. *See* J.D.B. v. North Carolina, 564 U.S. 261, 279-80 (2011) ("[O]fficers and judges need no imaginative powers, knowledge of developmental psychology, training in cognitive science, or expertise in social and cultural anthropology to account for a child's age. They simply need the common sense to know that a 7-year-old is not a 13-year-old and neither is an adult."). As will be discussed further in Part IV, this portion of the decision was heavily criticized by the dissent for the assumption that understanding that a child thinks differently is not the same as understanding how a child thinks. *See id.* at 293-94 (Alito, J., dissenting).

190. *See* 1 JOHN HENRY WIGMORE, A TREATISE ON THE ANGLO-AMERICAN SYSTEM OF EVIDENCE IN TRIALS AT COMMON LAW § 25, at 224-25 (2d ed. 1923) (noting that testimony is "information derived . . . from those who had actual knowledge of the fact[s]" and physical evidence is either objects or conduct capable of being assessed through "actual and personal observation" by the fact finder (citing 1 THOMAS STARKIE, A PRACTICAL TREATISE OF THE LAW OF EVIDENCE AND DIGEST OF PROOFS IN CIVIL AND CRIMINAL PROCEEDINGS § 13 (1824))).

191. *See* FED. R. EVID. 402 (permitting the admission of relevant evidence and the exclusion of irrelevant evidence).

192. *See* MCCORMICK ON EVIDENCE § 185, at 1000-01 (7th ed. 2013) (noting that "[d]irect evidence is evidence which, if believed, resolves a matter in issue" and circumstantial evidence, even if true, requires "additional reasoning . . . to reach the desired conclusion").

193. *See* Nesson, *supra* note 1, at 1194 ("The generally articulated and popularly understood objective of the trial system is to determine the truth about a particular disputed event.").

194. Protections such as disclosure requirements, *see, e.g.*, The Jencks Act, 18 U.S.C. § 3500 (2012) (requiring disclosure of prior statements of testifying witnesses);

As substantive criminal law defines the elements of an offense and defenses to it, relevancy is defined not only in terms of what the evidence directly shows but also in terms of what may be inferred from this evidence.[195] In this, relevancy and inference are joined. Inference allows a fact finder to conclude a fact based on the establishment of another fact.[196] As a practical matter, inferences ease proof requirements, allowing fact finders to draw conclusions about one fact based on their interpretation of another.[197] Inferences are not without their limitations, however; they must be supported by credible evidence and pertain to an element to be proven. An assessment of the "relevancy" of circumstantial evidence hinges on the inference of a fact it seeks to prove and its relationship to the proof of that fact.[198] The more remote the relationship between the evidence and the fact it might prove, the higher the risk that the evidence is not probative.[199] Likewise, even if

---

FED. R. CRIM. P. 16(b)(1)(C) (requiring disclosure of the basis of an expert's opinion); impeachment, *see, e.g.*, FED. R. EVID. 607-09, 801(d); corroboration, *see* MCCORMICK, *supra* note 192, § 145 (describing the rationale for the requirement of corroboration); rules of production, *see, e.g.*, FED. R. EVID. 703, 705 (describing production and disclosure requirements for expert witnesses); *see also* New Jersey v. Henderson, 27 A.3d 872, 878 (N.J. 2011) (ordering production of eye witness identification protocols); and jury instruction, *see, e.g.*, ILL. PATTERN JURY INSTR. (CRIM.) 3.17, Testimony of an Accomplice (instructing jurors to view the testimony of an accomplice with suspicion and caution), all limit or seek to guide the fact finder's access to evidence. These protections work in lock step with restrictions imposed by the Rules of Evidence. *See, e.g.*, FED. R. EVID. 403-15 (all excluding otherwise "relevant" evidence based on potential prejudicial effect). Such regulations are premised on the entwined notions that evidence must be both relevant *and* reliable in order to warrant admission, with reliable being defined broadly as avoiding prejudice or the promotion of inaccurate decisionmaking by the fact finder.

195. *See* George F. James, *Relevancy, Probability and the Law*, 29 CALIF. L. REV. 689, 690 (1941) ("Relevancy, as the word itself indicates, is not an inherent characteristic of any item of evidence but exists as a relation between an item of evidence and a proposition sought to be proved.").

196. For example, if a fact finder concludes that it is proven that the defendant was at a still during its operation, federal law permits the fact finder to also conclude that the defendant operated the still. *See* United States v. Gainey, 380 U.S. 63, 69-70 (1965). This inference was permissive, meaning the jury did not have to infer the second fact, even upon proof of the first fact. *Id.* Not all "still" related inferences faired as well, however. Months after the decision in *Gainey*, in *Romano*, the Court struck down a statute authorizing jurors to infer that a person present at the still was in "possession or custody, or . . . control." United States v. Romano, 382 U.S. 136, 137 n.4, 137-38 (1965); *see also* 26 U.S.C. § 5601(b) (1970) (repealed 1976). The Court distinguished the two cases by noting that Gainey had to be present while the still was operating, but Romano only had to be present at the still, operating or otherwise, for the inferences to be triggered. *Romano*, 382 U.S. at 141. In each case and later cases, as will be discussed further in Section III.B., the inferences were supported by circumstantial evidence that supported a finding of guilt.

197. *See* Nesson, *supra* note 1, at 1187 ("Legislatures typically enact permissive inferences in order to assist prosecutors in proving criminal offenses when the prosecution's best evidence on one of the elements is (a) wholly circumstantial and (b) not entirely convincing.").

198. *See* FED. R. EVID. 401 advisory committee's notes to 1972 proposed rules.

199. *Id.*

the relationship is close, if the fact proven does not demonstrate an element of the offense, or support a permissible defense, its materiality may be called into question.[200] Thus, questions of relevancy are inherently entwined with questions of what type of inferences should be permitted in criminal law, when circumstantial evidence may prove an element, and what type of circumstantial evidence may be allowed. And so begins the cycle between inference and relevancy—evidence may be relevant because it supports the inference of a fact, but the inference is only permitted if its conclusion is relevant to the question before the fact finder. To disentangle questions of relevancy and inference is to unpack criminal law's proof requirement.

A. Disentangling Relevancy

Relevancy is the threshold to admissibility.[201] Federal Rule of Evidence 401 establishes the test for relevancy in terms of probative value[202] and materiality.[203] But defining these terms is an elusive task. As then-not-yet Justice Holmes suggested, the limits of relevancy are "a concession to the shortness of life."[204] If all evidence were admissible because it in some way altered the probability of a material element, trials would end in exhaustion and bewilderment, and rarely accurate verdicts.[205] Instead, Holmes suggested that the value of relevancy lay in its ability to limit the story parties told. In fact, Article IV of the

200. *Id.*

201. *See* RONALD J. ALLEN, RICHARD B. KUHNS & ELEANOR SWIFT, EVIDENCE: TEXT, PROBLEMS, AND CASES 139 (3d ed. 2002) ("Relevancy is the foundational principle for all modern systems of evidence law."); CHRISTOPHER B. MUELLER & LAIRD C. KIRKPATRICK, EVIDENCE § 4.1, at 151 (4th ed. 2009) ("The most fundamental evidentiary principle is the requirement of relevancy. . . . Relevancy is thus the primary threshold determination that must be made for each item of proffered evidence."); 2 JACK B. WEINSTEIN & MARGARET A. BERGER, WEINSTEIN'S FEDERAL EVIDENCE § 401.02[1], at 401-555 (Joseph M. McLaughlin ed., 2d ed. 2011) ("The concept [of relevance] is, however, fundamental to the law of evidence; it is the cornerstone on which any rational system of evidence rests."); James, *supra* note 195, at 689 ("Since scholars first attempted to treat the common law of evidence as a rational system, relevancy has been recognized as a basic concept underlying all further discussion."); Dale A. Nance, *Conditional Relevance Reinterpreted*, 70 B.U. L. REV. 447, 447 (1990) ("The cornerstone of modern evidence law is relevance."). Some scholars contest this characterization, arguing that "foundation" is in fact the threshold to admissibility, with relevance following as a close second. *See* David S. Schwartz, *A Foundation Theory of Evidence*, 100 GEO. L.J. 95, 99 (2011) (arguing that foundation requires that "evidence be case-specific, assertive, and probably true" and "[a]s such, it is a logical precondition for relevance").

202. *See* FED. R. EVID. 401 ("Evidence is relevant if: (a) it has any tendency to make a fact more or less probable than it would be without the evidence . . . .").

203. *Id.* ("Evidence is relevant if: . . . (b) the fact is of consequence in determining the action."); *see also* MCCORMICK, *supra* note 192, § 185 ("Materiality concerns the fit between the evidence and the case.").

204. Reeve v. Dennett, 11 N.E. 938, 944 (Mass. 1887).

205. *Id.*; James, *supra* note 195, at 700-01.

Federal Rules of Evidence allows for the exclusion of relevant evidence on the grounds that it may produce decisional inaccuracy.[206]

And so, substantive criminal law and evidentiary rules seek to define relevancy in terms of ever-narrowing circles around the event or events in question.[207] Substantive criminal law defines elements that the state must prove and the defenses that may be offered in response. These elements serve as a guide as the rules of evidence sheer away collateral issues and concerns to admit only the "relevant" evidence. As the law cabins the narrative the fact finder will hear and judge, the rules of evidence narrow the scope of the narrative until the fact finder is left only with the most essential of stories. The theory of relevancy is that in this narrowing the fact finder may focus on the question at hand and arrive at some truth untainted by distraction or prejudice.[208]

The defendant's alleged act, committed with a particular mens rea, which produced a result, in the presence of particular attendant circumstances are the requisites for a guilty verdict (or in the presence of a defense, a not guilty verdict). A defendant accused of bringing a gun to a party and firing a shot at a rival may face an assault with a deadly weapon charge. The story of his guilt will unfold in terms of the elements of his charge: that the defendant did intentionally engage in conduct which placed another in fear of imminent injury through the use of a deadly weapon, to wit a gun.

As each witness takes the stand and recalls some part or all of the component parts of the offense or defense in response to the questions of direct and cross examination they narrate the story of the verdict. They offer to the fact finder a glimpse of a moment upon which the fact finder must then render judgment. The defendant was there; the witness saw him. The defendant fired the shot; the witness smelled the smoke and heard the shot. The defendant's hands tested positive for lead, antimony, and barium—the trilogy that compose gunshot residue;[209] the witness ran a test. Likewise, the introduction of physical objects contributes to the narrative. Their presence sug-

206. *See* FED. R. EVID. 403-13 (all excluding relevant evidence because of potential prejudicial effect).

207. It could certainly be argued that procedural law also imposes limitations on the admission of evidence without the goal of achieving accuracy. *See* Tom Stacy, *The Search for the Truth in Constitutional Criminal Procedure*, 91 COLUM. L. REV. 1369, 1374-77 (1991) (arguing that Fourth and Fifth Amendment jurisprudence, as well as the development of privilege, serve to exclude evidence that may promote truth finding functions).

208. *See* James, *supra* note 195, at 701.

209. *See* Allison C. Murtha & Linxian Wu, *The Science Behind GSR: Separating Fact from Fiction*, FORENSIC MAG. (Sept. 27, 2012, 5:56 AM), https://www.forensicmag.com/article/2012/09/science-behind-gsr-separating-fact-fiction [https://perma.cc/XL7S-SWV9].

gests or confirms a fact. The gun was found on the defendant when he was arrested. It is real. It could fire a shot.

This story told in court is often nonlinear and nonsequential. It is jagged and told in the starts and stops as each witness testifies and is inevitably interrupted by objections and their accompanying legal arguments and recesses. It is, by its nature, a story bounded on all sides by the terms the law sets forth—both in terms of what may be told and how it may be told.

It is, more often than not, bad storytelling, but it serves a purpose that exceeds its literary value. The story told in court is a compact one surrounding a particular moment and the consequences of that moment. That which proves or disproves an element directly is relevant, and barring other concerns, is admissible as evidence. That which does not is not relevant and is, therefore, not admissible.

That the defendant had a difficult childhood, misunderstood the nature of the party he was attending, or has a prior conviction for theft are all likely irrelevant to the question of his guilt. These facts and circumstances may admittedly provide more detail, help on some level to explain the defendant's actions, or even render a material fact more or less likely, but they are simply too remote and pose too great a risk of injecting prejudice or distraction that they would likely fail Holmes' and Article IV's relevancy test and could be excluded.

Accuracy in decisionmaking is preserved in narrow circles of relevancy. Limitations on what is deemed relevant help to focus the fact finder on pertinent questions of credibility and proof. These limitations are necessary in a system fraught with accuracy hazards. Evidence by its nature can give rise to decisional inaccuracy. Human sources suffer a litany of potential risks. A witness may be insincere or inarticulate. She may make errors in memory or in perception. Likewise, a physical object, unless offered as evidence of its very existence, demands interpretation by the fact finder to be rendered relevant. This act of interpretation may skew the tale the evidence would tell.

Other evidentiary rules and procedural protections serve to guard against these inaccuracies.[210] As relevancy confines the scope of the in-court narrative in the hopes of promoting accurate decisionmaking, rules of exclusion, disclosure, impeachment, corroboration coupled with jury instructions seek both to exclude noncredible evidence and to empower fact finders with sufficient information to discern inaccura-

210. The hypothetical defendant mentioned above may exclude testimony relating to his prior conviction, even if it is found relevant, if its probative value is substantially outweighed by its prejudicial effect. Likewise, he or the state may prevent hearsay evidence or supposition.

cy.[211] These protections seek to guard against the common dangers of insincerity, erroneous memory, faulty perception, the ambiguity of language itself, and false inference. And while the parameters of protections may vary both in existence and effectiveness depending on the jurisdiction and the judicial actor interpreting them, their presence speaks to a desire to promote accurate decisionmaking by controlling not only the evidence the fact finder considers but the form and scope of that evidence. Assessments of relevancy serve an important gatekeeping function for these exclusions—permitting limitations on the narrative in the name of promoting accuracy.

This approach to evidence and proof inevitably presents an incomplete or partial narrative to the fact finder. Inevitably, only part of the story is told. Criminal law unfolds as a snapshot, a single moment in a defendant's and victim's life. Despite this limitation, however, this approach to evidence and proof is also premised on the notion that fact finders are capable of not only hearing the story of the case with all its limitations and disjointed narrative but also interpreting that unlikely story in a way that is consistent with the law's aim of an accurate and just result.

This act of interpretation is a critical and potentially fraught moment for criminal law. It requires a fact finder—often a lay person serving as juror—to consider the law as written and to apply that law to the facts of the case as he or she understands them to be, based not only on what evidence was presented but also on what the fact finder knows of the world around him or her. For all the hard work that evidentiary and legal rules may do, ultimately judgments of credibility, relevancy, truth, and guilt come down to the fact finder's assessment of the evidence itself. In this decision, accuracy is a product of both the law's regulation of the narrative of the case and the fact finder's understanding of that narrative based on his or her life experience. Here, relevancy and inference entwine.

B. Disentangling Inference

The use of inference or presumption[212] in criminal law as a mechanism of proof opens the possibility that relevancy can, and should be, defined in ever-widening circles. Inference allows a fact to be proven by

211. While relevancy serves an important gate-keeping function, alone it is insufficient to ensure accurate decisionmaking. *See* FED. R. EVID. 401 advisory committee's notes to 1972 proposed rules. Federal Rule of Evidence 402 notes that "[r]elevant evidence is admissible unless any of the following provides otherwise: the United States Constitution; a federal statute; these rules; or other rules prescribed by the Supreme Court." FED. R. EVID. 402.

212. The terms inference and presumption both refer to the concept that one fact may be proven by proof of another. For the purpose of ease, I will use the term inference, though courts and scholars use both.

proof of another fact.[213] The concept of inference suffers its own binary constructs. Inference may be mandatory[214] or permissive,[215] the product of circumstantial evidence[216] or statute.[217] Statutory inferences are most common around areas of public safety concerns such as narcotics, alcohol, or weapon regulation.[218] Nonstatutory inferences tend to focus on the state of mind element.[219]

Jurors are instructed that they may infer a defendant's state of mind from his conduct.[220] A jury may infer a defendant's intent to dis-

213. The principle of inference is long established in American criminal jurisprudence. Defendants are presumed to intend the natural and probable consequence of their conduct. *See* Sandstrom v. Montana, 442 U.S. 510, 522-23 (1979); United States v. U.S. Gypsum Co., 438 U.S. 422, 430 (1978); Morissette v. United States, 342 U.S. 246, 274 (1952).

214. Mandatory inferences are often called "true" or "conclusive" presumptions and require the fact finder to draw the inference from the proof of the predicate fact unless the defendant rebuts it. *See* Julian P. Alexander, *Presumptions: Their Use and Abuse*, 17 MISS. L.J. 1, 4-6 (1945); Jeffries, Jr. & Stephan III, *supra* note 2, at 1335. Some legal scholars distinguish conclusive presumptions from mandatory presumptions, defining conclusive presumptions as foreclosing any further argument once the predicate fact is shown. *See* Neil S. Hecht & William M. Pinzler, *Rebutting Presumptions: Order Out of Chaos*, 58 B.U. L. REV. 527, 529 (1978).

215. Permissive inferences are also called "nonmandatory presumptions" or "permissive presumptions" and allow the fact finder to infer one fact from the proof of another. As their name suggests, they do not require the fact finder to make the inference. *See* Cty. Court of Ulster Cty. v. Allen, 442 U.S. 140, 165-67 (1979) (holding permissive inference instruction with regard to an element of an offense is constitutional if the instruction with respect to the element makes it clear that each element must be proven beyond a reasonable doubt, that there is a rational connection between the predicate and inferred facts, and that the inferred facts are more likely than not to flow from the predicate facts); Leslie J. Harris, *Constitutional Limits on Criminal Presumptions as an Expression of Changing Concepts of Fundamental Fairness*, 77 J. CRIM. L. & CRIMINOLOGY 308, 310 (1986); Jeffries, Jr. & Stephan III, *supra* note 2, at 1335-36; Peter D. Bewley, Note, *The Unconstitutionality of Statutory Criminal Presumptions*, 22 STAN. L. REV. 341, 343 (1970).

216. *See* Deborah W. Denno, *Criminal Law in a Post-Freudian World*, 2005 U. ILL. L. REV. 601, 691-96 [hereinafter Denno, *Post-Freudian*] (describing jury instructions regarding inference based on the introduction of circumstantial evidence).

217. *See* Allen Fuller & Robert Urich, *An Analysis of the Constitutionality of Statutory Presumptions That Lessen the Burden of the Prosecution*, 25 U. MIAMI L. REV. 420, 420 (1971); Jeffries, Jr. & Stephan III, *supra* note 2, at 1335.

218. *See, e.g.*, Turner v. United States, 396 U.S. 398, 408-09 (1970) (statute permitted inference that heroin was imported based on possession); Leary v. United States, 395 U.S. 6, 37 (1969) (statute permitted inference that marijuana was imported based on possession); United States v. Gainey, 380 U.S. 63, 64 (1965) (statute permitted inference that defendant operated still from presence); United States v. Romano, 382 U.S. 136, 137 (1965) (statute permitted inference that defendant operated still from presence); Tot v. United States, 319 U.S. 463, 464 (1943) (statute permitted inference of transportation of firearm by interstate or foreign commerce from the possession of a firearm).

219. *See* Deborah W. Denno, *Concocting Criminal Intent*, 105 GEO. L.J. 323, 327-28 (2017) [hereinafter Denno, *Concocting Criminal Intent*]; Denno, *Post-Freudian*, *supra* note 216, at 692-93 (discussing jury instructions on permissive inference of the state of mind element from proof of conduct).

220. *See* Denno, *Post-Freudian*, *supra* note 216, at 691, 698 app. tbl. 1 (showing thirty-three states and the District of Columbia permit an inference of a mental state from conduct or other circumstantial evidence); Julie Schmidt Chauvin, Comment, *"For It Must*

tribute narcotics from the quantity of drugs found in his possession, for example.[221] That the defendant either actively denies this state of mind, or that there may be a myriad of alternative explanations, does not undo the permissive inference. Likewise, that the conduct in question either precedes or proceeds the criminal act does not undo its inferential value as circumstantial evidence. Put another way, a defendant's flight from the scene of a crime[222] or his preparation for a potential crime both suffice as circumstantial evidence for state of mind inferences.[223]

At its most basic level, an inference eases proof requirements by allowing the state to bootstrap proof of a fact through the proof of another.[224] There is a necessity to their easing; scholars and courts have long recognized that without inference, it would often be impossible to prove mental states.[225]An inference can also contain a burden-shifting component.[226] For this, the concept of inference has received substantial

---

Seem Their Guilt": Diluting Reasonable Doubt by Rejecting the Reasonable Hypothesis of Innocence Standard, 53 LOY. L. REV. 217, 218-22 (2007).

221. *See* United States v. Wright, 739 F.3d 1160, 1169 (8th Cir. 2014) ("A large quantity of narcotics alone provides sufficient circumstantial evidence for a jury to infer an intent to distribute it."); Francis Paul Greene, Comment, *I Ain't Got No Body: The Moral Uncertainty of Bodiless Murder Jurisprudence in New York After* People v. Bierenbaum, 71 FORDHAM L. REV. 2863, 2876 (2003) ("With circumstantial evidence, [fact finders] must make a leap of logic and infer the existence of a fact at issue, connecting a circumstantial fact to a directly incriminating fact.").

222. *See, e.g.*, Thompson v. Maryland, 901 A.2d 208, 218-19 (Md. 2006); Rhode Island v. Perry, 725 A.2d 264, 266 (R.I. 1999) (permitting a jury instruction on inference of state of mind based on the defendant's flight after the crime). *But see* Alberty v. United States, 162 U.S. 499, 511 (1896) (noting that a desire to avoid contact with the police is not necessarily indicative of a guilty mind). Outside of the context of mens rea, flight has served as a basis for the suspicion required for a brief stop under the Fourth Amendment. *See* Illinois v. Wardlow, 528 U.S. 119, 124-26 (2000).

223. *See Wright*, 739 F.3d at 1169 (holding that the defendant's accumulation of narcotics even prior to distribution could be used as evidence of his intent to distribute).

224. *See* Nesson, *supra* note 1, at 1188-89; *see also* Leary v. United States, 395 U.S. 6, 36 (1969); Morrison v. California, 291 U.S. 82, 88 (1934).

225. *See* 29A AM. JUR. 2D EVID. § 1392 (2015); *see also* United States v. Sullivan, 522 F.3d 967, 978 (9th Cir. 2008) ("Intent may be established through circumstantial evidence."); CHARLES ALAN WRIGHT & PETER J. HENNING, FEDERAL PRACTICE AND PROCEDURE § 411 (4th ed. 2009) (noting that the proof of mental state through inference is, in some cases, "indispensable"); *see also* United States v. Stoker, 706 F.3d 643, 646 (5th Cir. 2013) ("Intent may, and generally must, be proven circumstantially." (quoting United States v. Maggitt, 784 F.2d 590, 593 (5th Cir. 1986)); United States v. Smith, 508 F.3d 861, 867 (8th Cir. 2007) (noting that a jury "rarely has direct evidence of a defendant's knowledge, [and] it is generally established through circumstantial evidence" (quoting United States v. Ojeda, 23 F.3d 1473, 1476 (8th Cir. 1994)).

226. To rebut an inference, a defendant may have to present evidence that offers an alternative explanation for the proven fact. *See* Alexander, *supra* note 214, at 3 n.6; Harold A. Ashford & D. Michael Risinger, *Presumptions, Assumptions, and Due Process in Criminal Cases: A Theoretical Overview*, 79 YALE L.J. 165, 172-73 (1969); Bewley, *supra* note 215, at 343 n.21 ("The import of the language appears to be that a procedure shifting to the

criticism.[227] Although each of these critiques is valid, they arguably neglect the reality that inference simply gives a name to a process that fact finders likely engage in any way in rendering a verdict.[228]

A more fundamental flaw with the concept of inference is that it is premised on a notion that any fact finder can accurately use inferences to reach a particular conclusion.[229] This idea that one fact carries universal and knowable meaning in the context of the mental state element is particularly problematic.[230] In fact, depending on the defendant's thought process, the meaning of an act or omission can change.[231] This reality is recognized not only in constitutional protections and procedural and evidentiary rules that set guidelines for the admission of evidence but in statutory and common law defenses, such as self-defense, battered women's/battered child's defenses, cultural defenses, some mental health based defenses (such as the PTSD defense),[232] and in mitigating defenses (such as mistake of fact and law).[233]

---

defendant the burden of proof on an element of the crime would be unconstitutional, while one putting the burden of proof of an affirmative defense on him is not."); Nesson, *supra* note 1, at 1214-15. Some inferences shift burdens of production as opposed to burdens of persuasion. *See* Bewley, *supra* note 215, at 343.

227. *See, e.g.*, Ashford & Risinger, *supra* note 226; James, *supra* note 195, at 690-92; Nesson, *supra* note 1, at 1192. The Supreme Court has also held some inferences to be unconstitutional per se. *See, e.g.*, Sandstrom v. Montana, 442 U.S. 510, 522-24 (1979) (holding that an irrebutable presumption that an element of a crime exists is unconstitutional); Mullaney v. Wilbur, 421 U.S. 684, 703-04 (1975) (holding a rebuttable presumption that shifted the burden of persuasion to the defendant violated the Due Process Clause); *see also* Harris, *supra* note 215, at 309.

228. *See* Bruce Ledewitz, *Mr. Carroll's Mental State or What is Meant by Intent*, 38 AM. CRIM. L. REV. 71, 102 (2001) (noting that allowing jurors to infer a mental state from action not only mirrors what is likely occurring in deliberation but avoids "fruitless inquiry into mental processes").

229. *See* James, *supra* note 195, at 695-697 (noting that inferences only work if facts upon which they are based carry universal or near universal meanings); Nesson, *supra* note 1, at 1192-95 (arguing that there is a value in complexity that is often lost in pursuit of the ease of inference and universal meanings).

230. *See* Denno, *Post-Freudian*, *supra* note 216, at 692-96 (using jury instructions to highlight particular interpretive conflicts that may arise around inferences of mental state from the defendant); Kim Taylor-Thompson, *States of Minds/States of Development*, 14 STAN. L. & POL'Y REV. 143, 158-59 (2003); Kim Taylor-Thompson, *Empty Votes in Jury Deliberations*, 113 HARV. L. REV. 1261, 1275 (2000) [hereinafter Taylor-Thompson, *Empty Votes*] ("[J]uror[s] often must infer the actor's state of mind from conduct open to numerous interpretations.").

231. *See* Taylor-Thompson, *Empty Votes*, *supra* note 230, at 1275 (observing that the juror's interpretation of a fact often hinges on the juror's personal experiences).

232. Each of these defenses permit the introduction of evidence that might otherwise be excluded as irrelevant, including the defendant's past interactions with the victim, prior acts of violence, prior traumatic experiences unrelated to the crime (such as war experiences or childhood abuse), and medical evidence of illness or injury unconnected to the crime itself. *See generally* JOSHUA DRESSLER, UNDERSTANDING CRIMINAL LAW §§ 16-20 (7th ed. 2015) (discussing proof requirements and relevancy for defenses).

233. *See* MODEL PENAL CODE § 2.04, at 267 (AM. LAW INST. 1985). Mistake of law and fact defenses emphasize the circumstances as the actor believes them to be rather than as they

Constitutional due process,[234] the right to counsel,[235] the right to an impartial jury,[236] the right against self-incrimination,[237] and the double jeopardy clause[238] all carry with them procedural protections designed to promote both fairness and decisional accuracy. These protections seek to guard against the possibility that a conviction is the product of something other than the fact finder's careful deliberation of reliable evidence presented at trial.[239]

Similarly, rules of evidence seek to ensure decisional accuracy by limiting information provided to fact finders. The rules of evidence limit admissibility in a variety of ways. Experts may not opine on the ultimate issue of fact regarding mens rea.[240] Hearsay is not generally admissible.[241] Neither testimony nor physical evidence may be introduced without first establishing its foundation.[242] Information about a

---

actually exist. *Id.* at 297.

234. *See In re* Winship, 397 U.S. 358, 363 (1970) (holding that while not present in the text of the Constitution, beyond a reasonable doubt burdens of proof and the presumption of innocence were critical components of due process and served to protect against wrongful conviction).

235. *See* U.S. CONST. amend. VI ("In all criminal prosecutions, the accused shall enjoy the right . . . to have the Assistance of Counsel for his defence."); Gideon v. Wainwright, 372 U.S. 335, 343 (1963) ("The Sixth Amendment [and the right to counsel contained therein] stands as a constant admonition that if the constitutional safeguards it provides be lost, justice will not 'still be done.' " (quoting Johnson v. Zerbst, 304 U.S. 458, 462 (1938)).

236. *See* U.S. CONST. amend. VI ("In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury . . . ."); Jenny Carroll, *The Jury as Democracy*, 66 ALA. L. REV. 825, 841-42 (2015) (discussing the necessity of a diverse jury in ensuring accurate and legitimate outcomes in criminal trials); *see also* Duren v. Missouri, 439 U.S. 357, 364-68 (1979) (discussing the importance of procedural mechanism that promote the selection of a representative jury).

237. *See* U.S. CONST. amend. V ("No person . . . shall be compelled in any criminal case to be a witness against himself . . . ."). This right against self-incrimination prohibits the fact finder from inferring the defendant's guilt from his silence and instead requires the fact finder's verdict to be based on evidence offered. *See* Doe v. United States, 487 U.S. 201, 212, 213 n.11, 215-16 (1988) (prohibiting the use of silence at trial to infer guilt); Griffin v. California, 380 U.S. 609, 614-15 (1965) (prohibiting the use of pre- and post-arrest silence to infer guilt).

238. U.S. CONST. amend. V ("No person shall . . . be twice put in jeopardy of life or limb . . . ."); Green v. United States, 355 U.S. 184, 187-88 (1957).

239. That these constitutional protections may fail or be deficient in some way—and I do not doubt their day-to-day mechanisms could be improved upon—does not undermine their aim.

240. *See* FED. R. EVID. 704(b) ("In a criminal case, an expert witness must not state an opinion about whether the defendant did or did not have a mental state or condition that constitutes an element of the crime charged or of a defense.").

241. FED. R. EVID. 802 (stating "[h]earsay is not admissible" unless it falls within some exception to the hearsay rule); *see* Edmund M. Morgan, *Hearsay Dangers and the Application of the Hearsay Concept*, 62 HARV. L. REV. 177, 188-90 (1948) (noting hearsay risks particular dangers of insincerity, ambiguity, memory loss, and misperception).

242. *See* FED. R. EVID. 104 (requiring the court to answer preliminary questions before permitting the admission of evidence); Schwartz, *supra* note 201, at 98.

witness's character or other bad acts is generally not admissible.[243] Leading questions are prohibited on direct examination.[244] This list goes on, but in each restriction to admissibility, the rules recognize not only the frailties of evidence itself but also that fact finders may be ill-equipped to dodge potentially prejudicial or distracting material. Taken together with procedural rules that set limits on how and when evidence may be presented, these rules seek to hone the fact finders' interpretive powers.[245]

All of these limitations, whether rule-based or constitutionally-based, are premised on the notion that decisionmaking by fact finders must be guided, and that fact finders may make inaccurate or unreliable decisions if they are not guided.[246] This suggests that the meaning a fact finder may draw from any given fact will shift as exposure to other facts shift.[247] Put another way, the need for these limitations suggests that the significance of a fact to any given element is not constant, but is a product of the context in which it is presented.

Likewise, defenses may hinge on the defendant's ability to persuade the fact finder that ordinarily prohibited conduct, viewed through the lens of the defendant's experiences and thought process, may be excused or mitigated. These defenses require the fact finder to assess the defendant's mental state in the context of her thought process and perception of her circumstances.[248] Mistake of law and mistake of fact defenses mitigate the mental state element by emphasizing the circumstances as the actor believes them to be rather than as they actually exist. This subjective approach requires the fact finder to judge the defendant's mental state based on the defendant's mistaken perception of the world. Self-defense asks the fact finder to determine not only if the defendant's use of force was proportional but also her perception of the risk she faced and her available response.[249] A battered women's or battered child's defense or a PTSD

243. *See* FED. R. EVID. 404 (limiting the introduction of character evidence and evidence of prior crimes or bad acts).

244. *See* 3 JOHN HENRY WIGMORE, A TREATISE ON THE ANGLO-AMERICAN SYSTEM OF EVIDENCE IN TRIALS AT COMMON LAW §§ 769-79 (3d ed. 1940) (noting that evidentiary restrictions on impeachment of one's own witnesses resulted in a general prohibition on leading a witness during direct examination).

245. *See* Roth, *supra* note 5, at 1984-85 (noting that a variety of procedural and evidentiary rules as discussed above seek to promote accurate decisionmaking by fact finders).

246. *See supra* notes 234-44.

247. Context and complexity can shift perceptions of facts. *See* Denno, *Concocting Criminal Intent*, *supra* note 219, at 325-27; Nesson, *supra* note 1, at 1192, 1194-95193.

248. *See* Sanford H. Kadish, *Excusing Crime*, 75 CALIF. L. REV. 257, 258-63, 265 (1987) (categorizing mitigation defenses as based on either the circumstances the actor faced (justification), or the actor's mental differences or other deficiencies (excuse)).

249. *See* MODEL PENAL CODE § 3.04, at 30-31 (AM. LAW INST. 1985) ("[T]he use of force upon or toward another person is justifiable when the actor *believes* that such force is im-

defense asks the fact finder to make similar judgments—to account for the defendant's particular trauma and its effect on her assessment of risk and response.[250] Finally, cultural defenses seek to contextualize the defendant's actions based on cultural norms that may be foreign (literally and figuratively) to the fact finder.[251] In each of these, the *use* of an inference is not curtailed—the fact finder is still permitted to infer a mental state from evidence of the defendant's act or acts. Rather, the inference is *contextualized* in recognition that the defendant's state of mind may be the product of factors and perspectives that the average fact finder may not share.[252]

---

mediately necessary for the purpose of protecting himself . . . ." (emphasis added)); *see also* JOSHUA DRESSLER, UNDERSTANDING CRIMINAL LAW §§ 18.01, .05 (5th ed. 2009); Cynthia K.Y. Lee, *The Act-Belief Distinction in Self-Defense Doctrine: A New Dual Requirement Theory of Justification*, 2 BUFF. CRIM. L. REV. 191, 195-97, 200 (1998).

250. *See* DRESSLER, *supra* note 249. An impressive amount of scholarship has been devoted to the discussion and development of battered women's defenses. For a sampling of literature discussing the development of these defenses, see, for example, ELIZABETH BOCHNAK, WOMEN'S SELF-DEFENSE CASES: THEORY AND PRACTICE 42-48 (1981); CHARLES P. EWING, BATTERED WOMEN WHO KILL: PSYCHOLOGICAL SELF-DEFENSE AS LEGAL JUSTIFICATION 45-47 (1987); THE PUBLIC NATURE OF PRIVATE VIOLENCE: THE DISCOVERY OF DOMESTIC ABUSE 3-6 (Martha A. Fineman & Roxanne Mykitiuk eds., 1994); Linda L. Ammons, *Mules, Madonnas, Babies, Bathwater, Racial Imagery and Stereotypes: The African-American Woman and the Battered Woman Syndrome*, 5 WIS. L. REV. 1003, 1004-06 (1995); Linda L. Ammons, *Discretionary Justice: A Legal and Policy Analysis of a Governor's Use of the Clemency Power in the Cases of Incarcerated Battered Women*, 3 J.L. & POL'Y 1, 2-5 (1994); Elisabeth Ayyildiz, *When Battered Woman's Syndrome Does Not Go Far Enough: The Battered Woman as Vigilante*, 4 AM. U. J. GENDER & L. 141, 141-42 (1995); Julie Blackman, *Potential Uses for Expert Testimony: Ideas Toward the Representation of Battered Women Who Kill*, 9 WOMEN'S RTS. L. REP. 227, 227-28 (1986); Anne M. Coughlin, *Excusing Women*, 82 CALIF. L. REV. 1, 1-8 (1994); Phyllis L. Crocker, *The Meaning of Equality for Battered Women Who Kill Men in Self-Defense*, 8 HARV. WOMEN'S L.J. 121, 121-22 (1985); V.F. Nourse, *Self-Defense and Subjectivity*, 68 U. CHI. L. REV. 1235, 1280-87 (2001); Richard A. Rosen, *On Self-Defense, Imminence, and Women Who Kill Their Batterers*, 71 N.C. L. REV. 371, 371-78 (1993); Elizabeth M. Schneider, *Particularity and Generality: Challenges of Feminist Theory and Practice in Work on Woman-Abuse*, 67 N.Y.U. L. REV. 520, 520-27 (1992); *Developments in the Law—Legal Responses to Domestic Violence*, 106 HARV. L. REV. 1498, 1574 (1993).

251. *See* Cynthia Lee, *Cultural Convergence: Interest Convergence Theory Meets the Cultural Defense*, 49 ARIZ. L. REV. 911, 939-41 (2007); Leti Volpp, *(Mis)Identifying Culture: Asian Women and the "Cultural Defense"*, 17 HARV. WOMEN'S L.J. 57, 76-77 (1994); Katie L. Zaunbrecher, Comment, *When Culture Hurts: Dispelling the Myth of Cultural Justification for Gender-Based Human Rights Violations*, 33 HOUS. J. INT'L L. 679, 681-82 (2011).

252. Admittedly, the inference the fact finder may make with regard to such defenses may also be influenced by the fact finder's own bias. This reality has received significant attention as of late in the context of self-defense. *See* Kevin Jon Heller, *Beyond the Reasonable Man? A Sympathetic but Critical Assessment of the Use of Subjective Standards of Reasonableness in Self-Defense and Provocation Cases*, 26 AM. J. CRIM. L. 1, 4 (1998) ("[C]ourts have slowly come to accept the widespread scholarly belief that the formal neutrality of the objective standard is systematically biased against the self-defense and provocation claims of individuals from groups that lack significant economic, political, and social power in American society—particularly women, the poor, and nonwhites."); Cynthia Lee, *Making Race Salient: Trayvon Martin and Implicit Bias in a Not Yet Post-Racial Soci-*

As a result, the question that the fact finder might seek to answer becomes not just "what would the defendant's actions signify in my own life?" but also "what would the defendant's actions signify if my own life mirrored hers?" In this subtle difference lies the heart of a theory of culpability that strives to move from imagined to actual—to convict and punish based on what the defendant did, as opposed to what he might have done.

It is crucial, therefore, to re-center the point of reference for any such inference to the defendant's actual thought process. In doing so, the fact finder may require evidence that might previously have been seen as tangential, and therefore irrelevant and excludable. Questions on topics as diverse as the defendant's past relationship with the victim, past traumatic events unrelated to the victim, biases, physical injury, and mental health history become part of a larger context and a necessary component to the proper assessment of the defendant's mental state. That which criminal courts would normally seek to exclude as irrelevant is rendered critical to the fact finder's ability to properly interpret evidence.

IV. PROOF, SCIENCE, AND THE PROBLEM WITH INFERENCE

Recent neuroscience studies and the jurisprudence that has developed around them suggest that juvenile defendants present a particular challenge for substantive criminal law and its reliance on inference to prove a defendant's mental state. The juvenile justice system is premised on the notion that kids are different than adults. The Progressives recognized this in the creation of the stand-alone juvenile justice system,[253] and the Court recognized this as it sought balance in a post-*Gault* juvenile justice system.[254] Courts and lawmakers have addressed this difference largely in the procedural realm, de-

---

ety, 91 N.C. L. REV. 1555, 1580-86 (2013) (surveying social science studies that demonstrate the effect implicit racial bias has on the perception of fear); Cynthia Kwei Yung Lee, *Race and Self-Defense: Toward a Normative Conception of Reasonableness*, 81 MINN. L. REV. 367, 402-23 (1996) [hereinafter Lee, *Race and Self-Defense*] (explicating the "Black-as-criminal" stereotype); V.F. Nourse, *supra* note 250, at 1279-80, 1280 n.215 (explaining the debate surrounding the role of subjectivity and gender in homicides resulting from battered women syndrome); B. Keith Payne, *Prejudice and Perception: The Role of Automatic and Controlled Processes in Misperceiving a Weapon*, 81 J. PERSONALITY & SOC. PSYCHOL. 181, 190 (2001) ("[B]ecause the bias caused by race is largely automatic, it may be difficult to control directly, especially when cognitive resources are limited."); B. Keith Payne, *Weapon Bias: Split-Second Decisions and Unintended Stereotyping*, 15 CURRENT DIRECTIONS PSYCHOL. SCI. 287, 290 (2006) ("Race can bias snap judgments of whether a gun is present, and that bias can coexist with fair-minded intentions."); L. Song Richardson & Phillip Atiba Goff, *Self-Defense and the Suspicion Heuristic*, 98 IOWA L. REV. 293, 314-15 (2012) (observing that individuals rely on stereotypes when assessing risk posed by other people).

253. *See supra* notes 32-70 and accompanying text.

254. *See supra* notes 71-160 and accompanying text.

marcating lines of protection—constitutional and systematic—around juvenile offenders. A child has the right to counsel[255] but not the right to a jury.[256] A child may not be sentenced to death[257] but can be tried as an adult.[258] The balance has always been tenuous, as notions of childhood ebb toward vulnerability and flow toward predatory. The modern jurisprudence of youth allows, simultaneously, the highest rate of juvenile transfer,[259] and a youth-oriented calculation of custody for *Miranda* purposes.[260] Despite these seeming incongruities, the recognition of difference and its significance for law lingers.

Neuroscience confirms what most folks already knew: kids are in fact different; or more accurately, adolescents think differently than adults. Adolescents' perceptions of risk, reward, and the value of peer approval result from their distinct mental processes.[261] The Court has utilized science to bolster its youth-based Fifth and Eighth Amendments jurisprudence.[262] In each, the Court has created doctrine premised not on an individual defendant's characteristics, but on those characteristics that span the category of youth.[263]

The Court, however, has yet to expand these doctrines to the substantive realm of calculation of the defendant's state of mind. Instead, adult fact finders are left to assign a mental state to youthful defendants based on the fact finder's, not the defendant's, perception of the world. This seems an odd position given criminal law's simultaneous reliance on mens rea to assess culpability and its purported aim to ascertain a defendant's actual, as opposed to imagined, mental state.[264]

This Part offers a brief discussion of the value of neuroscientific evidence in the determination of juvenile defendants' mental states. To be clear, I do not contend that such evidence predicts or confirms a particular thought at any given moment. Likewise, such scientific evidence does not suggest that juveniles are incapable of forming mental states or that youth dictates the whole-cloth creation of new mens rea classifications. Rather, this Part suggests that evidence of

255. *In re* Gault, 387 U.S. 1, 41-42 (1967).

256. McKeiver v. Pennsylvania, 403 U.S. 528, 550-51 (1971).

257. Roper v. Simmons, 543 U.S. 551, 571-72 (2005).

258. *See* Brink, *supra* note 24, at 1557; Drinan, *supra* note 24, at 1793-94.

259. *Id.*

260. J.D.B. v. North Carolina, 564 U.S. 261, 277 (2011).

261. *See supra* notes 161-87 and accompanying text.

262. *See supra* notes 127-60 and accompanying text.

263. *See supra* notes 127-60 and accompanying text.

264. *See* Denno, *Post-Freudian*, *supra* note 216, at 608 (describing the Model Penal Code's aim to determine actual, as opposed to imagined states of mind).

adolescent thought processes are relevant to questions of guilt and should guide inferential proof calculations.

A. It's Always All About Proof

At the end of the day, criminal law is about proof.[265] Suspicions may fester and swirl but without proof they are of little consequence. Al Capone may have run a notorious crime syndicate, but the government could only *prove* tax fraud.[266] For all the rumors and all the whispered certainties of greater crimes, he went to jail for a tax violation.[267] Proof, while a requisite for conviction, is also a complicated, multilayered proposition.

At its base, proof requires evidence—some tangible demonstration of what is sought to be proven.[268] Investigators gather factual components to support suspicions. Prosecutors process and interpret this information in support of a charge. Judges sift through and interpret the information again, culling the admissible from the inadmissible, presenting the fact finder with only the most reliable and the most relevant evidence. But in it all, evidence alone is not proof. And in the end, only proof matters.

Presented the admissible evidence in the case, the judge or jury is left to interpret its meaning in the context of the law. The means of this interpretation may vary. Different criminal statutes require a myriad of elements, from voluntary acts to attendant circumstances to mental states to causation and results.[269] While these elements may vary, the law relies on a citizen—whether judge or juror—to consider the evidence presented and determine if the elements are proven. The citizen, in turn, relies on his or her own sense of the world to lend meaning to the evidence.

An outstretched hand in a dark alley is either an illicit drug deal or a handshake; a semi-coherent moan is either encouragement of, or resistance to, a sexual advance; shouted words to "fuck up" a school principal are either a promise of harm to come or meaningless bravado. It all depends on who interprets them and how. The harmless is rendered criminal or the criminal harmless in the mind of the fact finder.

---

265. It is also about regulation of behavior, but only after proof of an offense. *See* DRESSLER, *supra* note 232, §1.02 (describing proof requirements).

266. *See* Daniel C. Richman & William J. Stuntz, *Al Capone's Revenge: An Essay on the Political Economy of Pretextual Prosecution*, 105 COLUM. L. REV. 583, 583-84 (2005).

267. *Id.*

268. *See* Hubert W. Smith, *Components of Proof in Legal Proceedings*, 51 YALE L.J. 537, 562 (1942).

269. *See* Joseph Goldstein & Jay Katz, *Abolish the "Insanity Defense"—Why Not?*, 72 YALE L.J. 853, 853 (1963).

On some level, the flexibility of interpretation is a critical part of proof.[270] Allowing the citizenry to weigh the meaning of evidence injects substantive criminal law with a responsiveness and agility that static law might otherwise lack.[271] Through interpretation, evidence is placed in context. The hand is outstretched in an alley littered with the remnants of the drug trade. A small packet of drugs was tossed as the police stormed the alley. The moaner is so inebriated she is unaware of the man atop her who separated her from her friends when he noticed she was unable to stand and was slurring her words. The shouted words are those of a frustrated eleven-year-old who, feeling unfairly accused by the principal, cries out what he fanaticizes about doing to the offending adult.

The fact finder considers each of these facts and the context in which they occurred. The context, in turn, promotes the accuracy of the fact finder's ultimate decision.[272] But in reaching a verdict, the fact finder engages in one final, and ultimately decisive, act of interpretation—he considers the evidence not only in the context of the case but in the context of what the fact finder knows of the world. The evidence takes on a legal meaning, previously absent, based on the fact finder's own sense of what the law means and the significance of the fact to that meaning.[273] Based on this final act of interpretation, the fact finder concludes that the outstretched hands traded drugs for cash; that the moan was a precursor to a rape; and that the shouted words were not a threat.

The law, in turn, relies on the citizen-as-fact-finder's ability to lay this larger, legally infused meaning atop any given set of facts. But beyond this, it relies on the citizen's ability to ground this meaning in some communal sense of what facts themselves signify. If the citizen cannot do this, the verdict that emerges is foreign, discordant, inaccurate, and unjust.[274] Criminal law enforcement loses some, if not all, of its value. The accusation is not truly proven but is rather the product of misinterpreted or badly interpreted facts.

Of all the factual determinations fact finders are asked to make on their road to a verdict, assessing the defendant's state of mind is a fraught act of interpretation.[275] Though classified as a "factual" de-

---

270. *See* Jenny E. Carroll, *Nullification as Law*, 102 GEO. L.J. 579, 581-83 (2014) (discussing citizen interpretation as a component of law making).

271. *Id.*

272. *See* Roth, *supra* note 5, at 1984-85.

273. *See* Carroll, *supra* note 270, at 583.

274. *Id.* at 615.

275. *See* Denno, *Post-Freudian*, *supra* note 216, at 605-06; Denno, *Concocting Criminal Intent*, *supra* note 219, at 328.

termination, what the defendant was thinking at any given moment is more ephemeral than other binary factual questions.[276] The defendant stole the purse or he did not. The defendant shot the victim or he did not. The defendant set the fire to the occupied structure or he did not. But criminal law demands more than liability based on act and cause alone.[277] In all but the most exceptional cases, criminal law requires the fact finder to assess what the defendant was thinking at the moment the purse was taken, the shot was fired, the fire was set.[278] What the defendant was thinking at that critical moment may remain elusive, perhaps even to the defendant himself. So criminal law asks fact finders to perform the near-impossible task of inferring the defendant's thoughts from his acts.

In this, we ask jurors daily to engage in a multilayered fictional interpretation of what the defendant *must* have been thinking, based on what the fact finder imagines he, the fact finder, would have been thinking had he found himself in the defendant's place. Even in the best of circumstances this fictional construction and interpretation of the defendant's thought process is complex. In the context of adolescent defendants, it is further complicated when adult fact finders seek to imagine or recreate what science informs us is a distinct and foreign thought process.

In this search for the accurate interpretation of evidence, neuroscience's conclusions about adolescent development fill a void in fact finders' interpretive ability. These conclusions inform the fact finder of the significance of given acts or circumstances to the adolescent defendant. Such a perspective is not only distinct from an adult's, but it may elude adult fact finders as they weigh evidence in the context of their own view of the world.

For all their good intentions and efforts at accuracy, adult fact finders may lack the ability to recall their own decisionmaking process as a youth.[279] They may recall foolish, dangerous, or even criminal decisions they made, but they may not recall why they made such decisions. Did they intend their acts to produce a particular result? Were their acts mere products of a failure to properly assess a risk? Did they know and understand the probability of harm when they committed them? Or do they simply remember and recognize the folly of the choice once made? Even a confession may take on a different

276. *See supra* notes 192-96 and accompanying text.

277. Though early criminal law was premised on strict liability, by the sixth century mental state elements were appearing with greater frequency. *See* Paul H. Robinson, *A Brief History of Distinctions in Criminal Culpability*, 31 HASTINGS L.J. 815, 821-22 (1980).

278. *See id.* at 823-25.

279. *See supra* note 188 and accompanying text.

meaning in the context of adolescent thought process.[280] Is it an accurate description of what the confessor did? Or is it a misguided attempt to achieve some other reward?[281]

In the context of criminal law, what the suspect thought matters as much as what he did or what harm his action caused. What the defendant thought drives the state of mind analysis, which serves as a proxy for culpability.[282] As a practical matter this means that even if neuroscience cannot either predict future behavior or explain what precisely a defendant knew or understood at a given moment in time, it can offer an interpretive model through which a fact finder can accurately assess the meaning of an adolescent defendant's actions and words. The question that lingers is how?

B. Using Neuroscience to Guide Mental State Assessments

There are two mechanisms to guide a fact finder's evaluation of evidence: first through the regulation of the evidence itself, and second through the jury instructions that guide the interpretation of the evidence. At their core, both are designed to ensure decisional accuracy.[283] Evidentiary rules serve not only to exclude unreliable evidence but also to lend context to allow for accurate assessment of the reliability of the evidence admitted.[284] Likewise, jury instructions guide the fact finder's interpretation.[285] Both offer a vehicle through which neuroscience can be used to guide assessments of juvenile defendants' mental states.[286] While the discussion of these mechanisms is grounded in and reference the theoretical and jurisprudential discussions of Parts I and II, it is designed to be practical. Put another way, it is designed to move the discussion from how neuroscience *might* be used, to how it *should* be used, and what that use would look like in actual cases.

---

280. *In re* Gault, 387 U.S. 1, 52 (1967) (expressing doubts about the reliability of juvenile confessions); Symposium, *Legal Issues Affecting Juveniles*, 18 CARDOZO J.L. & GENDER 578, 580 (2012) (estimating that juveniles falsely confess at a rate of two to three times that of adults).

281. *See Legal Issues Affecting Juveniles*, *supra* note 280, at 582 (attributing false confession rates to mistaken beliefs that confessing will allow the juvenile to "go home"); B.J. Casey, Rebecca M. Jones & Leah H. Somerville, *Braking and Accelerating of the Adolescent Brain*, 21 J. RES. ON ADOLESCENCE 21, 26 (2011) (noting adolescent bias toward short-term gain).

282. *See* Morissette v. United States, 342 U.S. 246, 251 (1952) (linking the state of mind element to culpability determinations).

283. *See* STEIN, *supra* note 4, at 23; Roth, *supra* note 5, at 1984-85.

284. *See* Roth, *supra* note 5, at 1984-85.

285. *See* Robert C. Power, *Reasonable and Other Doubts: The Problem of Jury Instructions*, 67 TENN. L. REV. 45, 54-56 (1999).

286. This is not to say that these are the only vehicles through which such evidence might be used, but that they are two readily accessible vehicles.

1. Experts

The most obvious means to introduce fact finders to the science of adolescent brain development is through the introduction of expert testimony. Such testimony could occur in two forms: an expert could evaluate a particular defendant and testify as to her cognitive processes,[287] or an expert could speak more broadly to what is generally known of adolescent brain development and its corresponding thought processes.[288] Before considering the introduction of expert testimony—either specific or general—it is worth noting that "generalized" expert testimony presents some fundamental evidentiary challenges.

First, generalized evidence is likely to draw relevancy and Rule 702 objections. As discussed in Part III, relevancy seeks to limit admissible evidence to only that demonstrating the probability of a material fact.[289] Trials, after all, are narrow narratives. To push for the admission of generalized information surrounding trends in adolescent thought process is not only to push to widen the story told at trial, but it is to push against the notion that the significance of youth is intuitively knowable.

Federal Rule of Evidence 702[290] and its state law analogs permit expert testimony based on the premise that the expert is able to explain a matter that exceeds the layperson's understanding.[291] Rule 702 works in conjunction with relevancy rules to prevent offering an expert pedigree to information that is commonly knowable.

In developing its age-based Fifth and Eighth Amendments jurisprudence, the Court has stressed not only that juveniles were different from adults, but that that difference was readily apparent. *Roper* concluded that the difference between a child and adult was based on what "any parent knows."[292] In *J.D.B.*, Justice Sotomayor defended

287. This type of direct evidence of the defendant's idiosyncratic condition would be akin to evidentiary presentations made in insanity or diminished capacity defenses.

288. While not precisely analogous, this type of generalized evidence would be similar to evidence presented in battered women and child defenses that seek to provide (along with evidence of the defendant's abuse) general information about cycles of violence, as opposed to the defendant's particular perception of that cycle.

289. *See supra* notes 195-208 and accompanying text.

290. In addition to Federal Rule of Evidence 702, *Daubert v. Merrell Dow Pharmaceuticals, Inc.* established gate-keeping functions for determining the reliability and admissibility of scientific evidence. *See* 509 U.S. 579, 592-95 (1993). *Daubert* required that scientific evidence be (1) testable; (2) subject to peer review and publication; (3) articulate its error rate; (4) have a controlling standard; and (5) generally accepted. *Id.* at 592-95. In addition, the evidence could be excluded if other factors counseled towards exclusion. *Id.* at 595. Though it is beyond the scope of this Article, expert testimony surrounding adolescent brain development in question likely meets the criteria articulated in *Daubert*.

291. *See* FED. R. EVID. 702 (limiting the admission of expert testimony).

292. Roper v. Simmons, 543 U.S. 551, 569 (2005).

categorical classifications based on age, noting that "officers and judges need no imaginative powers, knowledge of developmental psychology, training in cognitive science, or expertise in social and cultural anthropology to account for a child's age. They simply need the common sense to know that a 7-year-old is not a 13-year-old and neither is an adult."[293]

At first blush, the Court's frequent invocation of the intuitive nature of the difference between adolescents and adults creates both relevancy and Rule 702 dilemmas. If adolescent thought process is known to adults based on their former status as children (or current status as parents of children), then fact finders should be able to access such knowledge without the assistance of an expert. In fact, the introduction of generalized expert testimony would neither render the mental state more or less likely in a particular defendant nor would it provide the fact finder with knowledge they did not already possess.

But first impressions of the value of evidence can be deceiving. As the dissent in *J.D.B.* noted, it is not the biological fact of youth that is significant to a *Miranda* inquiry, but the effect of that fact on perceptions of custody.[294] Likewise, for a mental state analysis, it is the distinct adolescent thought process that matters. Neuroscience suggests not only that these thought processes are both generalizable across an age-based set,[295] but also that they are less intuitively accessible to an adult fact finder than Justice Sotomayor might suggest. Justice Alito noted that in the context of any given case, an officer would need to distinguish between the perceptions of a 13-year-old and that of a 7-year-old.[296] This creates challenges as "judges attempt to put themselves in the shoes of the average 16-year-old, or 15-year-old, or 13-year-old, as the case may be."[297] This perspective and its subtle impact on notions of custody were not matters of common sense but rather required expert knowledge to decipher.[298]

In *J.D.B.*, Justice Alito couched these concerns in terms of the erosion of *Miranda*'s clarity.[299] He warned that officers and courts will be left unable to properly assess the significance of age with regard to the custody analysis without the assistance of expert testimony. Put another way, Justice Alito did not contest that traits were shared

293. J.D.B. v. North Carolina, 564 U.S. 261, 279-80 (2011).

294. *See id.* at 293 (Alito, J., dissenting).

295. *See* Scott & Steinberg, *Blaming Youth*, *supra* note 14, at 801.

296. *See J.D.B.*, 564 U.S at 293 (Alito, J., dissenting).

297. *Id.*

298. *See id.* at 294 (noting that this new analysis demands "much more" than common sense).

299. *Id.* at 293.

across age strata, but did contest that the significance of such traits was intuitively knowable. In this, Justice Alito's dissent in *J.D.B.* makes a strong case that generalized evidence is both relevant and necessary to ensure accuracy in the assessment of a juvenile's thought process.

The nuance of the difference age makes—and how it affects a child's decisions—is both relevant and a less-intuitive assessment than the majority might suggest. It may be an assessment that exceeds the ordinary ability of a fact finder.[300] Despite the dizzying pace of science's understanding of adolescence and the shared intuitive sense of difference, a forty-five-year-old judge is unlikely to remember not only what she did as a thirteen-year-old, but why. Events thirty-plus years in the past may not only present as hazy to the forty-five-year-old judge, but the judge may lack the ability to recollect or recreate the thought processes that fueled those events in the first place.

In the context of *Miranda*, this gap between what is readily apparent and what lurks beneath the adolescent surface may be less significant. It may be enough, as Justice Sotomayor noted, for an officer to understand broadly that in the life of thirteen-year-old J.D.B., removal from class and questioning by officers was both coercive and custodial. In this context, common sense may suffice. Despite the dissent's warnings, the nature of the *Miranda* analysis itself suggests that such a common-sense assessment may be sufficient. *Miranda* requires officers to make a decision in *situa*.[301] Under any *Miranda* analysis, they are required to place themselves in the position of their subject and consider the custodial nature of the encounter.[302] If the encounter is assessed to be custodial in nature, they must offer the warning.[303]

The elusiveness of officer precision of which Justice Alito warns seems both inherent in a *Miranda*-type decision and easily guarded against by "over warning" rather than "under warning." In other words, the quick nature of the *Miranda* decision may indeed lead to error when interrogators fail to properly assess the suspect's perception of custody. But if the officer is unsure about the suspect's age or the significance of that age to perceptions of custody, the officer can

300. *See supra* note 188 and accompanying text.

301. *See* Symposium, Gideon *at 40: Facing the Crisis, Fulfilling the Promise*, 41 AM. CRIM. L. REV. 135, 151-52 (2004) (noting that *Miranda* requires police officers to make "quick decisions" in the field or at the stationhouse).

302. *See* Miranda v. Arizona, 384 U.S. 436, 478-79 (1966); *see also* Stansbury v. California, 511 U.S. 318, 323-34 (1994).

303. *Miranda*, 384 U.S. at 478-79.

remedy any risk of suppression by offering a *Miranda* warning prior to interrogation.[304]

In this sense, the *Miranda* analysis is very different than the mens rea analysis for two reasons. First, by its nature, *Miranda* requires a "split second" style decision in the field. In contrast, like all elements, proof of a mental state encompasses the calculation of the defendant's state of mind as ascertained by analysis of the evidence presented in the case under a beyond-a-reasonable-doubt standard. As a result, Justices Alito and Sotomayor may both be right—the analysis of adolescence is both the product of common sense based on the common experience of youth and the product of more nuanced analysis that assesses the significance of the youth they can observe in the defendant in the context of the facts of the case they have heard and seen.

Second, *Miranda* is different from the mental state element in terms of the ultimate result. The failure to properly Mirandize a suspect may result in the suppression of statements or evidence acquired in the course of improper interrogation.[305] In contrast, failure to properly calibrate or instruct on the assessment of the defendant's state of mind may produce not only a verdict that is inaccurate but also one that may elude substantive criminal law's aims to assign culpability based on the defendant's state of mind. Whatever high stakes may exist in the context of *Miranda* increase in the context of a mental state analysis. This would seem to suggest that expert witness testimony on what is generally known of adolescent thought processes is, in fact, relevant and necessary.

The admissibility of the evidence, however, is only half the battle, and the second half at that. In many jurisdictions, the prospect of locating an expert and persuading her to testify may be a daunting proposition. Not only may the neuroscientist not be available in the community where the case is pending, but funds for the expert may not be available, particularly for indigent defendants.[306] This dilem-

304. *Id.* at 444 (requiring warning only if the defendant is in custody when subjected to interrogation).

305. *Id.*

306. In *Ake v. Oklahoma*, 470 U.S. 68, 84-85 (1985), the Supreme Court held that indigent defendants had a right to experts for their defense. Despite this grant, lack of funds often results in indigent defendants being unable to procure an expert or only being able to choose among limited experts. *See* Jack B. Weinstein, *Science, and the Challenges of Expert Testimony in the Courtroom*, 77 OR. L. REV. 1005, 1008 (1998) ("Courts, as gatekeepers, must be aware of how difficult it can be for some parties—particularly indigent criminal defendants—to obtain an expert to testify. The fact that one side may lack adequate resources with which to fully develop its case is a constant problem."); *see also* Paul C. Giannelli, Ake v. Oklahoma*: The Right to Expert Assistance in a Post-*Daubert*, Post-DNA World*, 89 CORNELL L. REV. 1305, 1307 (2004); John M. West, Note, *Expert Services and the Indi-*

ma of a lack of funding becomes more salient when one considers that juveniles themselves tend not to have funds and, given the high rate of prosecution of indigent juveniles, they may not have access to funds either.[307] As will be discussed momentarily, jury instructions may serve as a means of providing the necessary guidance to the fact finder without having to produce an expert witness. The availability of an alternative method of communicating the desired information is not to say that this method alone is either best or sufficient. It is, however, to say that in a system in which funds are limited and free experts are rare, it is better than providing no information.

2. Jury Instructions/Judicial Motions

As helpful as expert testimony may be in offering the fact finder insight into the juvenile's developmental capacities and decisionmaking processes, it alone is not sufficient. Federal Rule of Evidence 704(b) and its state analogs prohibit experts in criminal cases from "stat[ing] an opinion about whether the defendant did or did not have a mental state or condition that constitutes an element of the crime charged or of a defense."[308] The Rule concludes: "[t]hose matters are for the trier of fact alone."[309] This creates an evidentiary disjoinder of sorts. The expert's testimony is relevant because it informs the fact finder of what is known of the difference in decisionmaking processes and brain development between juveniles and adults, but the expert is unable to explain why that matters to the jury's calculation of mens rea in terms of whether or not the evidence presented in fact suggests that the juvenile achieved the requisite mens rea. The evidentiary rule and, indeed, due process leaves that question to the fact finder.[310]

Because this issue is left to the fact finder, jury instructions (or a judicial motion, in cases where the fact finder is a judge) regarding what is known of adolescent brain development are required regardless of whether or not the court is willing to admit expert testimony. Such instructions serve to properly orient the fact finder in his interpretation of the evidence.[311]

---

gent Defendant: The Constitutional Mandate of Ake v. Oklahoma, 84 MICH. L. REV. 1326, 1326-28 (1986).

307. This dilemma is evident as courts attempt to provide *Miller* hearings with experts for juvenile defendants. *See* Stephen K. Harper, *Resentencing Juveniles Convicted of Homicide Post-*Miller, THE CHAMPION, Mar. 2014, at 34.

308. *See* FED. R. EVID. 704(b).

309. *Id.*

310. *See id.*; *In re* Winship, 397 U.S. 358, 367-68 (1970) (holding due process requires the fact finder to determine whether all elements of an offense have been proven).

311. *See* Power, *supra* note 285, at 56.

As a general matter, jury instructions guide the fact finder not only in terms of law but also in terms of acceptable interpretive norms.[312] In the context of a juvenile defendant's mental state, such instructions serve to remind the fact finder that despite their intuitive sense of "difference" between a juvenile and adult, and perhaps their own fond memories of a misspent youth, calculation of guilt requires more.

Ideally, such instructions would be multifaceted and would include reference to the fact that adolescents' brains are not fully developed in the areas that control impulses, foresee consequences, and temper emotions. As a result, the instructions would remind the fact finder that adolescents act impetuously with little thought or consideration of consequences.[313] Such attributes of adolescence must be considered in interpreting evidence of the defendant's mental state.

The instructions proposed below include first a general instruction regarding the difference between adult and adolescent thought processes. This instruction would serve as a guide for the juror as he interpreted the evidence before him. Such an instruction would be appropriate regardless of whether an objective or subjective state of mind[314] was utilized and regardless of whether or not an expert testified. The instruction acknowledges that while there is a degree of intuition about the difference between juvenile and adult thought processes, a more nuanced understanding of adolescent brain development is required for assessments of mental states. The instruction could be given as both a preliminary instruction and at the conclusion of the trial. It might state:

> Anyone who remembers being a teenager, who has been the parent or caretaker of a teenager, or who has observed adolescent behavior, knows intuitively what scientific research shows that adolescents do not think or behave like adults; their brains are not yet fully developed in the areas that control impulses, ability to foresee the consequences of their actions, and to temper their emotions. As a result, an adolescent may overvalue a reward or undervalue a risk in making a decision. What may appear to be a logical

312. *Id.* (noting judges teach jurors the law through instructions).

313. For example, such an instruction might state: In determining whether a child/adolescent has acted reasonably you must/may consider that a lack of maturity and an underdeveloped sense of responsibility are found in youth more often than in adults. These attributes/qualities of youth often result in impetuous and ill-considered actions and decisions.

314. Objective states of mind consider the defendant's mental state in comparison to that of a "reasonable man." In contrast, subjective states of mind consider the defendant's actual mental state. The Model Penal Code breaks the mental state element into three subjective states of mind (purpose, knowledge and recklessness) and one objective state of mind (negligence). MODEL PENAL CODE § 2.02 (AM. LAW INST. 1985); *see also* DRESSLER, *supra* note 249.

> consequence of a decision to you, an adult, may elude an adolescent entirely or may only become apparent after the consequences are realized. These differences are "normal" characteristics of adolescence and do not represent a defect or deficiency. As such, you may consider this difference as you listen to the evidence in this case or make findings based on the evidence in this case.

Following such a generalized instruction, the court should provide a specific instruction depending on the mental state that must be proven. For crimes requiring purpose or knowledge, the court may instruct on the significance of neuroscience in assessing the factual presence of the requisite mental state.[315] In offering this instruction, the court guides the jury by informing it that a child who shouts that he will "fuck up" a school principal may have a distinct understanding of the significance of those words than his adult counterpart. Accordingly, an assessment of whether or not he intended to place the school principal in fear with his utterance must be made in the context of the child's own perception. A jury instruction in such a case might state:

> A deliberate act is one "characterized by or resulting from careful and thorough consideration' or one 'characterized by awareness of the consequences." The defendant here is an adolescent, and one of the differences between adults and adolescents is that adolescents' brains are not fully developed in the areas that control impulses, foresee consequences, and temper emotions. Adolescents are susceptible to acting impetuously with little thought or consideration of consequences, a fact shown by brain development research as well as common sense. You must/may consider these attributes of adolescence when determining whether the defendant acted intentionally.

For offenses relying on a "reasonableness" standard, a standard that in other contexts requires the fact finder make his assessment from the perspective of the defendant,[316] the jury instruction should remind the fact finder that this reasonableness should not be calculated from an adult perspective, but from a reasonable child's perspective.[317] This recalibrated perspective should contemplate the adolescent's lack of maturity, underdeveloped sense of responsibility, failure to predict the causal connections between action and harm,

---

315. The Model Penal Code states people act purposely if it is their "conscious object to engage in conduct . . . or to cause . . . a result." MODEL PENAL CODE § 2.02(2)(a)(i) (AM. LAW INST. 1985). Under the Model Penal Code, a person acts knowingly if "he is aware that it is practically certain that his conduct will cause [the required] result." *Id.* at § 2.02(2)(b)(ii).

316. For a discussion of jury instructions that take into account the defendant's perception, see Lee, *Race and Self-Defense*, *supra* note 252, at 478-81.

317. Akin to *J.D.B.*'s reasonable child standard. *See* J.D.B. v. North Carolina, 564 U.S. 261, 277-78 (2011).

and susceptibility to negative influences. For example, such an instruction might state:

> In determining whether a child/adolescent has acted reasonably, you must/may consider that a lack of maturity and an underdeveloped sense of responsibility are found in youth more often than in adults. These attributes/qualities of youth often result in impetuous and ill-considered actions and decisions.[318]

Alternative language in such instructions might include:

- The questions of the defendant's/juvenile's intent, as opposed to an adult, must be decided with consideration of what we know about adolescents of similar age and development.
- Special caution must be taken when determining whether the juvenile acted with the intent required for this offense.
- Adolescents are susceptible to acting impetuously with little thought or consideration of consequences, a fact shown by brain development research as well as common sense.
- Adolescents' decisions often reflect an inability to consider their options and appreciate consequences adequately.
- Adolescents often fail to appreciate the risks associated with their actions and have unreasonable beliefs that their actions are unlikely to cause harm.

Drawing heavily from the Court's decisions in the *Roper* line of cases and in *J.D.B.*, the language in each of these proposed instructions serves to properly orient the fact finder in order to assess the defendant's mental state accurately. In this sense, such proposed instructions mirror those already permitted for defenses that rely on the defendant's particular perspective for their viability and serve to guide the fact finder towards decisional accuracy.

* * * *

Both the use of expert testimony and the proposed jury instructions regarding adolescent brain development serve to promote the underlying aims of criminal law: to convict and punish based on the defendant's degree of culpability as determined by his state of mind. Given criminal law's strong reliance on inference to make such a mens rea assessment, and given both the Court's and the scientific community's acknowledgment that adolescent thought processes are distinct from adult thought processes, such evidence and instructions

318. Additional instructions regarding the significance of peer influence or impulsivity could likewise be constructed. For example, the jury could be informed that: "Adolescents routinely travel in groups with no nefarious intent and this fact should be considered in your deliberations." *See* Roper v. Simmons, 543 U.S. 551, 569-70 (2005) ("[J]uveniles are more vulnerable or susceptible to negative influences and outside pressures, including peer pressure."). Or that: "Juveniles have less control, or less experience with control, over their own environment and lack the ability to extricate themselves from certain settings." *See id.*

serve a critical function. They properly orient the fact finder to ensure that inferences are accurate and that verdicts are based on what actually happened, as opposed to what might have happened.

V. CONCLUSION

Frequently, criminal law relies on inference to prove mental states, as much out of necessity as out of a recognition that fact finders inevitably engage in acts of interpretation in reaching verdicts. This Article argues that in the context of juvenile defendants such reliance on inference is fundamentally flawed insofar as it fails to account for the distinctive thought processes of adolescent actors. Recent developments in neuroscience confirm this difference. The impulsive, risk-taking, reward centered, consequence blind existence that is adolescence is both a shared rite of passage and a lost moment for the adult fact finders. While a juror or a judge may remember youth, he will not remember the decisionmaking processes that drove his daily adolescent existence. Therefore, as criminal law asks him to sit in judgment of juvenile defendants, it asks him to perform the impossible task of placing himself back in time into the mind of an adolescent.

Without guidance on adolescent brain development and its corresponding implications for mental state analysis, fact finders risk misaligned interpretive models and decision inaccuracies. Proposed use of expert testimony and jury instructions seek to orient the fact finder properly, and so to achieve criminal law's purported goal of discerning the defendant's actual state of mind.