

ESSAY

ADOLESCENT BRAIN SCIENCE AFTER *GRAHAM V. FLORIDA*

Terry A. Maroney*

INTRODUCTION

In *Graham v. Florida*,¹ the Supreme Court held that the Eighth Amendment prohibits a sentence of life without possibility of parole for a nonhomicide crime committed when the offender was under the age of eighteen.² Justice Kennedy's majority opinion³ in this closely watched case is remarkable for a number of reasons, chief among them its rejection of the "death is different" mantra⁴ that had for so long prevented principles from death penalty jurisprudence from informing constitutional bounds on term-of-years sentencing.⁵ Having broken down that wall, the *Graham* Court easily applied to juvenile life without parole the developmental conclusions that had partially underlain its earlier abolition of the juvenile death penalty.⁶

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* Associate Professor, Vanderbilt University Law School. Thanks are due to Christopher Slobogin and Laurence Steinberg. Research assistance ably provided by Jinghui Lim.

1 130 S. Ct. 2011 (2010).

2 *See id.* at 2034.

3 Justice Kennedy was joined by Justices Stevens, Ginsburg, Breyer, and Sotomayor. *See id.* at 2017.

4 *See id.* at 2030.

5 Rachel E. Barkow, *The Court of Life and Death: The Two Tracks of Constitutional Sentencing Law and the Case for Uniformity*, 107 MICH. L. REV. 1145, 1146–49, 1186–97 (2009) (critiquing, pre-*Graham*, adherence to that mantra).

6 *See Graham*, 130 S. Ct. at 2026 (applying developmental analysis of *Roper v. Simmons*, 543 U.S. 551, 569–70 (2005)).

Developmental neuroscience—that is, the study of life-course changes in the brain’s structure and function⁷—contributed to this aspect of *Graham*. Justice Kennedy, citing to amicus briefs from the American Psychological Association and American Medical Association, wrote that: “[D]evelopments 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.”⁸

In an earlier article, *The False Promise of Adolescent Brain Science in Juvenile Justice*, this author noted the pendency of *Graham* and its companion case, *Sullivan v. Florida*.⁹ Because both Terrance Graham and Joe Sullivan offered scientific arguments closely paralleling those made by the defendant in *Roper v. Simmons*,¹⁰ and because largely the same lineup of amici had done the same, I predicted that “[t]he Court’s treatment of developmental neuroscience may provide valuable insight, largely absent in *Roper*, to its attitude toward its relevance.”¹¹ Did it?

It did. Justice Kennedy’s opinion in *Graham* clarified what his opinion in *Roper* had left ambiguous: the Court (or at least a majority of its members at that time) believed neuroscience relevant to general propositions as to the normal developmental course of adolescence. To the extent that such propositions drove conclusions as to juveniles’ special legal status, neuroscience partially supported those conclusions.

This Essay analyzes the influence of neuroscience in *Graham* and offers some predictions as to the decision’s future impact. As this issue was explicitly set to one side in *False Promise*, the Essay provides an opportunity to both supplement that article and reflect on its con-

7 See Terry A. Maroney, *The False Promise of Adolescent Brain Science in Juvenile Justice*, 85 NOTRE DAME L. REV. 89, 90 n.1 (2009) (providing definition). I use the term interchangeably with “adolescent brain science.”

8 *Graham*, 130 S. Ct. at 2026 (citing Brief for the American Psychological Ass’n et al. as Amici Curiae Supporting Petitioners at 22–27, *Graham*, 130 S. Ct. 2011 (No. 08–7412), and *Sullivan v. Florida*, 130 S. Ct. 2059 (2010) (No. 08–7621), 2009 WL 2236778, at *22–27 [hereinafter Brief for the APA]; Brief for the American Medical Ass’n & the American Academy of Child & Adolescent Psychiatry as Amici Curiae Supporting Neither Party at 16–24, *Graham*, 130 S. Ct. 2011 (No. 08–7412), and *Sullivan*, 130 S. Ct. 2059 (No. 08–7621), 2009 WL 2247127 [hereinafter Brief for the AMA]).

9 130 S. Ct. 2059 (per curiam); see Maroney, *supra* note 7. On the same day that it decided *Graham*, the Court dismissed certiorari in *Sullivan* as having been improvidently granted. See *Sullivan*, 130 S. Ct. at 2059.

10 543 U.S. 551.

11 See Maroney, *supra* note 7, at 120.

clusions. Part I distills its essential arguments and reports on subsequent developments. Part II more closely dissects the neuroscientific arguments made by the defendants and amici in *Graham* and *Sullivan*, as well as the Court's treatment of those arguments. Part III reflects on the possible impact of the decision. I predict that its most dramatic effects will have little to do with developmental neuroscience. As to that science, I argue that the *Graham* Court gave it the maximum weight it presently can bear. The decision therefore provides welcome support for legal policy-makers—whether in courts or legislatures—who seek to draw modestly on such science in reinforcing commitments to the special legal status of youth. But the predictable post-*Graham* temptation to place even greater weight on developmental neuroscience should—for the many reasons articulated in *False Promise*, which remain unaltered—be resisted.

I. ADOLESCENT BRAIN SCIENCE IN JUVENILE JUSTICE

In *False Promise* I sought to measure the legal impact of developmental neuroscience by identifying and analyzing cases in which arguments relying on such science—sometimes marginally, often centrally—had been made before the courts. I demonstrated that most such arguments fail to persuade and sought to explain why. Just as important, I undertook to explain why developmental neuroscience claims should have only a modest legal impact, and that only within limited parameters. My essential claims were as follows.

Over the last decade, developmental neuroscience has generated a scientific consensus that, when considered in the aggregate, teen brains are structurally and functionally different from those of both children and adults. As those differences are nonnegligible and as they appear to map onto teens' social and decisional immaturity, juvenile advocates and defenders quickly began to incorporate neuroscientific claims into ones grounded in developmental psychology.¹² Nowhere was this truer than in *Roper*.¹³ Defendant's counsel and amici highlighted neuroscience in both briefing and argument.¹⁴ The *Roper* Court relied in part on developmental principles to hold that the juvenile death penalty offends the Eighth Amendment, and in so doing nodded to the proffered "scientific" studies.¹⁵ Though the

12 See *id.* at 100–03.

13 See *Roper*, 543 U.S. at 569–70.

14 See Maroney, *supra* note 7, at 106–07 & nn.74–76.

15 See *Roper*, 543 U.S. at 569.

Court nowhere singled out brain science, *Roper* was widely interpreted to reflect its endorsement of such science.¹⁶

Building on a theme begun before *Roper*, prominent theorists then held out developmental neuroscience as evidence strongly supporting a “diminished culpability” model that, they argued, compelled a host of policy and legal conclusions going well beyond the death penalty.¹⁷ Juveniles and young adults followed suit, raising brain science claims in a wide variety of cases.¹⁸ Close review of those cases revealed three core phenomena.

First, many courts regarded brain science claims as falling outside the narrow parameters dictated by applicable doctrine.¹⁹ In the context of juvenile life without parole (JLWOP), most courts believed the “death is different” rationale and *Roper*’s apparent approval of JLWOP together to foreclose the relevance of *Roper*-style developmental arguments, including their neuroscientific aspect.²⁰ Courts instead tended to rely on gross disproportionality tests, to which the relevance of developmental factors was unclear, to uphold virtually all term-of-years sentences.²¹ A similar heavy deference to state legislative schemes underlay courts’ tendency to reject brain-based challenges to transfers to adult court, liability for felony murder, construction of mens rea terms, such as specific intent and reasonableness, and waiver of rights.²²

Second, courts frequently rejected brain science claims where they appeared either to contradict or to duplicate record facts.²³ Exemplifying the former were cases contesting the mens rea element of specific intent. Many such cases involved juveniles whose actions suggested relatively high levels of planning and forethought, taken to obviate the relevance of findings that juveniles generally lack adult

16 See Maroney, *supra* note 7, at 108 & n.85.

17 See ELIZABETH S. SCOTT & LAURENCE STEINBERG, *RETHINKING JUVENILE JUSTICE* 28–60 (2008). “[D]iminished culpability” incorporates two distinct concepts: that juveniles, relative to adults who commit equivalent crimes, categorically are (a) less blameworthy and (b) more amenable to rehabilitation. *Id.* It therefore might rather be called a “diminished culpability/enhanced potential” model. See Maroney, *supra* note 7, at 111; cf. Christopher Slobogin & Mark R. Fondacaro, *Juvenile Justice: The Fourth Option*, 95 IOWA L. REV. 1, 3, 37–38 (2009) (using alternative term “diminished retribution” to describe the model).

18 See Maroney, *supra* note 7, at 116–45.

19 See *id.* at 118–44.

20 See *id.* at 121–22.

21 See *id.* at 122.

22 See *id.* at 129, 138–39, 141–42.

23 See *id.* at 122–23, 126, 133–38, 140–41, 146–48.

levels of such capacity.²⁴ In the latter category fell cases in which courts believed brain science to add little to evidence of immaturity that already was before factfinders—or that would add little to adults’ “common sense” understanding of the attributes of youth.²⁵

Third, the minority of courts that did credit neuroscience appeared to do so only marginally.²⁶ That is, such science likely was invoked to buttress a conclusion to which they already were inclined and that was adequately supported by ample other grounds.

Taken together, the analysis demonstrated that the persuasive power of adolescent brain science in the courts was falling far short of expectations. Much of this shortfall was attributable to contemporary doctrine, which tends to be hostile toward most juvenile claims.²⁷ The case analysis sought not to critique doctrine but to demonstrate the fate (and likely fate) of claims made in that difficult environment.²⁸ I also sought to explain the limited impact of adolescent brain science by reference to confirmation bias, as legal decisionmakers filter such evidence through prior beliefs and values.²⁹

Beyond the external limitations of extant doctrine and the internal limitations of human bias, I also argued that aspects of the science itself necessarily limit its relevance.³⁰ Because the data support conclusions only at the aggregate level, they shed little light on the developmental status of any given young person, except insofar as she is a member of the group. While links between structural attributes, brain-level functional data, and externalized behaviors are strengthening, they remain largely speculative. Juveniles’ relative deficiencies do not invariably mean they fall below legal thresholds. As the described developmental trends extend into early adulthood, they do not provide a compelling basis for extending benefits to persons under eigh-

24 See, e.g., *id.* at 147–48.

25 See, e.g., *id.* at 140–41.

26 See *id.* at 127–28, 143–44, 154–56.

27 The legal environment surrounding juvenile offending unquestionably has become far more harsh over the last two decades. See *Graham v. Florida*, 130 S. Ct. 2011, 2050 (2010) (Thomas, J., dissenting); Maroney, *supra* note 7, at 101–03. Only very recent years have seen signs of a reversal. See *id.* at 175.

28 In addition to fostering greater understanding of how a major theoretical move in juvenile justice is playing out on the ground, which informs critical assessment of that move, such an exercise has two practical payoffs. In the longer term, it illuminates aspects of doctrine that may be appropriate targets for direct reform. More immediately, it can assist counsel in making intelligent, strategic decisions as to how neuroscience ought (and ought not) to be invoked.

29 See Maroney, *supra* note 7, at 170–72.

30 See *id.* at 145–65.

teen but not to “emerging adults.”³¹ Taking brain development as the primary metric by which to dole out legal rights and protections, moreover, could be understood to threaten juvenile autonomy and to invite discriminatory distinctions between groups according to their relative propensities toward early or late development.³²

Thus, courts are largely justified in taking adolescent brain science as—at most—a body of evidence lending marginal support to traditional (if embattled) assumptions underlying youths’ special legal status.³³ Transformation in juvenile law and policy will flow not from that science but rather from recommitment to creating both societal conditions that support healthy growth and humane legal responses that maximize youthful offenders’ future potential.³⁴

Other juvenile justice theorists have in the interim endorsed much of this author’s analysis.³⁵ And since *False Promise* went to press, setting aside for the moment *Sullivan* and *Graham*, the case law has continued to develop largely along the same lines. Mens rea challenges have continued to run aground. A New Mexico teenager convicted of premeditated murder, for instance, was denied postconviction relief despite an argument that her brain was “controlled primarily by the impulsive and hyperactive amygdal[a],” such that she was “likely physiologically and biologically incapable of forming” specific intent to kill.³⁶ The court found that (even if true) such a claim amounted to a defense of diminished capacity, not allowed under state law.³⁷ Brain science has been said to be cumulative in

31 See *id.* at 154–56.

32 See *id.* at 156–60.

33 See *id.* at 166–67.

34 See *id.* at 172–74.

35 See Slobogin & Fondacaro, *supra* note 17, at 37–38 (noting that “judicial nonchalance toward the new neurological findings,” substantiated by *False Promise*, “however unexpected amongst juvenile-justice advocates, is perfectly consistent with the observation . . . that [under current doctrine] intentional conduct that is not the result of significant mental impairment is generally seen as fully culpable”). Slobogin and Fondacaro advocate abandonment of the “diminished retribution” model in favor of one focused only on specific deterrence. See *id.* at 3–8. Emily Buss urges reevaluation of the current “[c]onventional wisdom” that law should “assign rights and responsibilities” in lockstep with “assessments of children’s capacities documented in the scientific research,” as such an approach wrongly suggests that such capacities are “ascertainable and fixed.” See Emily Buss, *What the Law Should (and Should Not) Learn from Child Development Research*, 38 HOFSTRA L. REV. 13, 13, 34 n.96, 37–48, 49 & n.144 (2009).

36 *State v. Torres*, No. 2 CA-CR 2009-0302-PR, 2010 WL 715994, at *1–2 (Ariz. Ct. App. Mar. 1, 2010) (alteration in original) (quoting petition).

37 See *id.* The lower court found that developmental neuroscience constituted newly discovered evidence for purposes of postconviction relief. See *id.* at *1. How-

light of record evidence of a defendant's youth, life challenges, and psychological deficits.³⁸ As before, adolescent brain science has found some moderately receptive ears. The Iowa Supreme Court, in a broad-ranging opinion allowing a twenty-one-year-old to challenge a statutory rape sentence dramatically enhanced by a prior delinquency finding, cited its understanding of *Roper* as relying on "psychosocial and neurological studies" that "show that juvenile brains are less developed and that, as a result, they are less culpable than adult offenders."³⁹ A juvenile who presented expert testimony on adolescent development, including brain development, was permitted to make his case as to why such evidence might support Alaska's adoption of a sentencing mitigator for "developmental immaturity."⁴⁰ Thus, some

ever, the appellate court agreed with its determination that the prohibition on diminished-capacity defenses did not depend on the reason for lesser capacity, whether "normal development of the adolescent brain" or disease, and that the new evidence therefore was legally irrelevant. *Id.* at *2.

38 See *State v. Zebroski*, No. 9604017809, 2010 WL 2224646, at *11–12 (Del. Super. Ct. May 14, 2010). Zebroski was sentenced to death for a murder committed when he was eighteen, taking him outside *Roper's* protection. He argued for postconviction relief on the ground that, inter alia, trial counsel should have presented evidence of the "[n]eurodevelopmental immaturity of the adolescent brain." *Id.* at *9. The court pointed out that Zebroski had at the penalty phase presented significant mitigating evidence, going to his youth, dysfunctional upbringing, and the neural effects of drug use. See *id.* The court further remarked that "typical adults can be counted on to understand that young people make ill-considered and bad judgments, and drug use only makes that worse," even if they do not understand the "physiological underpinnings for it." *Id.* at *12; see also *State v. Daniels*, No. 2009AP1893-CR, 2010 WL 2900403, at *1–3 (Wis. Ct. App. July 27, 2010) (affirming lower court's imposition of multidecade sentence despite defense request that it consider defendant's "adolescent, nineteen-year-old brain," largely because the court did consider youth as a possible mitigator).

39 *State v. Bruegger*, 773 N.W.2d 862, 883 (Iowa 2009). These comments went to the court's assessment of the conduct underlying the old delinquency count, committed when the defendant was twelve, not the adult commission of statutory rape. See *id.* at 885. The court regarded Bruegger's dramatically enhanced sentence as stemming from a highly "unusual convergence" of factors, and believed that under the Iowa Constitution he should have the opportunity to present individualized evidence as to its unfairness. See *id.*

40 *Smith v. State*, 229 P.3d 221, 223, 230–32 (Alaska Ct. App. 2010). Smith was sixteen when he participated in a first-degree assault. *Id.* at 224. The Court of Appeals of Alaska recounted Smith's proffered evidence that, inter alia, juveniles' "brains are still developing and their frontal lobes have not yet fully matured," characterizing such evidence as having partially underlain *Roper*. *Id.* at 230. Signaling that such evidence might be relevant to mitigation, it found that the lower court had not provided enough insight into its assessment of that (and other) evidence as to permit meaningful appellate review, and remanded for clarification. *Id.* at 229–31. The court made a similar finding as to a recognized nonstatutory mitigator: extraordinary

courts have invoked the science as a small part of a larger constellation of reasons to provide opportunities for relief;⁴¹ others have refused to do so, both because of law and because of fact; and no case has emerged that suggests a pattern meaningfully at odds with that discovered in *False Promise*.⁴²

II. DEVELOPMENTAL NEUROSCIENCE IN *GRAHAM* AND *SULLIVAN*

Which brings us to *Graham* and *Sullivan*. It is undeniable that Justice Kennedy's reliance on adolescent brain science was more transparent in *Graham* than it had been in *Roper*; the actual reliance may have been identical, but only in *Graham* was it explicit. This Part synthesizes both the proffered neuroscientific arguments and the Court's treatment of those arguments.

As commentary on these cases surely will be legion, an abbreviated account will suffice. *Graham* and *Sullivan* both were convicted in Florida of nonhomicide offenses and sentenced to life without possibility of parole, but there the similarities ended. *Graham* was older at the time of the crime—sixteen—but his offenses were relatively minor, consisting primarily of participation in an unsuccessful restaurant burglary and subsequent violation of parole.⁴³ *Sullivan*, in con-

potential for rehabilitation. This is the same court (and two of the same justices) that similarly had recognized some limited space for neuroscientific argument in *Cotting v. State*, No. A-9909, 2008 WL 4059580 (Alaska Ct. App. Sept. 3, 2008), and *Ling v. State*, No. A-9228, 2008 WL 2152028 (Alaska Ct. App. May 21, 2008). See Maroney, *supra* note 7, at 127 nn.154 & 156.

41 Cf. *Page v. State*, 995 A.2d 934, 951–53 (R.I. 2010) (Flaherty, J., concurring in part and dissenting in part) (arguing, with reference to brain science, that an eighteen-year-old should be sentenced to life but with possibility of parole (citing Jeffrey Fagan, *End Natural Life Sentences for Juveniles*, 6 CRIMINOLOGY & PUB. POL'Y 735, 744 (2007); Lauren Fine, *Death Behind Bars: Examining Juvenile Life Without Parole in Sullivan v. Florida and Graham v. Florida*, 5 DUKE J. CONST. L. & PUB. POL'Y 24, 41–42 (2009))).

42 Indeed, the same pattern appears to be holding true post-*Graham* as well. *False Promise* noted the pendency of *Williams v. Ryan*, No. 05cv0737-WQH (WMC), 2010 WL 3768151 (S.D. Cal. Sept. 21, 2010), in which Andy Williams argued that an MRI of his brain should have been examined before he was permitted to plead guilty and be sentenced for shooting students and teachers at his high school. See Maroney, *supra* note 7, at 134–35 & nn.180–83. The district judge has now rejected those arguments, holding that neither the MRI nor expert testimony on adolescent brain science was likely to reveal relevant evidence as to Williams's mental state and that the individualized diagnosis of a qualified psychiatrist was both more relevant and sufficient. See *Williams*, slip op. at 13–22, 2010 WL 3768151, at *13–22.

43 See *Graham v. Florida*, 130 S. Ct. 2011, 2018 (2010). One of *Graham's* accomplices assaulted an adult restaurant manager with a steel bar, causing injuries. See *id.* The prosecutor exercised her discretion under Florida law to proceed against *Gra-*

trast, was extremely young—thirteen—but his crime was vastly more serious, involving the rape of an elderly woman while burglarizing her home.⁴⁴ Graham had no prior juvenile record; Sullivan had a lengthy one.⁴⁵ The primary difference in their arguments was the age below which they urged the Court to prohibit JLWOP for nonhomicide offenses.⁴⁶ Sullivan's youth allowed greater emphasis on findings related to very early adolescence, and he accordingly sought to drive a wedge between the neurological capacity of younger and older teens.⁴⁷ On the fundamental point, though, the two offered a united

ham in adult criminal court, where he pleaded guilty and received a sentence of probation with adjudication of guilt withheld. *See id.* Six months later, Graham was arrested and accused of participating in an armed home invasion robbery with adult accomplices, engaging police in a car chase, and fleeing on foot. *Id.* at 2018–19. He admitted only the last of these, which constituted a violation of his parole. *Id.* at 2019. At sentencing on the reinstated charges of burglary and attempted robbery, the court rejected the recommendations of both the probation department and the state, and imposed a sentence of life without parole. *See id.* at 2019–20. Under Florida law, such a sentence gives no possibility of release during one's natural life absent a grant of executive clemency. *Id.* at 2020 (citing FLA. STAT. § 921.002(1)(e) (2003)); Brief for Petitioner at 12–23, *Graham*, 130 S. Ct. 2011 (No. 08–7412) [hereinafter Brief for Petitioner Graham].

44 *See* Brief for Petitioner at 2, *Sullivan v. Florida*, 130 S. Ct. 2059 (2010) (No. 08–7621) [hereinafter Brief for Petitioner Sullivan]; Brief of Respondent at 4–6, *Sullivan*, 130 S. Ct. 2059 (No. 08–7621) [hereinafter Brief of Respondent]. Given the seriousness of the charges, in accordance with Florida law Sullivan was automatically transferred to adult criminal court. *See* Brief for Petitioner Sullivan, *supra*, at 2 n.1 (citing FLA. STAT. § 985.56(1) (2003)). Sullivan had spent considerable time in juvenile detention, where he had a poor disciplinary record. *See* Brief of Respondent, *supra*, at 6. After his trial and conviction by jury, that history was relied on by the court to impose the most serious possible adult sentence on the sexual battery counts. *See id.*

45 *See Graham*, 130 S. Ct. at 2018–19; Brief of Respondent, *supra* note 44, at 4–5.

46 Not surprisingly, Graham (whose parole violation shortly predated his eighteenth birthday) asked the court to set the line at eighteen. Sullivan asked that the line be set no lower than the fourteenth birthday. *See* Transcript of Oral Argument at 5, *Graham*, 130 S. Ct. 2011 (No. 08–7412) [hereinafter Transcript of Oral Argument, *Graham*] (“We draw the line at 18”); Transcript of Oral Argument at 19–20, *Sullivan*, 130 S. Ct. 2059 (No. 08–7621) [hereinafter Transcript of Oral Argument, *Sullivan*] (“I would like you to adopt a rule that bans life without parole for any child under the age of 14. . . . But I support a line . . . at 18.”). This differential also allowed Sullivan to make a stronger case on the “unusual” prong of the test, as imposition of JLWOP was dramatically less frequent for the very young. *See* Transcript of Oral Argument, *Sullivan*, *supra*, at 25–27.

47 *See* Brief for Petitioner Sullivan, *supra* note 44, at 13–14 (“Among adolescents, young teens have the least capacity to imagine consequences, regulate their wildly-shifting emotions, and resist peer pressure, and the most capacity for change, precisely because they are at the beginning of the most intense period of rapid growth in their lifetimes.”); *id.* at 15–16 (“[B]rain structure at this early developmental stage

front: the Court should rely on psychology and neuroscience to expand its *Roper* analysis into the JLWOP context, ideally finding the sentence cruel and unusual as to all (nonhomicidal) teens.⁴⁸

Indeed, the neuroscientific arguments offered by Sullivan, Graham, and their amici were virtually identical to those made in *Roper*, and they channeled those arguments primarily through *Roper*'s view of adolescents as categorically less culpable.⁴⁹ Graham argued that, as "studies employing brain imaging technology show that adolescents' heightened propensity for risk-taking and poor decision-making correlates with immature cortical brain function,"⁵⁰ juvenile offending is less blameworthy by virtue of having "a biological basis."⁵¹ Similarly, Sullivan asserted that young teens "are neurologically and emotionally hard-wired for sensation-seeking, impulsivity, poor foresight, worse

also explains teens' inability to make the type of judgments at 13 that they will comfortably handle at 17. . . . [as the brain's maturation] is barely underway."); *id.* at 59 ("[T]he line could properly be drawn at 18. However, as the scientific data . . . attest, 13- and 14-year-olds as a class are *much* less mature than 17-year-olds.").

48 See Brief for Petitioner Graham, *supra* note 43, at 26–27; Brief for Petitioner Sullivan, *supra* note 44, at 9–10.

49 The only real difference in briefing was that the scientific account was updated so as to incorporate analyses generated in the few intervening years. See, e.g., Brief for Petitioner Graham, *supra* note 43, at 42 (citing James M. Bjork et al., *Developmental Differences in Posterior Mesofrontal Cortex Recruitment by Risky Rewards*, 27 J. NEUROSCIENCE 4839 (2007); Neir Eshel et al., *Neural Substrates of Choice Selection in Adults and Adolescents: Development of the Ventrolateral Prefrontal and Anterior Cingulate Cortices*, 45 NEUROPSYCHOLOGIA 1270, 1278 (2007)). The AMA and APA amicus briefs were in this respect materially indistinguishable from those they submitted in *Roper*. Though the AMA brief technically was nonpartisan, its substantive arguments indisputably tended strongly in favor of the Petitioners. See Brief for the AMA, *supra* note 8; see also Brief for J. Lawrence Aber et al. as Amici Curiae Supporting Petitioners at 1, *Graham*, 130 S. Ct. 2011 (No. 08–7412) (explaining interest of "an interdisciplinary group of psychologists, social scientists, and neuroscientists who have devoted their careers to the study of adolescent development and behavior").

Interestingly, brain science played a far less significant role in oral argument than it had in *Roper*. Graham's argument focused largely on the relevance of *Roper*, the virtue of a categorical approach, issues of prison programming, and constitutional bounds on when and how eventual release must be made available. See Transcript of Oral Argument, *Graham*, *supra* note 46, at 9, 25–26, 52–53. Counsel made several references to "science" in arguing that judgment as to potential for redemption must await maturity. *Id.* at 13–14. Sullivan's argument was largely taken over by discussion of a procedural issue and of the actual numbers of children serving JLWOP sentences. He reiterated the developmental findings of *Roper*, but not in neuroscientific terms. See Transcript of Oral Argument, *Sullivan*, *supra* note 46, at 23.

50 Brief for Petitioner Graham, *supra* note 43, at 42 (citing Bjork et al., *supra* note 49; Eshel et al., *supra* note 49).

51 *Id.* at 41–43.

judgment, and control failure.”⁵² The State of Florida chose not to engage with these arguments, except in suggesting that Graham was operating from “the mistaken premise that juveniles as a whole, including mature 16- and 17-year-olds, simply cannot control their actions and cannot be deterred from committing violent crimes,”⁵³ and that Sullivan’s “medical and social science research” simply confirmed that juveniles are different, “a fact that state legislatures have known for decades” and had incorporated into their juvenile laws.⁵⁴

The *Graham* majority gave the defendants everything they had been looking for, and then some. Declining to use the gross disproportionality test of *Harmelin v. Michigan*⁵⁵ and *Ewing v. California*,⁵⁶ it characterized the case as implicating “a particular type of sentence as it applies to an entire class of offenders who have committed a range of crimes.”⁵⁷ Such a “categorical challenge to a term-of-years sentence,” it held, was controlled by the “categorical approach” used in death penalty cases such as *Roper*.⁵⁸ The Court favorably assessed the “objective” evidence against JLWOP for nonhomicides,⁵⁹ noted that the availability of that sentence may be an unintended consequence of unrelated legal changes,⁶⁰ and remarked on the international consensus against the practice.⁶¹

Critically, in reaching an “independent judgment” on the ultimate Eighth Amendment question it adopted in full *Roper*’s analysis as to “the nature of juveniles.”⁶² It is in this context that the Court invoked “brain science” in support of the proposition that “juvenile and adult minds” are fundamentally different.⁶³ Adolescents’ reduced culpability, lesser propensity to be deterred, and greater capacity for change, it held, pulled as strongly against JLWOP as they

52 Brief for Petitioner Sullivan, *supra* note 44, at 37.

53 Brief of Respondent at 58, *Graham*, 130 S. Ct. 2011 (No. 08–7412).

54 Brief of Respondent, *supra* note 44, at 10, 41–44, 46.

55 501 U.S. 957, 997–1006 (1991).

56 538 U.S. 11, 23–31 (2003).

57 *Graham*, 130 S. Ct. at 2022–23.

58 *Id.* at 2021–23.

59 *See id.* at 2023–26.

60 *See id.* at 2025–26 (explaining that states had made it easier and more frequent for juveniles to be tried as adults and did not undertake to change adult sentencing laws to which such juveniles became subject; such a sequence of events does not signify deliberate choice of JLWOP).

61 *See id.* at 2033–34 (asserting that while international consensus does not control, it demonstrates that “the Court’s rationale has respected reasoning to support it”).

62 *See id.* at 2026.

63 *See id.*

had against the death penalty.⁶⁴ The Court placed particular weight on its view that at the time of sentencing it was not possible to know whether a young person would forever pose a danger.⁶⁵ Thus, it held, irrevocable judgment poses a substantial risk of inaccuracy, lends itself to undue subjectivity, and “improperly denies the juvenile offender a chance to demonstrate growth and maturity” once his character is more well formed.⁶⁶ The *Graham* Court, on these bases, established a categorical rule prohibiting the sentence for nonhomicides committed before age eighteen.⁶⁷ Presumably because this rule included the relief requested by Sullivan, the Court dismissed certiorari in his case as having been improvidently granted.⁶⁸

The concurrences and dissents may be quickly summarized. Chief Justice Roberts would have used the case-by-case gross disproportionality test, with the gloss that age must be considered a relevant offender characteristic, and on that basis would have found *Graham*’s sentence unconstitutional.⁶⁹ Justice Thomas, joined by Justice Scalia (and in part by Justice Alito), would have relied on Eighth Amendment concepts operative at the time of the founding to reject either a

64 *See id.* at 2026–30.

65 *See id.* at 2029.

66 *Id.*; *see id.* at 2032–33 (JLWOP “gives no chance for fulfillment outside prison walls, no chance for reconciliation with society, no hope,” and is “complicit” in the squandering of human potential). The Court also found that the same qualities that make youth less appropriate candidates for lifelong punishment “put them at a significant disadvantage in criminal proceedings,” with the result that a judge or jury might sentence a youth more harshly than is warranted. *Id.* at 2032.

67 *See id.* at 2030.

68 *See Sullivan v. Florida*, 130 S. Ct. 2059 (2010) (per curiam). Dismissing certiorari obviated the need to (1) resolve that case’s significant procedural issues and (2) directly confront its markedly worse set of facts. However, Justice Kennedy did point to Sullivan’s case to illustrate “the flaws of Florida’s system,” in which JLWOP could be imposed on a very young person “based only on a discretionary, subjective judgment by a judge or jury that the offender is irredeemably depraved.” *Graham*, 130 S. Ct. at 2031. This statement strongly suggests that he would have reached the same legal conclusion even on those facts, much as he had in *Roper* despite the horrifying details of that crime. *See Roper v. Simmons*, 543 U.S. 551, 555–59 (2005).

69 *Graham*, 130 S. Ct. at 2036–39 (Roberts, C.J., concurring). Chief Justice Roberts considered *Graham*’s case “exceptional.” *Id.* at 2042. His crimes were relatively minor, at least as compared to “murder or rape,” while his sentence was “far more severe” than that usually imposed for such crimes. *Id.* at 2040. Further, he seemed particularly immature, and no one “other than the sentencing judge appears to have believed that *Graham* deserved to go to prison for life.” *Id.* at 2039–40. However, Chief Justice Roberts would have left JLWOP as an option in cases involving “far more reprehensible” crimes. *Id.* at 2041.

categorical or case-by-case challenge.⁷⁰ He also took issue with the majority's recourse to "psychology and brain science," asserting that such data are irrelevant to constitutional rulemaking and that the Court had misstated the data in any event.⁷¹ Justice Alito underscored his understanding that the opinion had no effect on term-of-years sentences *with* possibility of parole.⁷² Finally, Justice Stevens (joined by Justices Ginsburg and Sotomayor) tersely pronounced that while Thomas "would apparently not rule out a death sentence for a \$50 theft for a 7-year-old," "[s]ociety changes," "[k]nowledge accumulates," and standards of decency always will continue to evolve.⁷³

III. STILL A FALSE PROMISE?

If the post-*Roper* years are any guide, the post-*Graham* years will see a flurry of activity among juvenile justice advocates and defenders. Certainly this is true of cases directly affected by the holding, as 123 inmates in eleven states are entitled to resentencing.⁷⁴ With competent representation, these former juveniles may be expected to bring forward evidence designed to both place the offense conduct in context and to demonstrate subsequent maturation. But a surge at both the policymaking and litigation levels is certain to extend much further.⁷⁵ More, since the Court now has endorsed brain science as a

70 See *id.* at 2044 n.1 (Thomas, J., dissenting) (dissenting from "both choices to expand proportionality review"); *id.* at 2048 n.3 (noting that law "at the time of the Founding" permitted capital punishment of persons as young as seven).

71 *Id.* at 2054; see *infra* notes 135–38 and accompanying text.

72 See *id.* at 2058 (Alito, J., dissenting). Justice Alito also asserted that Graham had abandoned his as-applied claim. See *id.* He joined Parts I and III of Justice Thomas' dissent, see *id.*, which recounted the facts and rejected all aspects of the majority's categorical analysis, respectively. See *id.* at 2043, 2047–56 (Thomas, J., dissenting).

73 *Id.* at 2036 (Stevens, J., concurring).

74 See *id.* at 2023–24 (majority opinion) (citing PAOLO G. ANNINO ET AL., JUVENILE LIFE WITHOUT PAROLE FOR NON-HOMICIDE OFFENSES (2009), available at http://www.law.fsu.edu/faculty/profiles/annino/Report_juvenile_lwop_092009.pdf (estimating that 109 juveniles in the United States were serving life without parole for nonhomicides)); see also PAOLO G. ANNINO ET AL., JUVENILE LIFE WITHOUT PAROLE FOR NON-HOMICIDE OFFENSES (2009), available at http://law.fsu.edu/faculty/profiles/annino/Report_JuvenileLifeSentence_072009.pdf (estimating in an earlier report that 111 juveniles were serving life sentences without parole for nonhomicides). The Court supplemented the report with its own research, arriving at a total of 123. *Graham*, 130 S. Ct. at 2023–24.

75 See Maroney, *supra* note 7, at 109–16 (noting post-*Roper* excitement propelled advocacy far beyond the death penalty). For example, one state court already has determined that *Graham's* reasoning prohibits a de facto LWOP sentence for a juvenile convicted of a nonhomicide. See *People v. Mendez*, 114 Cal. Rptr. 3d 870 (Ct.

useful body of research, those advocating greater protection of juvenile offenders surely will invoke it with even greater frequency. It therefore is more important than ever to ensure that such claims are accurate, given only the weight they are due, and integrated into juvenile justice theory in a principled, consistent manner.

In this Part, therefore, I offer some predictions as to *Graham's* impact. I evaluate three levels of likely impact, on the legal relevance of adolescent brain science; the legal reach of developmental science; and the contours of adult criminal sentencing and parole.

A. *A Modest Boost for Adolescent Brain Science*

Graham's explicit mention of brain science both boosts the profile of that science and confirms the widespread understanding that it was positively evaluated by the *Roper* Court.⁷⁶ The scientific evidence provided by the parties and amici was virtually identical,⁷⁷ and they argued on the basis of that science even more forcefully in *Roper*. A very short interval of time separates the cases and both opinions were authored by Justice Kennedy. Justice Kennedy in *Graham* invoked brain science in support of precisely the analytical proposition to which it was argued relevant in *Roper*,⁷⁸ and which in the *Roper* opinion had come with the ambiguous “scientific-study” label.⁷⁹ The nearly inescapable conclusion is that the *Roper* Court was as influenced by adolescent brain science as was the *Graham* Court.⁸⁰

App. 2010) (involving a juvenile who would not be eligible for parole until after turning eighty-eight).

⁷⁶ See Maroney, *supra* note 7, at 108 & n.85 (noting academic dispute over whether *Roper* fairly was so understood).

⁷⁷ See Brief for Petitioner *Graham*, *supra* note 43, at 36–43; Brief for the APA, *supra* note 8, at 22–27; Brief for the AMA, *supra* note 8, at 16–24; Brief for Respondent at 15–24, *Roper v. Simmons*, 543 U.S. 551 (2005) (No. 03-633); Brief for the American Psychological Ass'n & the Missouri Psychological Ass'n as Amici Curiae Supporting Respondent at 9–15, *Roper*, 543 U.S. 551 (No. 03-633); Brief for the American Medical Ass'n et al. as Amici Curiae in Support of Respondent at 9–20, *Roper*, 543 U.S. 551 (No. 03-633).

⁷⁸ See *Graham*, 130 S. Ct. at 2026–27.

⁷⁹ See *Roper*, 543 U.S. at 569.

⁸⁰ I say *nearly* inescapable because it is possible that the *Roper* Court was unpersuaded as to the accuracy and relevance of developmental neuroscience, but that developments in the interim were sufficient to persuade the *Graham* Court. I believe this explanation unlikely. The interim scientific studies were no more dramatic than the foundational pre-*Roper* studies, juvenile-brain explanations for teen behavior had gained public notice before *Roper*, and certain Justices—particularly Justice Stevens—earlier had signaled receptiveness to such evidence. See, e.g., *In re Stanford*, 537 U.S. 968, 971 (2002) (Stevens, J., dissenting). The only personnel change was the replacement of Justice Souter with Justice Sotomayor, and there is no reason to believe she

This clarification, though, welcome as it may be for many, does not signify that the science now should be understood to pack more of a persuasive or jurisprudential punch than I previously have argued. The *Graham* Court (and, by implication, the *Roper* Court) gave developmental neuroscience precisely the maximum weight that the science presently can bear.

In reaching this conclusion, it is instructive to compare the arguments with which the Court was presented with the approach it took.

In translating the science into advocacy, the parties and amici gave it different levels of “spin.” The American Psychological Association (APA) took a relatively lighter touch with neuroscience, while the American Medical Association (AMA) leaned on it more heavily. The AMA, for example, framed its entire argument under a heading stating that immaturities in the “adolescent brain provide a biological basis for [adolescents’] behavioral immaturities.”⁸¹ The APA both flipped the brain-behavior relationship and downgraded the relative importance of the former. It led with developmental psychology and proposed more modestly that “psychosocial immaturity is consistent with emerging research regarding brain development.”⁸² The parties’ briefs mirrored those differing approaches, with Graham aligned more with that of the APA and Sullivan with that of the AMA. Compared with Graham, Sullivan far more frequently used words such as “brain,” “neurological,” “brain circuitry,” and “frontal lobe”; he included a lengthy and detailed footnote entirely devoted to neuroscience; and he invoked overtly deterministic language such as “hard-wired.”⁸³

came to the Court with any unique interest in or commitment to developmental neuroscience.

81 Brief for the AMA, *supra* note 8, at ii, 4. To be sure, the AMA did sometimes use more moderate language suggesting less certainty as to causation. *See id.* at ii (noting that brain immaturity “associated with” behavioral difficulties and teen brains “tend to” show different neural functioning); *see also id.* at 3 (acknowledging, as it had in *Roper*, that “science cannot gauge moral culpability” but can “shed light” on attributes legally relevant to that determination).

82 Brief for the APA, *supra* note 8, at i, 22. The APA devoted approximately five text pages to brain science, while the AMA devoted approximately nineteen. The APA also included a separate argument that JLWOP is a grossly disproportionate punishment. *See id.* at 28–33.

83 *See* Brief for Petitioner Sullivan, *supra* note 44, at 16–18 n.15. Graham’s discussion of neuroscience was both shorter and took a more subordinate role within the developmental argument. *See* Brief for Petitioner Graham, *supra* note 43, at 41–43 (stating that teen immaturity has “a biological basis,” but using language such as “correlates” and acknowledging “continuing research” into “precise mechanisms”).

Justice Kennedy's opinion relied on adolescent brain science far less extensively than had any of these parties. However, that reliance more closely resembled the approach of Graham and the APA. Either the above-described spin differential was lost on the *Graham* Court or it wisely chose to take the lighter-touch route.⁸⁴ The Court offered brain science as one source of data tending to confirm a general proposition about gross differences between adolescents and adults that seem to map onto capacities about which the criminal law tends to care.⁸⁵ Specifically, it cited that science—along with “psychology”—as demonstrating that capacity for behavioral control matures over the course of adolescence, including “late” adolescence.⁸⁶ This assertion is both substantively defensible and offered at the appropriate level of generality.

First, the proposition in support of which the Court cited brain science is developmentally accurate and legally relevant. The Court did not suggest that teens' behavioral deficits are absolute and invariable, but rather that greater difficulty in behavioral control is a relatively stable group characteristic, one not properly attributable only to malevolence.⁸⁷ Though the Court made this point in direct support of its conclusions as to juveniles' diminished culpability, it goes as well to their rehabilitative potential.⁸⁸ Assessment of blameworthiness hinges partially on the degree to which the defendant's behavior was subject to deliberate control. Similarly, assessment of dangerousness hinges partially on the degree to which capacity for such control is likely to increase and be exercised. The former assessment informs moral judgment as to the offender's intent and character, while the

84 See Maroney, *supra* note 7, at 165 n.306 (positively evaluating the approach of the APA brief). The first explanation seems likely. See *id.* at 160–65 (asserting that science often is flattened in translation to law). However, the Court may have chosen to “temper” the advocates' strongest assertions. See Buss, *supra* note 35, at 45. A third explanation is that the *Graham* Court credited only Graham's “spin” since it did not rule on the merits of *Sullivan*. This is highly implausible. Its decision granted relief just as surely to *Sullivan*, the amicus briefs to which it directly cited were filed in support of both cases, and the brain science almost certainly was taken in by the Court as a whole.

85 See *Graham v. Florida*, 130 S. Ct. 2011, 2026–27 (2010); see also Maroney, *supra* note 7, at 166–67 (advocating such use of the science).

86 See *Graham*, 130 S. Ct. at 2026–27. While everyday observation long has shown that *actual* behavioral control increases, the science speaks also to *capacity*, a gloss that invites the sort of diminished-culpability judgment in which the Court engaged.

87 See *id.*

88 The *Graham* Court did not sharply differentiate between these two points. Though capacity for change most obviously speaks to rehabilitative potential, the Court also cited that capacity as a factor lessening juveniles' moral blameworthiness. *Id.* at 2026.

latter informs utilitarian determination of the most effective response. More, that juveniles tend for this reason to be both less blameworthy and (eventually) less dangerous affects the likelihood that the same will be true of any given juvenile.

Second, adolescent brain science buttresses confidence in that proposition at just this level of generality. Consider this 2009 assessment offered, in a letter to AMA counsel, by a consortium of prominent developmental neuroscientists:

In comparison with the adult brain, the adolescent brain is immature in brain processes that contribute to the executive control of behavior as determined by experimental studies that characterize basic aspects of behavior. These experiments do not test complex behavior such as the control of responsible behavior in a direct manner.⁸⁹

This is not, perhaps, the stuff of scintillating advocacy, but it is the stuff of responsible science. And—minus the important point about the ecological validity of extant experimental studies—it corresponds quite closely to what the *Graham* Court actually said.

In making a very high-level determination of gross group tendencies for the purpose of setting policy, then, brain science is one, relatively minor, source of legally relevant data—and this is precisely how the *Graham* Court used it. Though the specific tendency on which the Court focused was behavioral control, other tendencies—such as differences in emotional processing—logically should carry as much (but no more) weight where they similarly relate to a legal policy judgment.⁹⁰ Though the opinion may be read to justify a far broader set of implications for developmental neuroscience, such a reading would be inaccurate and undesirable.

B. Potentially Greater Influence of Developmental Research

Of likely greater import are *Graham's* implications for the legal influence given to developmental research as a whole. Broader developmental arguments—including those based on behavioral studies

⁸⁹ Letter from Beatriz Luna et al., Dir. of Lab. of Neurocognitive Dev., Univ. of Pittsburgh Med. Ctr., to E. Joshua Rosenkrantz, Counsel to the Am. Med. Ass'n (July 16, 2009) (on file with author). In the remainder of the letter, the authors break that overall conclusion into subpoints going to the state of research on brain structure, brain function, neural connectivity, emotional processing, and behavioral outputs.

⁹⁰ See *Graham*, 130 S. Ct. at 2026 (“[D]evelopments in . . . 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.” (citing Brief for the APA, *supra* note 8, at 22–27; Brief for the AMA, *supra* note 8, at 16–24)).

and criminology—are the vehicle through which neuroscientific ones are delivered, and the vehicle unquestionably is more important than its passenger.⁹¹ *Graham* made clear that the general developmental principles underlying *Roper* are relevant to any aspect of doctrine relying on assumptions about youths' attributes and capacities.⁹² This move had been urged by scholars and advocates pre-*Graham*, on the logic that fundamental truths about adolescence as a developmental stage do not vary according to the specific legal context in which adolescents are judged.⁹³ The “death is different” mantra, however, made it easy to confine *Roper*'s findings to the narrow question of whether juveniles ever could be classified as among the “worst of the worst.”⁹⁴ *Graham* decisively took down that firewall. As Justice Scalia pithily remarked at oral argument, challenges to term-of-years sentencing never had hinged on whether an offender is the “worst of the worst,” but at most whether she is “the worse of the worse.”⁹⁵ The *Graham* Court found that the differential was, for purposes of applying developmental analysis, insignificant. Developmental principles therefore should be regarded as a constant.⁹⁶

Thus, after *Graham* the diminished culpability/enhanced potential theory of juvenile justice appears to have become not just the near-consensus academic view⁹⁷ but the operative jurisprudential one.⁹⁸ The impact of this shift could be far-reaching. If the Court

91 *But see* Maroney, *supra* note 7, at 167 n.313 (advocating cautious, moderate use of behavioral data as well, despite its stronger pedigree and greater direct relevance).

92 *See Graham*, 130 S. Ct. at 2026–27.

93 *See* Maroney, *supra* note 7, at 119–20 (noting that “scholars and advocates” argued that “developmental science would appear to bear as directly on the underlying purposes of JLWOP . . . as on the death penalty” (citing Barry C. Feld, *A Slower Form of Death: Implications of Roper v. Simmons for Juveniles Sentenced to Life Without Parole*, 22 NOTRE DAME J.L. ETHICS & PUB. POL'Y 9, 10 (2008))). Even under this logic, though, the developmental principles will continue to have different impacts, for they will map differently onto the specific legal question. The point here is that nothing forecloses the principles' exportation to other legal contexts for evaluation under the applicable standards.

94 *See* Maroney, *supra* note 7, at 120–22 (noting that “many courts have stated that *Roper* applies only in the death penalty context” (citing *Culpepper v. McDonough*, No. 8:07-CV-672-T-17, 2007 WL 2050970, at *3 (M.D. Fla. July 13, 2007); *Connell v. State*, 7 So. 3d 1068, 1007 (Ala. Crim. App. 2008))).

95 Transcript of Oral Argument, *Sullivan*, *supra* note 46, at 19.

96 *See Graham*, 130 S. Ct. at 2026–28, 2030–33.

97 *See* Slobogin & Fondacaro, *supra* note 17, at 3–4.

98 In addition to the *Graham* majority, Chief Justice Roberts appears to be on board with this proposition. *See Graham*, 130 S. Ct. at 2039 (Roberts, C.J., concurring) (“*Roper*'s conclusion that juveniles are typically less culpable than adults has pertinence beyond capital cases, and rightly informs the case-specific inquiry I believe to

believes that youth are meaningfully less morally culpable for equivalent actions, less responsive to deterrence, to the point of degrading (though not eliminating) its penological value, and markedly more amenable to rehabilitation, there is no logical reason why those principles should not inform all determinations reflecting categorical assessment of those same phenomena.

Graham's logical implications for sentencing thus might be understood as follows: whatever the maximum punishment an adult could receive for a certain crime, a juvenile should get less, and whatever the minimum adult opportunities to demonstrate rehabilitation, a juvenile should get more. This iteration of *Graham's* developmental logic could call into question a variety of sentencing schemes. For example, it might render suspect any scheme that mandates identical sentencing of chronological juveniles and adults. *Graham's* developmental logic also could be understood to apply to legal issues other than sentencing.⁹⁹ Group-level assessment as to juveniles' relative immaturity is just as relevant to the imposition of felony-murder liability (particularly for unintentional homicide), as well as to the construction of mens rea statutes that incorporate external norms, such as negligence and recklessness.¹⁰⁰ Moreover, the Court's assertion that juveniles' immaturity places them "at a significant disadvantage in criminal proceedings," coupled with its conclusion that "criminal procedure laws that fail to take defendants' youthfulness into account at all would be flawed," together suggest an opening for more robust review of juveniles' competence to waive *Miranda*, stand trial, waive

be appropriate here."); *id.* at 2040 ("There is no reason to believe that *Graham* should be denied the general presumption of diminished culpability that *Roper* indicates should apply to juvenile offenders."). Even Justice Thomas does not argue with the general notion "that juveniles *generally* are less culpable and more capable of growth than adults." *Id.* at 2052 (Thomas, J., dissenting).

99 *Id.* at 2031 (majority opinion) ("[C]riminal procedure laws that fail to take defendants' youthfulness into account at all would be flawed."). Some language in *Graham* could be interpreted to limit its reach to questions of sentencing—and only the most "severe" sentencing at that. *See id.* at 2026 (describing *Roper* as establishing that the lesser culpability of juveniles makes them less deserving "of the most severe punishments" (citing *Roper v. Simmons*, 543 U.S. 551, 568 (2005))); *cf. id.* at 2046 (Thomas, J., dissenting) ("No reliable limiting principle remains to prevent the Court from immunizing any class of offenders from the law's third, fourth, fifth, or fiftieth most severe penalties as well."). This statement is better understood as describing the context in which the developmental principles were established, not a limit within which they should be made operative.

100 *See Maroney, supra* note 7, at 170 (mentioning, as part of a nonexhaustive list, accomplice liability).

counsel, and plead guilty.¹⁰¹ Legislatures, of course, never were constrained in their ability to craft developmentally appropriate policy in any of these areas; but to the extent that courts felt themselves constrained, *Graham* creates more breathing room within which to do so.

Just as *Roper's* reasoning was (before *Graham*) widely interpreted by the courts to apply only to capital sentencing, *Graham's* could be understood to apply only to the precise frame within which it was articulated: nonhomicide JLWOP. Indeed, some courts already have taken just that stance.¹⁰² But this effort at containment is unlikely to be airtight, and is likely to weaken over time. That the *Graham* Court easily allowed developmental logic to cross what had been regarded as a nearly impenetrable divide between capital and term-of-years sentencing signals that other doctrinal divisions are likely to be ineffective containment devices.

But perhaps this shift will not be quite so sweeping as many doubtless hope. Two distinct questions unresolved by *Graham* suggest this to be so.

First is the continuing relevance of harm. The *Graham* Court leaned heavily on the distinction between homicide and nonhomicide offenses, stating that the culpability of a juvenile who commits a nonhomicide is “twice diminished,” and strongly intimating (as it had in *Roper*) that JLWOP would be constitutional for a homicide conviction.¹⁰³ This is, of course, dicta, and may not survive the inevitable

101 See *Graham*, 130 S. Ct. at 2032 (“Juvéniles mistrust adults and have limited understandings of the criminal justice system and the roles of the institutional actors within it. They are less likely than adults to work effectively with their lawyers to aid in their defense. Difficulty in weighing long-term consequences; a corresponding impulsiveness; and reluctance to trust defense counsel seen as part of the adult world a rebellious youth rejects, all can lead to poor decisions by one charged with a juvenile offense.” (citations omitted)). The Court has just taken certiorari over a case that raises the issue of whether a court may, or must, consider age when evaluating whether a juvenile was “in custody” for purposes of *Miranda* rights. See *In re J.D.B.*, 686 S.E.2d 135 (N.C. 2009), cert. granted, 131 S. Ct. 502 (2010). This portion of *Graham* raises the inference that the Court may be interested in overturning that portion of *Yarborough v. Alvarado*, 541 U.S. 652 (2004).

102 See, e.g., *United States v. Graham*, 622 F.3d 445, 469–70 (6th Cir. 2010) (Merritt, J., dissenting) (complaining that while *Graham* did not control the question of whether conviction for a crime committed when a chronological juvenile could form necessary last “strike” triggering LWOP for now-adult defendant, its logic should have been allowed to inform that determination).

103 See *Graham*, 130 S. Ct. at 2027 (“[A] juvenile offender who did not kill or intend to kill has a twice diminished moral culpability.”). The Court invoked *Kennedy v. Louisiana*, 554 U.S. 407 (2008), to underscore its view as to the importance of death. See *Graham*, 130 S. Ct. at 2027; see also *id.* at 2041 (Roberts, C.J., concurring) (noting the “Court’s apparent recognition that it is perfectly legitimate for a juvenile

next legal challenge. But the dictum is inconsistent with *Graham's* developmental logic as articulated above. To see how this is so, consider the sentencing possibilities for homicide. Adults convicted of capital murder face a maximum possible punishment of death; juveniles do not. If a juvenile is convicted of a death-eligible homicide, then, JLWOP arguably embodies the contemplated concession to youth.¹⁰⁴ But most homicides are not death-eligible and, therefore, carry a maximum possible punishment of life without parole.¹⁰⁵ If a homicide committed by a juvenile was (for reasons other than age) not death-eligible—which is by no means an easy call¹⁰⁶—the developmental logic means that the juvenile should receive either a shorter term of years or “meaningful opportunity” for parole from a life term.¹⁰⁷ To hold otherwise is to place a sufficient level of importance

to receive a sentence of life without parole for committing murder”). Courts already have begun to rely on this aspect of *Graham* to uphold JLWOP for homicide offenses. *See, e.g., Gonzalez v. State*, 50 So. 3d 633 (Fla. Dist. Ct. App. 2010) (upholding JLWOP for a sixteen-year-old convicted of first-degree murder).

104 *See Miller v. State*, No. CR-06-0741, 2010 WL 3377692 (Ala. Crim. Ct. App. Aug. 27, 2010) (denying *Graham* challenge on basis that a juvenile sentenced to LWOP for a death-eligible homicide receives the second-harshes punishment for committing the worst crime). I say *arguably* because whether a crime is death-eligible is not fully ascertainable until after completion of the penalty phase. *See infra* note 106. Thus, though the *Miller* court asserted that the defendant could have been sentenced to death but for his juvenile status, there is no way of knowing whether that is actually true.

105 A number of states with no death penalty provide for maximum sentences of life without parole. *See Life Without Parole*, DEATH PENALTY INFO. CTR., <http://www.deathpenaltyinfo.org/life-without-parole> (last visited March 28, 2010) (fourteen of fifteen non-death-penalty states so provide). Further, even capital-sentencing states impose LWOP more frequently than death. *See, e.g., Kansas v. Marsh*, 548 U.S. 163, 178–79 (2006) (noting that Kansas’ sentencing scheme “is dominated by the presumption that life imprisonment is the appropriate sentence for a capital conviction” if prosecution cannot make case for death).

106 This is so for several reasons. Prosecutors have discretion at the front end, by choosing the arguably death-eligible cases in which such a penalty actually will be sought. Even more important, at the back end, death eligibility depends on a jury determination of aggravating and mitigating factors under the applicable state statute. *See Marsh*, 548 U.S. at 173–74 (“[A] state capital sentencing system must . . . permit a jury to render a reasoned, individualized sentencing determination based on a death-eligible defendant’s record, personal characteristics, and the circumstances of his crime.” (citing *Gregg v. Georgia*, 428 U.S. 153, 189 (1976))). Theoretically, it is literally not possible to know which homicides are death-eligible until after the trial and penalty phase, which will never happen in any juvenile case post-*Roper*.

107 *See Graham*, 130 S. Ct. at 2030 (“A state is not required to guarantee eventual freedom to a juvenile offender convicted of a non-homicide crime. What the state must do, however, is give defendants . . . some meaningful opportunity to obtain release . . .”).

on the harm caused as to trump the developmental principle. And this is what *Graham* appears to do, as it seems to leave undisturbed a system by which a juvenile and an adult convicted of identical noncapital homicides could receive identical LWOP sentences, despite the fact that the juvenile's culpability is at least *once* diminished.¹⁰⁸ As Thomas pointed out in dissent, thus to single out homicide is "peculiar," because many homicides—for example, felony murder via accomplice liability—are more obviously amenable to (partial) developmental explanation than are many nonhomicides, like violent, premeditated kidnapping and rape.¹⁰⁹ The dictum thus has less to do with the Court's view of juveniles than with its valuation of harm.¹¹⁰

Second is the tension between individual and categorical assessment, a tension driving Chief Justice Roberts's concurrence.¹¹¹ Though *Graham* approached JLWOP categorically, it is not clear whether it signals a preference for that approach in other contexts. Indeed, the decision might point in opposing directions. Consider, for example, possible implications for transfer to adult court. Transfer schemes that mandate adult treatment for all juveniles charged with designated offenses rest on the assumption that, as a rule, commission of such an offense demonstrates adult-level blameworthiness and dangerousness.¹¹² That assumption has consequences, as the choice of court profoundly affects both the procedure juveniles are

108 Cf. *Miller*, 2010 WL 3377692, at *8 (acknowledging that a juvenile's culpability is diminished by age, but is not "twice diminished," in *Graham's* language, if he killed his victim).

109 See *Graham*, 130 S. Ct. at 2055 (Thomas, J., dissenting); see also *id.* at 2041–42 (Roberts, C.J., concurring) (labeling the Court's categorical conclusion "unnecessary" and "unwise" as it "ignores the fact that some non-homicide crimes . . . are especially heinous or grotesque, and thus may be deserving of more severe punishment" and 'juveniles' diminished culpability does not necessarily mean "that their culpability is always insufficient to justify a life sentence" (citing *Roper v. Simmons*, 543 U.S. 551, 571 (2005); *Thompson v. Oklahoma*, 487 U.S. 815, 853 (1988))).

110 See *id.* at 2055–56 (Thomas, J., dissenting) (asserting that the apparent concession to homicide demonstrates that "the Court does not even believe its pronouncements about the juvenile mind").

111 See *id.* at 2041–42 (Roberts, C.J., concurring). The proper place for categorical as opposed to individual judgment was a fault line in *Roper* as well. See *Roper*, 543 U.S. at 599–604 (O'Connor, J., dissenting) (rejecting the majority's conclusion that all juveniles are death-ineligible and advocating instead for individualized determination).

112 See, e.g., FLA. STAT. § 985.227(2) (2003) (current version at FLA. STAT. § 985.557 (2010)) (permitting Sullivan's treatment as an adult). The common refrain capturing this idea is "adult crime, adult time." *Graham* instead suggests that there is no such thing as a juvenile "adult crime," but only crimes committed by juveniles.

due and the possible consequences they face.¹¹³ *Graham's* developmental logic counsels just the opposite assumption: that is, that the juvenile has both diminished culpability and enhanced potential despite satisfying the elements of the crime.¹¹⁴ Under a categorical approach, *Graham's* developmental logic thus could be understood to foreclose transfer altogether. But such an outcome appears highly unlikely in light of the Court's evident comfort level with transfer, even of the very young.¹¹⁵ It is also a political nonstarter: some form of transfer has been contemplated since the invention of juvenile justice itself.¹¹⁶ A more plausible response to the new post-*Graham* assumption, then, would be to allow it to be overcome in individual cases. The obvious mechanism would be judicial transfer, in which the judge determines by evidence whether the particular juvenile is likely to be adequately controlled and rehabilitated by the juvenile justice system.¹¹⁷ But *Graham* reflects a high level of skepticism as to whether judges can make such case-by-case assessments, at least while the offender is still a juvenile.¹¹⁸ Thus, a conundrum: *Graham's* logic simultaneously suggests that mandatory transfer rests on a faulty

113 See, e.g., *Kent v. United States*, 383 U.S. 541, 556 (1966) (“[W]aiver of jurisdiction is a ‘critically important’ action determining vitally important statutory rights of the juvenile.” (citing *Black v. United States*, 355 F.2d 104 (D.C. Cir. 1965); *Watkins v. United States*, 343 F.2d 278 (D.C. Cir. 1964))).

114 *Graham*, 130 S. Ct. at 2040 (Roberts, C.J., concurring) (establishing that juvenile offenders are entitled to a “general presumption” of immaturity).

115 Nowhere does the *Graham* Court intimate that either *Graham* or *Sullivan* wrongly had been prosecuted as adults or had a right to juvenile treatment.

116 See Illinois Juvenile Court Act of 1899, Ill. Laws 131, amended by Act of June 4, 1907, Ill. Laws 77 (giving judge discretion to order any delinquent juvenile to be treated according to adult law).

117 See, e.g., *Kent*, 383 U.S. at 552–65 (holding order of the Juvenile Court waiving its jurisdiction invalid as it did not comply with the statutory requirement of a “full investigation,” which includes the consideration of particular factors of individual cases, such as those listed in *id.* app. at 566–67).

118 See *Graham*, 130 S. Ct. at 2031–32 (noting that courts taking a case-by-case approach may not, “with sufficient accuracy,” be able to “distinguish the few incorrigible juvenile offenders from the many that have the capacity for change”). The Court’s skepticism about jurors was evident in *Roper*. See *Roper v. Simmons*, 543 U.S. 551, 572–73 (2005). *Graham* is rather startling in its extension of that skepticism to judges. See *Graham*, 130 S. Ct. at 2042 (Roberts, C.J., concurring). The sentencing judge in *Graham* certainly provided the Court with ample basis for concern; his assessment seemed highly exaggerated, even irrational. See *id.* at 2019–20 (majority opinion); *id.* at 2040 (Roberts, C.J., concurring). The Court could have chosen to factor the judge’s ill temper into a judgment that the sentence was disproportional for *Graham*. That it was seen instead as underlying a categorical rule signals a belief that such judgments are relatively common and not likely to adequately be curbed by appellate review.

assumption as to the nature of youth, and that individualized transfer requires judges to make predictions no human is capable of making. This tension may be eased at the margins,¹¹⁹ but likely will be tolerated, and the parameters of transfer will continue to be shaped less by developmental concerns than by pragmatic and political ones.¹²⁰

As these two open issues demonstrate, developmental principles, even after *Graham*, will go only so far. While the opinion invites greater reliance on such principles in a wider variety of doctrinal areas, they cannot be expected always to trump other principles to which the juvenile law also accords value.

The strongest rejoinder to this reading of *Graham* is that the Court was skeptical only about judicial predictions that are literally lifelong and irrevocable. In contrast to imposition of JLWOP, judicial transfer determinations ask not whether the juvenile is likely to be rehabilitated in his lifetime but, rather, in the time remaining before juvenile jurisdiction terminates. This distinction may well be sufficient to justify retention of judicial waiver; the risk of inaccuracy may be tolerable given the shorter predictive time frame, and other penological justifications—like incapacitation—might be stronger than in the JLWOP context. But transfer decisions are similarly irrevocable, except where a jurisdiction provides for reverse transfer (a decision generally also made while the juvenile is still a juvenile). See, e.g., PATRICK GRIFFIN ET AL., U.S. DEP'T OF JUSTICE, TRYING JUVENILES AS ADULTS IN CRIMINAL COURT 2, 9–10 (1998) (describing reverse waiver statutes). Their impact also is lifelong, as the transferred juvenile acquires a permanent criminal record and, often, a lengthy sentence that fundamentally alters the remainder of his natural life. The difference with JLWOP is one of degree, not of kind. If the Court is sufficiently uncomfortable only with the most extreme predictive judgment on the continuum, other concerns must be operative.

119 One way to ease this tension would be to very substantially alter adult-court criminal sentencing of juveniles. See FRANKLIN E. ZIMRING, AMERICAN JUVENILE JUSTICE 155–56 (2005) (bemoaning “the absence of a youth policy for waived juvenile offenders in criminal courts,” such that “there is a tendency to ignore the youth of offenders once they have been transferred . . . as if the mandate of a waiver was to regard the offender as an adult”). Many states provide minors with limited opportunities for reduced sentencing in the adult courts—including Florida—but such sentences tend to be the exception rather than the rule. See Brief for Petitioner *Graham*, *supra* note 43, at 6–8 (describing statutes under which *Graham* might have been sentenced). Another would be to rely much more heavily on so-called blended-sentencing schemes, under which juveniles eventually may receive adult sentences if they fail to demonstrate rehabilitation before jurisdiction expires. See Maroney, *supra* note 7, at 114 n.113. Such schemes would ease the tension only if they were used to keep significant numbers of juveniles out of the adult system, not to expand consequences for those who would not have been transferred in any event.

120 See ZIMRING, *supra* note 119, at 139, 144 (stating that transfer has political value as a “safety valve” that preserves public support for the institution).

C. *More Robust Oversight of Criminal Sentencing*

Ironically, perhaps, *Graham* is likely to have its most dramatic effects not in the juvenile context but in adult criminal sentencing. The foundations from which these effects will spring can be succinctly stated, though the contours of the effects themselves are unpredictable and will unfold over the long term.

“‘Death is different’ no longer.”¹²¹ Though neither the Court nor the parties gave any intimation that the distinct procedural aspects of the capital trial now apply to noncapital cases,¹²² appellate review of term-of-years sentencing is likely now to be more robust. Some classes of offenders—the mentally retarded come immediately to mind—are likely now to make a parallel challenge to life without parole (LWOP). That class is almost certain to urge the Court to carry its *Atkins v. Virginia*¹²³ analysis across the now-eroded boundary. Indeed, the opinion suggests that such a categorical challenge may be brought against any “sentencing practice,” not just LWOP, and by any identifiable “class of offenders.”¹²⁴ Though not all such challenges will be successful, they are now more plausible.

Moreover, as Justice Thomas’s dissent notes with displeasure, Chief Justice Roberts’s concurrence “breathes new life into the case-by-case proportionality approach,” potentially reversing the extreme narrowing of that approach in recent years.¹²⁵ If age matters to that analysis, a broader range of other offender characteristics should as well.

Finally, legislatures and courts now must flesh out the amorphous concept of a “meaningful opportunity” for parole.¹²⁶ The *Graham* Court left the specifics in the first instance to the states, specifying

121 *Graham*, 130 S. Ct. at 2046 (Thomas, J., dissenting) (the decision “eviscerates the distinction” between capital and noncapital sentences for purposes of proportionality review); *see also id.* at 2038–39 (Roberts, C.J., concurring) (“Treating juvenile life sentences as analogous to capital punishment is at odds with our longstanding view that ‘the death penalty is different from other punishments in kind rather than degree.’” (quoting *Solem v. Helm*, 463 U.S. 277, 294 (1983))).

122 *See* Transcript of Oral Argument, *Graham*, *supra* note 46, at 52 (counsel for petitioner) (“[W]e are not asking that the procedural rules in the intricate individualized death penalty sentencing scheme be . . . moved over to the noncapital cases.”); *id.* at 42–53 (question of Justice Alito) (“[I]sn’t that where this, logically, is going?”).

123 536 U.S. 304, 317–21 (2005) (“The reduced capacity of mentally retarded offenders provides a . . . justification for a categorical rule making such offenders ineligible for the death penalty.”).

124 *See Graham*, 130 S. Ct. at 2022–23.

125 *Id.* at 2044 n.1 (Thomas, J., dissenting).

126 *See id.* at 2030 (majority opinion).

only that they must provide “some realistic opportunity”¹²⁷ to demonstrate “maturity and rehabilitation.”¹²⁸ Conversely, the state must be allowed somehow to show that the offender was in fact “irredeemable.”¹²⁹ Such enormous, foundational questions going to the meaning of opportunity and redemption cannot help but spill outside the immediate context. Further, the only juveniles to whom parole eligibility applies are those convicted in adult courts and held in adult institutions; they all will be chronological adults by the time any parole decisions are made, meaning the rules established for them are likely to apply to other parole-eligible adults as well. To be sure, *Graham* could be construed so as to *restrict* adult access to parole. It might be understood to establish a juvenile monopoly on hope.¹³⁰ Such a construction is not justified by *Graham*; that juveniles have relatively greater amenability to reform does not mean adults have none, or that they have too little to be accorded any legal significance.¹³¹ Thus, how the state courts fill in *Graham*’s broad commands, and how the federal courts evaluate their efforts (as they surely will, and soon), eventually may affect the entire law governing parole eligibility and denial.

The potentially biggest action post-*Graham*, then, not only has little to do with brain science—it likely will have little to do with adolescent development at all.

D. Confirmation Bias

As this discussion has demonstrated, nothing in *Graham* suggests any meaningful alteration to the normative claims advanced in *False*

127 *Id.* at 2034.

128 *Id.* at 2030. The state courts are beginning to grapple with that task in the juvenile context. *See, e.g.,* *People v. Mendez*, 114 Cal. Rptr. 3d 870, 883 (Ct. App. 2010) (“[C]ommon sense dictates that a juvenile who is sentenced at the age of 18 and who is not eligible for parole until after he is expected to die does not have a meaningful, or as the Court also put it, ‘realistic,’ opportunity of release.”).

129 *Graham*, 130 S. Ct. at 2030.

130 *See* Transcript of Oral Argument, *Graham*, *supra* note 6, at 51 (question of Justice Kennedy) (“Why does a juvenile have a constitutional right to hope, but an adult does not?”); *id.* (reply of counsel for petitioner) (“[B]ecause the juvenile is different than an adult . . . once you are fully formed, you . . . don’t have that same inherent capacity to change.”); *see also* *Page v. State*, 995 A.2d 934 (R.I. 2010) (upholding LWOP for an eighteen-year-old, over a dissent arguing that the defendant should be allowed an opportunity eventually to seek parole).

131 This is, of course, the converse of my point that relative juvenile disability does not invariably mean such disability reaches legal significance. *See* *Maroney*, *supra* note 7, at 150–51; *see also* *Buss*, *supra* note 35, at 41–42 (warning that reliance on children’s incapacities leads to a “frozen caricature” notion of adulthood, to adults’ detriment).

Promise. The many cautions and limitations it articulated remain in full force.¹³² Rather than revisit them all, I here focus on one that was on display in *Graham*: confirmation bias.

Legal decisionmakers tend to accept, or to credit disproportionately, those aspects of the science that move them in the direction of a result to which they already are inclined, and to reject those that do not.¹³³ This phenomenon is evident in that portion of Justice Thomas's dissent in which he critiqued the majority's reliance on developmental data. He took no issue with the general idea that "society tends to treat the average juvenile as less culpable than the average adult."¹³⁴ But he focused on studies that appear to provide a basis for making at least somewhat reliable predictions as to the future dangerousness of an individual young person, even at the time of the offense.¹³⁵ Moffitt's highly influential model of adolescent-limited offending was cited by the APA in support of the proposition that most juvenile offenders "grow out" of antisocial behavior.¹³⁶ However, that same model provides an empirical basis from which to judge which youth are more likely instead to manifest a "life-course persistent" pattern of such behavior.¹³⁷ As Thomas pointed out, certain indicators of such a pattern—such as violent crime at a young age—were present in these cases.¹³⁸ One can mount many reasons why

132 See Maroney, *supra* note 7, at 145–74.

133 See *id.* at 170–72.

134 *Graham*, 130 S. Ct. at 2054 (Thomas, J., dissenting) (noting, though, that "the question here does not involve the average juvenile"); see also *id.* (noting the fact that JLWOP is rarely imposed "is entirely consistent with the Court's intuition that juveniles generally are less culpable and more capable of growth than adults"); cf. *id.* at 2042 (Roberts, C.J., concurring) (stating that JLWOP should be justified for "some crimes [that] are so heinous, and some juvenile offenders so highly culpable"); Maroney, *supra* note 7, at 156 (noting young adults' disproportionate success with neuroscientific argument and offering a theory that legal decisionmakers tend to regard juvenile offenders as "unusual juveniles" to whom general lessons do not apply).

135 See *Graham*, 130 S. Ct. at 2054–56 (Thomas, J., dissenting) (citing, inter alia, Terrie E. Moffitt, *A Review of Research on the Taxonomy of Life-Course Persistent Versus Adolescent-Limited Antisocial Behavior*, in 15 TAKING STOCK 277, 292–93 (Francis T. Cullen et al. eds., 2006) [hereinafter Moffitt, *Review of Research*]; Terrie E. Moffitt, *Adolescence-Limited and Life-Course-Persistent Antisocial Behavior: A Developmental Taxonomy*, 100 PSYCHOL. REV. 674, 678 (1993) [hereinafter Moffitt, *Adolescence Limited*]).

136 See Brief for the APA, *supra* note 8, at 20 (citing Moffitt, *Adolescence Limited*, *supra* note 135, at 685–86, 690).

137 See *Graham*, 130 S. Ct. at 2054–55 (Thomas, J., dissenting) (citing, inter alia, Moffitt, *Review of Research*, *supra* note 135, at 292–93; Moffitt, *Adolescence Limited*, *supra* note 135, at 678).

138 See *id.* at 2043, 2051–52, 2055–57. Though Justice Thomas did not make this explicit, his implication may have been that Sullivan was particularly likely under Mof-

Moffitt's taxonomy is an inadequate basis on which to rest a judgment of such import, particularly given the option of later measuring (rather than presently predicting) the offender's trajectory. But that is not here the point. The point, rather, is that the same body of data can be read in such a way as to support wildly different outcomes. One's prior assessment of the correct outcome will influence which reading appears most convincing. This tail-wagging-dog phenomenon limits the persuasive power of all developmental science, including neuroscience.

CONCLUSION

The impact of *Graham* is likely to be simultaneously narrow and sweeping. As to adolescent brain science, I predict that the impact will be narrow. Within the bounds I previously have delineated, that science will assume somewhat greater status. That status differential may—and hopefully will—contribute, though marginally, to legislatures' and courts' recommitment to juvenile justice values. Developmental science as a whole is likely to see a bigger boost in its legal impact. However, *Graham* itself suggests that such science often will take a subordinate role to other considerations—such as harm—in a manner not consistent with its developmental logic.¹³⁹ The decision's downstream effects on term-of-years sentencing and parole are likely to be the most extensive, but are the hardest now to predict. Finally, motivated reasoning about developmental science is certain to persist. Its persistence underscores the reality that science always must assume a secondary role.

That secondary role is the right one. As I concluded in *False Promise*, undue focus on adolescent brain science threatens to obscure more important, and more treatable, reasons for juvenile offending.¹⁴⁰ I agree with Emily Buss that it also threatens to obscure the “real reasons” why many—this author included—support special treatment of juvenile offenders.¹⁴¹ Justice Thomas declared that this posi-

fitt's taxonomy to be a “life-course persistent” offender, given the combination of his extreme youth, history of recidivism, and a sexually violent crime.

139 See *id.* at 2030 (majority opinion).

140 See Maroney, *supra* note 7, at 173–74.

141 See Buss, *supra* note 35, at 45 (“[F]or many of us, the inclination to favor greater adolescent autonomy rights and lesser adolescent culpability is driven, not by a cold calculation of what they can and cannot do, but by an interest in designing laws to serve minors well.”); *id.* at 64 (emphasizing that the law's concern for youth rightly is seen not as an accommodation to incapacity but as a reflection of social commitment to “enhance children's development to better achieve the ambitions reflected in our constitutional rights”).

tion devolves to a “philosophical” one.¹⁴² It is not only that, but it is largely that. But law reflects philosophical commitments, and this one—the belief that adults bear a special responsibility to provide youth with adequate opportunities to reach their potential, no matter what they have done—legitimately is reflected in the law of juvenile justice. Whatever the eventual effects of *Graham* prove to be, one hopes they reflect a similar commitment.

142 See *Graham*, 130 S. Ct. at 2056 (Thomas, J., dissenting).

