OPENING THE BLACK BOX

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ABSTRACT

In response to the tenth anniversary of the Ferguson uprisings, this Essay examines how the protests reshaped legal discourse on algorithmic decision-making in criminal law, with a specific focus on systemic racial injustice. By deconstructing the metaphorical "black box," the Essay surveys the intersection of race, technology, and incarceration while also illustrating how the uprisings influenced public and scholarly engagement with criminal legal technologies. The Essay analyzes current critiques and cautions against focusing too narrowly on reforming specific technologies rather than addressing the legal and social structures that sustain racial inequality. The Essay concludes by urging scholars and policymakers to engage with the structural dimensions of technology in criminal law and develop more comprehensive approaches to justice in the digital age.

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INTRODUCTION

In On August 9, 2014, police officer Darren Wilson shot and killed Michael Brown in Ferguson, Missouri. This killing sparked public protests and grassroots organizing on policing and criminal law across the United States.[1] But these uprisings were of no "ordinary" kind.[2] They precipitated change across the United States, even in the legal academy. For those of us who think about criminal law, this ten-year period from 2014 to 2024 may prove to be foundational. Quite literally, we write and talk about criminal law differently now than we did before the Ferguson Uprisings. In response to the *Washington University Journal of Law and Policy*'s invitation to address the ten-year anniversary of the Ferguson Uprisings, this Essay illuminates the effects of the Ferguson Uprisings through an examination of the rich policy and scholarly work around algorithms in criminal law. It considers how the Ferguson Uprisings may continue to shape the legal discourse on technology in criminal law going forward.

A robust and controversial discourse has developed around algorithms in criminal law. Though algorithms were nothing new to criminal law by 2014,[3] the critical attention paid to the tools in law since that time is notable.[4] This Essay turns to the Ferguson Uprisings for insight into the contemporary salience of the legal discourse on algorithms in criminal law. It illuminates three key social effects that the Ferguson Uprisings had on criminal law policy and scholarship regarding technology, race, and incarceration. To explore this topic, the Essay deconstructs the term "the black box" to identify and interrogate these changes in criminal law discourse. Though the term is cited frequently in discussing technology in society, the black box metaphor captures several of the significant ways

1. Trymaine Lee, *2014: The Year of Michael Brown*, MSNBC (Dec. 29, 2014, 10:02 AM), https://www.msnbc.com/msnbc/2014-michael-brown-ferguson-msna492741 [https://perma.cc/4DAD-52GC].

2. *See, e.g.*, Gene Demby, *The Birth of a New Civil Rights Movement*, POLITICO (Dec. 31, 2014), https://www.politico.com/magazine/story/2014/12/ferguson-new-civil-rights-movement-113906/ [https://perma.cc/Z4QU-8CE6].

3. *See generally* Jessica M. Eaglin, *The Perils of "Old" and "New" in Sentencing Reform*, 76 N.Y.U. ANN. SURV. AM. L. 355 (2021) (situating algorithmic risk assessments at sentencing as both an "old" and "new" sentencing reform); BERNARD E. HARCOURT, AGAINST PREDICTION: PROFILING, POLICING, AND PUNISHING IN AN ACTUARIAL AGE (2007) (detailing the origin of predictive assessment tools in the 1930s).

4. *See, e.g.*, Sandra G. Mayson, *Bias In, Bias Out*, 128 YALE L.J. 2218, 2228 (2019) (characterizing 2014 as a "watershed" year for discussions of race and algorithms).

criminal law discourse shifted relatively swiftly in this time period.

The upshot of this sociolegal analysis is a foundation for new insight into contemporary legal discourse on algorithms, race, and criminal law. To be clear, my claim is not that the Ferguson Uprisings *caused* the expansion of algorithms—such a claim would require empirical analysis far beyond the scope of this Essay. Rather, I argue that the Ferguson Uprisings opened important doors that made possible the rich and critical legal discourse on race, algorithms, and criminal law still ongoing today.

Simultaneously, this sociolegal analysis reveals potential limits of this legal discourse on algorithms. At least in criminal law, opening the door to a particular way of engaging with a dilemma can create stagnation to the point of building new walls.[5] As scholarship on algorithms, race, and criminal law begins to settle, there are signs of such stagnation. The Essay concludes by looking back to the social organizers who made the Ferguson Uprisings capture the public's attention for clues to how criminal law scholarship on technology might expand, rather than stagnate. Just as activists thought outside the confines of legally constructed walls regarding technology in criminal law in the wake of the Ferguson Uprisings, legal scholars need to think across technologies in criminal law. Such an approach opens paths for deeper critical inquiry on the juncture of technology and criminal law in society.

This Essay unfolds in three parts. Part I describes the increasing, critical attention paid to algorithms in criminal law as a puzzle. Part II argues that the Ferguson Uprisings offer important insight to how the legal discourse on race, algorithms, and criminal law became socially salient after 2014. Part III applies this insight to the contemporary discourse on algorithms in criminal law.

I. ALGORITHMIC CRITICISMS ON THE RISE

An algorithm is "[a] finite series of well-defined, computer-implementable instructions . . . ."[6] It uses numerical inputs to produce

5. *See also* Benjamin Levin, *Criminal Law Exceptionalism*, 108 VA. L. REV. 1381, 1402-03 (2022) (expressing concern in the emergence of a "new, critical exceptionalism" wherein "the institutions of criminal law often stand as—or are treated as—exceptional in their objectionableness.").

6. *The Definitive Glossary of Higher Mathematical Jargon*, MATH VAULT, https://mathvault.ca/math-glossary/ [https://perma.cc/Z9EY-5W3M].

specific results based on refined statistical methods.[7] These tools are commonly used in criminal law to produce information, like an individual's likelihood of engaging in 'criminal behavior' in the future.[8] Since the 1920s, such predictions have shaped various determinations about policing, judicial discretion, and the administration of criminal law.[9] This practice expanded when, in the 1950s, states increasingly deployed automated tools reliant on large datasets to shape decision making in criminal law administration.[10]

While algorithms are nothing new to criminal law, the critical attention they have attracted since 2014 is notable. A prominent angle of this scrutiny has to do with discrimination. In early August 2014, then-Attorney General Eric Holder criticized the expansion of algorithms in criminal sentencing in a speech intended to advance the Department of Justice's (DOJ) "Smart on Crime" initiative.[11] That initiative, launched in 2013, revised certain charging practices around mandatory minimum penalties, seeking to restore discretion to judges and reduce levels of incarceration in federal correctional facilities.[12] His August 2014 speech celebrated the expansion of data-driven practices and encouraged Congress and the U.S. Sentencing Commission to codify changes in line with the DOJ initiative.[13] He then simultaneously criticized the expansion of algorithms in criminal sentencing for potential unintended consequences. Attorney General Holder cited to their potential to "exacerbate unwarranted and unjust disparities that are already far too common in our criminal justice system."[14] Within a week, Professor Sonja Starr published a New York Times Op-Ed in conversation with then-

7. *See id.* When I reference algorithms, I use the term to encompass basic models and the more statistically robust models that fall under the rubric of artificial intelligence. *See* Jessica M. Eaglin, *On "Color-blind" and the Algorithm*, 112 GEO. L.J. 1385, 1388 n.13 (2024).

8. *See, e.g.*, CHRISTOPHER SLOBOGIN, JUST ALGORITHMS: USING SCIENCE TO REDUCE INCARCERATION AND INFORM A JURISPRUDENCE OF RISK vii (2021); Brandon L. Garrett & John Monahan, *Judging Risk*, 108 CALIF. L. REV. 439, 441 (2020).

9. *See* HARCOURT, *supra* note 3.

10. Jessica M. Eaglin, *Technologically Distorted Conceptions of Punishment*, 97 WASH. U. L. REV. 483, 505–08 (2019).

11. Eric Holder, Attorney Gen., Dep't of Justice, Remarks at the Nat'l Ass'n of Criminal Def. Lawyers 57th Annual Meeting and 13th State Criminal Justice Network Conference (Aug. 1, 2014).

12. U.S. DEP'T OF JUST., SMART ON CRIME INITIATIVE: REFORMING THE CRIMINAL JUSTICE SYSTEM FOR THE 21ST CENTURY 3 (2013), https://www.ojp.gov/ncjrs/virtual-library/abstracts/smart-crime-reforming-criminal-justice-system-21st-century [https://perma.cc/6G5U-3GZ3]; *see also* Jessica M. Eaglin, *The Drug Court Paradigm*, 53 AM. CRIM. L. REV. 595, 622–24 (2016).

13. Holder, *supra* note 11.

14. *Id.*

Attorney General Holder's speech, advancing the notion that algorithms are unfair in criminal sentencing.[15] She further argued that algorithms in criminal sentencing fail to pass constitutional muster.[16] As she explained more fully in a Stanford Law Review article published in late 2014, these algorithms take gender into consideration without meeting intermediate scrutiny requirements under the Equal Protection Clause.[17] Professor Starr's work on the topic gained popular traction in the legal academy and beyond.[18]

The critiques of algorithms' discriminatory effect in criminal law converged with the growing legal discourse on the potential harms of algorithms and technology in society. For example, in 2013, Dr. Holly Jacobs founded the Cyber Civil Rights Initiative alongside law professor Danielle Citron.[19] This organization formalized a growing campaign to counter online abuse through technological, social, and legal innovation.[20] Specifically, it advanced the idea of "cyber civil rights" to advance the protection of privacy values online.[21] Later, in 2015, Frank Pasquale's book,

15. Sonja B. Starr, Opinion, *Sentencing, by the Numbers*, N.Y. TIMES (Aug. 10, 2014), https://www.nytimes.com/2014/08/11/opinion/sentencing-by-the-numbers.html [https://perma.cc/NP2M-ZG5U].

16. *Id.*

17. Sonja B. Starr, *Evidence-Based Sentencing and the Scientific Rationalization of Discrimination*, 66 STAN. L. REV. 803, 823–30 (2014).

18. Professor Starr has described herself as "an outspoken critic of the use of demographic and socioeconomic factors to shape sentencing risk assessments." Sonja B. Starr, *The Risk Assessment Era: An Overdue Debate*, 27 Fed. Sent'g Rep. 205, 205 (2015). Much of the scholarship developing around algorithmic fairness in criminal law situates its contribution with reference to her work. *See, e.g.*, Mayson, *supra* note 4, at 2228; Aziz Z. Huq, *Racial Equity in Algorithmic Criminal Justice*, 68 DUKE L.J. 1043, 1058, n.53 (2019). For an example of its resonance outside the legal academy, *see, e.g.*, PA. COMM'N ON SENT'G, RISK/NEEDS ASSESSMENT PROJECT: SPECIAL REPORT: IMPACT OF REMOVING DEMOGRAPHIC FACTORS 2 (2015) (citing to Starr's work as a basis for the Commission's expressed interest in knowing the impact of removing demographic factors in the Pennsylvania Sentencing Commission's risk assessment scale).

19. *History/Mission/Vision*, CYBER C.R. INITIATIVE, https://cybercivilrights.org/about/ [https://perma.cc/33DB-6454]. The initiative was named after Professor Danielle Citron's 2009 article. *See generally* Danielle K. Citron, *Cyber Civil Rights*, 89 B.U. L. REV. 61 (2009). Professor Citron is the vice president and secretary of the organization. *See CCRI Board of Directors*, CYBER C.R. INITIATIVE, https://cybercivilrights.org/about/board-of-directors/ [https://perma.cc/F6HX-TD7C].

20. *History/Mission/Vision*, CYBER CIVIL RIGHTS INITIATIVE, https://cybercivilrights.org/about/ [https://perma.cc/33DB-6454].

21. *See generally id.*; Citron, *supra* note 19; Danielle K. Citron & Mary Anne Franks, *Criminalizing Revenge Porn*, 49 WAKE FOREST L. REV. 345 (2014). *See also* Anita L. Allen & Christopher Muhawe, *Is Privacy Really a Civil Right?*, 40 BERKELEY TECH. L. J. 1, 13-18 (2025) (noting the significance of work by Danielle Citron and Mary Anne Franks in advancing a "privacy-and-civil rights movement" that flourished by 2020).

The Black Box Society, revealed widespread reliance on corporate and government data collection combined with an increasing use of complex, often proprietary algorithms to sort and classify people in the private sector.[22] He challenged the lack of transparency in the use of such technology through law. His searing critique proved influential to academics and policymakers across the United States.[23]

These legal discourses largely converged between the years of 2014 and 2016. News stories increasingly discussed the expansion of algorithms in criminal law through a negative lens.[24] Even the Wisconsin Supreme Court's landmark decision on algorithms in criminal sentencing gave voice to critical perspectives on their expansion. *State v. Loomis*, decided in July 2016, considered several due process claims raised by defendant, Mr. Eric Loomis.[25] This included concerns about the proprietary nature of algorithms at sentencing and the consideration of gender in an assessment used at sentencing. The Wisconsin Supreme Court ultimately dismissed both claims.[26] Still, the court issued a standard warning for judges concerning reasons to be skeptical about the use of algorithms in criminal sentencing going forward.[27] That same year, ProPublica published its popular investigative report, *Machine Bias*, on algorithms and their racial impact in criminal law.[28] The report also emphasized the odious nature of proprietary algorithms, in particular, as a means of inserting racial bias in criminal sentencing.[29]

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22. *See generally* FRANK PASQUALE, THE BLACK BOX SOCIETY: THE SECRET ALGORITHMS THAT CONTROL MONEY AND INFORMATION (2015).

23. *Cf.* Frank Pasquale, *The Second Wave of Algorithmic Accountability*, L. & POL. ECON. BLOG (Nov. 25, 2019), https://lpeproject.org/blog/the-second-wave-of-algorithmic-accountability/ [https://perma.cc/BZ7T-D722] (detailing "first wave" accountability measures influenced by transparency critiques of algorithms in law).

24. *See, e.g.*, Anna Maria Barry-Jester et al., *The New Science of Sentencing: Should Prison Sentencing Be Based on Crimes That Haven't Been Committed Yet?*, MARSHALL PROJECT (Aug. 4, 2015), https://www.themarshallproject.org/2015/08/04/the-new-science-of-sentencing [https://perma.cc/7LRW-EN2Q]; *Race & Justice News: Risk Assessment or Race Assessment?*, SENT'G PROJECT (July 23, 2015), http://www.sentencingproject.org/news/race-justice-news-risk-assessment-or-race-assessment [https://perma.cc/K3LC-73S6].

25. 881 N.W.2d 749, 754 (Wis. 2016).

26. *Id.* at 767.

27. *Id.* at 769–70.

28. Julia Angwin et al., *Machine Bias*, PROPUBLICA (May 23, 2016), https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing [https://perma.cc/H8YU-4ELG0].

29. *Id.*

Between 2016 and 2020, both the *Loomis* case and the ProPublica study entered the public discourse on race and criminal law. For instance, notable studies and reports emerged for the purpose of contradicting or critiquing the ProPublica study on racial bias.[30] Public policy discussion began to center on algorithms in criminal law.[31] The *Loomis* decision and the ProPublica study continue to influence law and policy debates about algorithms in society to this day.[32]

Despite this marked uptick in critical attention to algorithms and criminal law, scholars have dedicated only passing attention to *why* legal debates about race, algorithms, and criminal law have gained so much attention at this moment. To an extent, the attention makes sense because mass incarceration gained popularity as a social justice issue in the 2010s.[33] Some point to a growing awareness about racial discrimination in criminal law as a catalyst for larger reforms that are "objective."[34] Others point to the momentum for algorithmic accountability in society more broadly.[35]

While each of these explanations is insightful, each is also unsatisfying

30. *See generally* Anthony W. Flores et al., *False Positives, False Negatives, and False Analyses: A Rejoinder to "Machine Bias: There's Software Used Across the Country to Predict Future Criminals. And It's Biased Against Blacks."*, 80 FED. PROB. 38 (Sept. 2016); WILLIAM DIETERICH ET AL., COMPAS RISK SCALES: DEMONSTRATING ACCURACY EQUITY AND PREDICTIVE PARITY (2016); Sam Corbett-Davies et al., *A Computer Program Used for Bail and Sentencing Decisions Was Labeled Biased Against Blacks. It's Actually Not That Clear.*, WASH. POST (Oct. 17, 2016), https://www.washingtonpost.com/news/monkey-cage/wp/2016/10/17/can-an-algorithm-be-racist-our-analysis-is-more-cautious-than-propublicas/ [https://perma.cc/35G8-5Z4A].

31. *See, e.g.*, Danielle Citron, *(Un)Fairness of Risk Scores in Criminal Sentencing*, FORBES (July 13, 2016, 3:26 PM), https://www.forbes.com/sites/daniellecitron/2016/07/13/unfairness-of-risk-scores-in-criminal-sentencing/#309a91754ad2 [https://perma.cc/5AJH-DVRJ]; DANIELLE KEHL ET AL., ALGORITHMS IN THE CRIMINAL JUSTICE SYSTEM: ASSESSING THE USE OF RISK ASSESSMENTS AT SENTENCING 22–23 (2017), http://nrs.harvard.edu/urn-3:HUL.InstRepos:33746041 [perma.cc/7YVF-NA6P]; *AI in the Criminal Justice System*, ELEC. PRIV. INFO. CTR., https://epic.org/issues/ai/ai-in-the-criminal-justice-system/ [https://perma.cc/PHV9-SBRW]; Ellora Thadaney Israni, Opinion, *When an Algorithm Helps Send You to Prison*, N.Y. TIMES (Oct. 26, 2017), https://www.nytimes.com/2017/10/26/opinion/algorithm-compas-sentencing-bias.html [https://perma.cc/3FYL-ZUH9] (discussing the implications of *Loomis*).

32. *See, e.g.*, MODEL PENAL CODE: SENTENCING § 9.08 (AM. L. INST. 2020).

33. *See, e.g.*, Mayson, *supra* note 4, at 2222 ("With the rise of big data and bipartisan ambitions to be smart on crime, algorithmic risk assessment has taken the criminal justice system by storm . . . [t]his development has sparked profound concern about the racial impact of risk assessment.").

34. ANDREW GUTHRIE FERGUSON, THE RISE OF BIG DATA POLICING: SURVEILLANCE, RACE, AND THE FUTURE OF LAW ENFORCEMENT 28–32 (2017) (situating algorithms in policing as the effect of budget pressures on the one hand and the pull toward objective interventions as a response to racial justice momentum on the other).

35. *See, e.g.*, Pasquale, *supra* note 23 (pointing to the "vibrant debates about algorithmic sentencing" as an example of "first wave" algorithmic accountability").

in social context. Mass incarceration already encompassed a critique about its racial effect, including a prominent critique of algorithms in criminal law.[36] Yet advocates treated then-Attorney General Holder's critique of algorithms in criminal sentencing with hostility.[37] Further, algorithms had expanded elsewhere in society, like in credit scoring and employment hiring.[38] These practices were accompanied by insightful critiques of their racial effects as well.[39] Yet the discourse on race and algorithms in criminal law captured the public's attention in a way that other critiques did not.[40] Finally, debates about algorithmic transparency in law did not require references to race in order to support the critique. Yet law and policymakers invoked racial inequality in relation to the transparency critique in law.[41] A more nuanced examination of the relationship between race, algorithms and criminal law is necessary to fully understand the social salience of this legal

36. *See* Benjamin Levin, *The Consensus Myth in Criminal Law Reform*, 117 MICH. L. REV. 259, 268–71 (2018) (noting distinct meanings to "mass incarceration" but recognizing that both meanings encompass a racial critique of criminal law). For a prominent critique of predictive tools in criminal law in the age of mass incarceration, *see* HARCOURT, *supra* note 3.

37. *See, e.g.*, Richard G. Kopf, *Federal Supervised Release and Actuarial Data (Including Age, Race, and Gender): The Camel's Nose and the Use of Actuarial Data at Sentencing*, 27 Fed. Sent'g Rep. 207, 207 (2015) (critiquing Holder's concern about the use of actuarial data to sentence people as "[an] implicit call to reject science" and disagreeing with this stance). *See also* Jessica M. Eaglin, *May the Odds Be (Never) in Minorities' Favor? Breaking Down the Risk-Based Sentencing Divide*, HUFFPOST (Aug. 22, 2014), https://www.huffpost.com/entry/may-the-odds-be-never-in_b_5697651 [https://perma.cc/8TUA-FHRR] (suggesting that then-Attorney General Eric Holder "recently stirred up a small hornet's nest in the world of sentencing reform when he called for more research on risk-based sentencing").

38. *See, e.g.*, IFEOMA AJUNWA, THE QUANTIFIED WORKER: LAW AND TECHNOLOGY IN THE MODERN WORKPLACE (2023); ROBINSON + YU, KNOWING THE SCORE: NEW DATA, UNDERWRITING, AND MARKETING IN THE CONSUMER CREDIT MARKETPLACE (2014), https://www.upturn.org/static/files/Knowing_the_Score_Oct_2014_v1_1.pdf [perma.cc/2JUN-76PC].

39. *See generally* Solon Barocas & Andrew D. Selbst, *Big Data's Disparate Impact*, 104 CALIF. L. REV. 671 (2016) (employment hiring); *Examining the Use of Alternative Data in Underwriting and Credit Scoring to Expand Access to Credit Before the Task Force on Fin. Tech. of H. Comm. on Fin. Servs.*, 116th Cong. (2019) (statement of Aaron Rieke, Managing Director, Upturn) (credit scoring).

40. *C.f.* Allen & Muhawe, *supra* note 21, at 17 (noting that the popularity of Black Lives Matter Movement spurred the data protection community to "make sure the next big conversation about harms in need of redress on behalf of Black people and other minority groups would include technological harms implicating their civil rights."); Chaz Arnett, *Crowdsourcing Surveillance*, 72 UCLA L. Rev. Disc. 362 (2024) (identifying "big-data policing or digital carceralism" as an important window into "algorithmic oppression" as a contemporary form of racial subordination).

41. *See, e.g.*, Joshua A. Kroll et al., *Accountable Algorithms*, 165 U. PA. L. REV. 633 (2017); Anupam Chander, *The Racist Algorithm?*, 115 MICH. L. REV. 1023 (2017) (reviewing Pasquale's *The Black Box Society*); Angwin et al., *supra* note 28 (noting that the company that develops COMPAS risk assessment tools "does not publicly disclose the calculations used to arrive at defendants' risk scores" before launching into a critique of racial bias in tool outcomes).

discourse.

II. OPENING DOORS

References to a "black box" in American society are constant.[42] This popular term has dual meanings: first as a recording device,[43] and second, in computer science, and law alike, to represent "a system whose workings are mysterious."[44] In either context, scholars and policymakers use the term to indicate a problem. That problem is the *need* to turn to a device, such as a black box recording device after a plane crash. Alternately, the black box *is* the problem—it obscures or mystifies the processes between the inputs and outputs of a system. This Part lays out three ways in which the black box metaphor demonstrates key shifts in the discourse around criminal law. After the Ferguson Uprisings, discussions of technology, race, and incarceration all changed markedly.

42. *See, e.g.*, Frank Partnoy & Jesse Eisinger, *What's Inside America's Banks?*, THE ATLANTIC (Jan. 2, 2013), https://www.theatlantic.com/magazine/archive/2013/01/whats-inside-americas-banks/309196/ [https://perma.cc/99DP-CV6L] (banking as a black box); PASQUALE, *supra* note 22 (big data and algorithms as a black box); Vijay Pande, Opinion., *Artificial Intelligence's 'Black Box' Is Nothing to Fear*, N.Y. TIMES (Jan. 25, 2018), https://www.nytimes.com/2018/01/25/opinion/artificial-intelligence-black-box.html [https://perma.cc/9E6D-LSFE] ("black box" as flight recorder and a metaphor for "the unseeable space between where data goes in [to artificial intelligence models] and answers come out"); HENRY LOUIS GATES, JR., THE BLACK BOX: WRITING THE RACE xiv (2024) ("black box" as a flight recorder and a metaphor for the "social and cultural world that [people of African descent] created [on the other side of the Atlantic after the horrors of the Middle Passage]").

43. PASQUALE, *supra* note 22, at 3; *Black Box*, MERRIAM-WEBSTER, https://www.merriam-webster.com/dictionary/black%20box [perma.cc/ZF9N-T885] ("a crashworthy device in aircraft for recording cockpit conversations and flight data").

44. PASQUALE, *supra* note 22, at 3; *Black Box*, MERRIAM-WEBSTER, https://www.merriam-webster.com/dictionary/black%20box [perma.cc/ZF9N-T885] ("a usually complicated electronic device whose internal mechanism is usually hidden from or mysterious to the user"); Brandon L. Garrett & Cynthia Rudin, *The Right to a Glass Box: Rethinking the Use of Artificial Intelligence in Criminal Justice*, 109 CORNELL L. REV. 561, 563 (2024) (describing artificial intelligence as "black box" when "its processes cannot be fully understood by laypeople or even by experts."); Frank Pasquale, *Normative Dimensions of Consensual Application of Black Box Artificial Intelligence in Administrative Adjudication of Benefits Claims*, 84 L. & CONTEMP. PROB. 35, 36 (2021) (defining "black box AI" as "any natural language processing, machine learning, textual analysis, or similar software which uses data not accessible to the data subject, and/or which deploys algorithms which are either similarly inaccessible, or so complex that they cannot be reduced to a series of rules and rule applications comprehensible to the data subject.").

A. The "Black Box"

The Ferguson Uprisings shifted the focus on technology in society towards criminal law. To the extent that we conceptualize the black box as referring to devices, the Ferguson Uprisings laid a foundation to understand the presence of tools, machines, and products in criminal law as an independent and problematic phenomenon.

Demonstrations sparked across the United States in the days after Michael Brown's death in Ferguson, Missouri.[45] In this period, news outlets from across the country descended upon the town closely west of St. Louis. As the demonstrations accelerated, so too did the various kinds of technology that the police used to control protestors. For example, national news outlets showed police using tasers, smoke canisters, PepperBall projectiles, and tear gas to disperse protestors and journalists.[46] Individual protestors and photojournalists alike shared photos on social media that depicted police wearing riot gear and driving through Ferguson in military-grade armored vehicles.[47] Images of police with such technology became ubiquitous with the Ferguson Uprisings.

These representations of technology in policing were notable and distinct. As criminologist Malcolm Feeley has observed, the expansion of technology in criminal law tends to be positively associated with innovation and advancement.[48] Yet the images and narratives generated by the

45. *See* OFF. OF CMTY. ORIENTED POLICE SERVS., U.S. DEP'T OF JUST., AFTER-ACTION ASSESSMENT OF THE POLICE RESPONSE TO THE AUGUST 2014 DEMONSTRATIONS IN FERGUSON, MISSOURI 17 (2015) [hereinafter DOJ RESPONSE REPORT] (describing "largely peaceful demonstrations" during the days after Michael Brown's killing, as distinguished from the more chaotic nights).

46. *See, e.g.*, *Ferguson Police Use Tear Gas While Again Clashing with Protestors*, ABC NEWS (Aug. 13, 2014), https://abcnews.go.com/US/ferguson-police-tear-gas-clashing-protesters/story?id=24957752 [https://perma.cc/B8TD-UCXF]; Stephanie Condon, *What Can Washington Do About Militarized Police Forces?*, CBS NEWS (Aug. 15, 2014, 5:59 AM), https://www.cbsnews.com/news/after-missouri-what-can-washington-do-about-militarized-police-forces/ [https://perma.cc/QH8K-5GUH].

47. *See, e.g.*, *Photos of Ferguson: What They Saw*, N.Y. TIMES, (Aug. 9, 2019) https://www.nytimes.com/2019/08/09/us/ferguson-michael-brown-photos.html [https://perma.cc/N8DB-GBXV].

48. Malcolm M. Feeley, *Entrepreneurs of Punishment: How Private Contractors Made and Are Remaking the Modern Criminal Justice System – An Account of Convict Transport and Electronic Monitoring*, 17 CRIMINOLOGY, CRIM. JUST., L. & SOC'Y 1, 26 (2016) ("In my ambitious moments, I am inclined to believe that the modern criminal justice system was shaped by private contractors who in the pursuit of private gain, came up with innovations that transformed the criminal process in a series of

Ferguson Uprisings were decidedly less so. For example, news outlets described the "militarization" of police in Ferguson as "shocking."[49] The DOJ concluded in its Ferguson Report that the use of militarized tactics and technologies used by the Ferguson police were, at times, "inappropriate."[50] In the aftermath of the Ferguson Uprisings, legislation and executive orders emerged specifically aimed to address the processes through which federal programs send equipment and funding to local police departments.[51] Such legislation reflected newfound skepticism about technology in policing.

This skepticism about technology in policing illuminates the twofold impact of the Ferguson Uprisings in relation to criminal law. First, it contributed to a public awareness that technology is everywhere in criminal law.[52] Second, and relatedly, Ferguson opened a door for policymakers and the public alike to recognize that such technology is not inherently or necessarily doing good in society. Through Ferguson, technology in criminal law's administration emerged not just as innovation with positive connotation, but as an independent aspect of social crisis.

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developments that started with transportation and runs to electronic monitoring and an array of other forms of surveillance and control. But a more modest view is that public officials contracted with private companies for help in implementing new reforms, and companies were successful in adapting and developing innovations that enhanced the effectiveness of the criminal process.").

49. Paul D. Shinkman, *Ferguson and the Militarization of Police*, U.S. NEWS & WORLD REP. (Aug. 14, 2014), https://www.usnews.com/news/articles/2014/08/14/ferguson-and-the-shocking-nature-of-us-police-militarization [https://perma.cc/49EK-5W2F].

50. DOJ RESPONSE REPORT, *supra* note 45, at 59–60 (finding that "the overwatch tactic, in which police snipers took positions on top of tactical vehicles and used their rifle sights to monitor the crowd, was inappropriate as a crowd control measure" and discouraging the "visible" use of tactical officers with military-style uniforms, weapons, and armored vehicles.").

51. *See, e.g.*, LAW ENF'T EQUIPMENT WORKING GRP., RECOMMENDATIONS PURSUANT TO EXECUTIVE ORDER 13688: FEDERAL SUPPORT FOR LOCAL LAW ENFORCEMENT EQUIPMENT ACQUISITION 7–9 (2015), https://www.ojp.gov/sites/g/files/xyckuh241/files/media/document/LE-Equipment-WG-Final-Report.pdf [https://perma.cc/9RAB-6VC6]; Protecting Communities and Police Act, S. 1245, 114th Cong. (2015); Stop Militarizing Law Enforcement Act, H.R. 1714, 116th Cong. (2019).

52. *See, e.g.*, Elizabeth E. Joh, *Police Technology Experiments*, 125 COLUM. L. REV. F. 1, 1 (2025) ("Police departments often adopt new surveillance technologies that make mistakes, produce unintended effects, or harbor unforeseen problems."); Christopher Rigano, *Using Artificial Intelligence to Address Criminal Justice Needs*, 280 NAT'L INST. JUST. J. 36, 37–44 (Jan. 2019); BRIAN A. REAVES, BUREAU OF JUST. STATS., U.S. DEP'T OF JUST., LOCAL POLICE DEPARTMENTS, 2013: EQUIPMENT AND TECHNOLOGY (2015).

B. The "Black" Box

The Ferguson Uprisings also helped to bring critiques of criminal law administration's racial effects into the mainstream. If criminal law administration can be analogized to a mysterious device or system,[53] Ferguson solidified that its systemic outputs are raced in the sense that the impacts are uniquely concentrated among Black people in the United States.[54] In turn, efforts to demystify the criminal system after Ferguson were forced to take racism and race into account in the explanation.

The killing of Michael Brown, as a Black youth slain by the police, sparked a smoldering movement against police violence in the United States.[55] To be sure, there were other Black men, women, and children killed by police before and after Michael Brown's death.[56] For instance, the social media hashtag, #BlackLivesMatter, gained prominence after George Zimmerman killed Trayvon Martin, a 17-year-old black youth, in 2012.[57] Movement building around racial and criminal justice converged in support of the social organizing that occurred in response to Brown's death in St. Louis, MO in 2014.[58] Said historian Elizabeth Hinton, "[a]s an organizing

53. There are many reasons not to conceptualize criminal law as a "system." *See, e.g.*, Trevor George Gardner, *Immigrant Sanctuary as the "Old Normal": A Brief History of Police Federalism*, 119 COLUM. L. REV. 1, 15 n.44 (2019) (urging a conceptualization of "systems" not a singular "system"); Bernard E. Harcourt, *The Systems Fallacy: A Genealogy and Critique of Public Policy and Cost-Benefit Analysis*, 47 J. LEGAL STUD. 419, 421 (2018) ("[S]ystems-analytic methods are portrayed as scientific, objective, and neutral tools, when in fact they necessarily entail normative choices about political values at every key step."); Sara Mayeux, *The Idea of "The Criminal Justice System"*, 45 AM. J. CRIM. L. 55, 60 (2018) ("what is most notable about systems metaphors and system theories alike is that they are essentially ahistorical modes of description" in contrast to the thrust of recent scholarship on police, courts, jails and prisons in the era of mass incarceration). It is beyond the scope of this Essay to discuss whether the administration of criminal law should be understood this way. For such reflections, *see generally* Benjamin Levin, *After the Criminal Justice System*, 98 WASH. L. REV. 899 (2023).

54. On my use of the term "raced" rather than "racialized," *see* Jessica M. Eaglin, *Racializing Algorithms*, 111 CALIF. L. REV. 753, 760 n.21 (2023).

55. KIMBERLÉ WILLIAMS CRENSHAW ET AL., SAY HER NAME: RESISTING POLICE BRUTALITY AGAINST BLACK WOMEN 1 (2015).

56. *See, e.g.*, *id.* at 1–2 (describing police killings of Black women and girls); ELIZABETH HINTON, AMERICA ON FIRE: THE UNTOLD HISTORY OF POLICE VIOLENCE AND BLACK REBELLION SINCE THE 1960S 290 (2021) (noting several police killings that drew national attention from 2014 to 2020).

57. *See, e.g.*, Alicia Garza, *A Herstory of the #BlackLivesMatter Movement*, FEMINIST WIRE (Oct. 7, 2014), https://thefeministwire.com/2014/10/blacklivesmatter-2/ [https://perma.cc/AMN7-Y3G7] (explaining the origin of the hashtag in relation to the killing of Trayvon Martin).

58. *Id.*; *About the Black Lives Matter Network*, BLACK LIVES MATTER, http://blacklivesmatter.com/about/; *About Us*, THE MOVEMENT FOR BLACK LIVES,

principle, social media hashtag, and idea, Black Lives Matter received national recognition during the uprising in Ferguson and has since inspired worldwide demonstrations."[59]

Notably, the Michael Brown killing, and resulting movement organizing around it, drew national attention to a legal discourse on structural causes of police killings.[60] This represented a shift away from emphasizing individual ones. For example, the DOJ's Ferguson Report detailed how Ferguson's police and municipal court practices, including vehicular stops, citation practices, charging practices, and arrests for outstanding warrants; disproportionately harm African Americans.[61] It characterized the disparate impact of these practices as "compounding." The report explained that, "at each point in the enforcement process there is a higher likelihood that an African American will be subjected to harsher treatment; accordingly, as the adverse consequences imposed by Ferguson grow more and more severe, those consequences are imposed more and more disproportionately against African Americans."[62]

As movement building and legal discourse entered mainstream consciousness following the death of Michael Brown, so too did structural characterizations of the racial impact that criminal law has in American society. For instance, the Movement for Black Lives, a collective of more than 50 organizations representing thousands of Black people from across the country, articulated a vision for collective liberation in 2015 that requires "divest[ing] from surveillance, policing, mass criminalization, incarceration, and deportation" while "invest[ing] in making communities stronger and safer through quality, affordable housing, living wage employment, public transportation, education, and health care" and "invest[ing] in community-based transformative violence prevention and

https://m4bl.org/about-us/.

59. HINTON, *supra* note 56, at 291.

60. *See, e.g.*, Devon W. Carbado, *Blue-on-Black Violence*, 104 GEO. L.J. 1479, 1481-82 (2016) (advancing a legal discourse on police violence that transcends a focus on the individual alongside Black Lives Matter movement and the Movement for Black Lives efforts to push a discussion about policing killings of African-Americans).

61. *See* CIV. RTS. DIV., DEP'T. OF JUST., INVESTIGATION OF THE FERGUSON POLICE DEPARTMENT 63 (2015) [hereinafter DOJ PD REPORT] (demonstrating that "African Americans are disproportionately represented at nearly every stage of Ferguson's law enforcement, from initial police contact to final disposition of a case in municipal court" based upon data collected by police and court officials).

62. *Id.*

intervention strategies, that offer support for criminalized populations."[63] As legal scholar Amna Akbar observed, such demands "telegraph a broad view on the nature of police violence and the appropriate agenda for reform, with a deep and expansive focus on the centrality of anti-Black racism to the development and organization of the United States."[64]The mainstreaming of these structural critiques increased pressure for criminal law reformers to address the social, not just economic, pressures of mass incarceration.

Because law and policy discourse around criminal law exists within this broader social context, it is unsurprising that legal discourse around race and criminal law shifted in this time period. For instance, legal scholars have pointed out the notable uptick in acknowledging and discussing race in criminal law scholarship.[65] Public policy and legislative advocacy increasingly framed their interventions on criminal law policy around race as well.[66]

The point here is nuanced. This observation is not a causal claim to suggest that the Ferguson Uprisings *caused* legal scholars and policymakers to start talking about race and criminal law—such scholarship already existed and there is notable evidence that momentum was already building

63. *See Policy Platform: End the War on Black People*, MOVEMENT FOR BLACK LIVES, https://m4bl.org/end-the-war-on-black-people/ [https://perma.cc/839U-LERZ].

64. Amna A. Akbar, *Toward a Radical Imagination of Law*, 93 N.Y.U. L. REV. 405, 428 (2018). While Akbar makes this statement in relation to the broader demands to "end the war on Black people, reparations, invest-divest, economic justice, community control, and political power" this observation tracks onto the specific demands encompassed in each of those large aims. *Id.*

65. Aziz Z. Huq, *Just Algorithms: Using Science to Reduce Incarceration and Inform a Jurisprudence of Risk*, UNIV. OF CHI. L. SCH. (Sept. 1, 2021), https://www.law.uchicago.edu/news/aziz-huq-reviews-just-algorithms-vanderbilt-law-prof-christopher-slobogin [https://perma.cc/CC4M-BTNZ] ("A scholarly work that brackets or marginalizes the distinctive scale and racialized character of American policing and the associated carceral state risks being taken less than seriously or ignored, even if it offers a contribution to a different, important conversation within the world of criminal justice."); I. India Thusi, *The Pathological Whiteness of Prosecution*, 110 CALIF. L. REV. 795, 799–800 (2022) (noting that criminal law scholarship increasingly references that there is a "racial component to its administration").

66. *See, e.g.*, JESSICA EAGLIN & DANYELLE SOLOMON, BRENNAN CTR. FOR JUST., REDUCING RACIAL AND ETHNIC DISPARITIES IN JAILS: RECOMMENDATIONS FOR LOCAL PRACTICE (2015) (urging criminal law reforms to reduce jail populations while addressing racial disparities in criminal law as well); S.B. 10, 2017–2018 Leg. Reg. Sess. (Cal. 2017) (as of March 27, 2017, prior to amendment) (incorporating actuarial risk assessments into the pretrial bail scheme while seeking to "reduce the number of people detained pretrial, while addressing racial and economic disparities in the pretrial system."). For a comprehensive analysis of policy advocacy around pretrial bail reforms in California and New York, *see* Sean A. Hill II, *Bail Reform and the (False) Racial Promise of Algorithmic Risk Assessments*, 68 UCLA L. REV. 910, 968–84 (2021).

around such observations.[67] The point here is instead more modest. Quite simply, discussions of race in criminal law were no longer the exclusive province of racial justice advocates in the wake of the Ferguson Uprisings. Race shifted to a more central critique of criminal law. Thus, to the extent one conceptualizes criminal law as a "system," that its workings are "malfunctioning" because they have a racial effect became an acceptable and perhaps undeniable critique. The Ferguson Uprisings alone may not be the cause of this shift, but it certainly facilitated such a change.

C. The Black "Box"

The Ferguson Uprisings also helped to bring critiques about incarceration to the forefront of discussions about criminal law. If criminal law's administration is conceptualized as a mysterious device or system, it is one whose primary output is best understood as incarcerating people, meaning literally placing them in physical boxes. Through the Ferguson Uprisings, efforts to deconstruct pathways to incarceration in prisons and jails gained traction and expanded.

The throughline from Ferguson to incarceration is not as obvious. The Ferguson Uprisings most notably concerned policing practices, not incarceration. For instance, the police killing of Michael Brown catalyzed national attention to protests around police violence.[68] Yet the improper imposition of fees and fines that lead to incarceration emerged as a key legal issue in Ferguson as well. For example, the DOJ's Civil Rights Division

67. *See, e.g.*, Priscilla Ocen, *Beyond Ferguson: Integrating Critical Race Theory and the "Social Psychology of Criminal Procedure", in* THE NEW CRIMINAL JUSTICE THINKING 226, 233 (Sharon Dolovich & Alexandra Natapoff eds., 2017) ("Critical Race scholars have suggested that race is an enduring and fundamental organizing principle in the United States generally an in the criminal justice system specifically."). To underscore the nuance of my point, consider Michelle Alexander's influential 2010 book, *The New Jim Crow: Mass Incarceration in the Age of Colorblindness*. MICHELLE ALEXANDER, THE NEW JIM CROW: MASS INCARCERATION IN THE AGE OF COLORBLINDNESS (2010). There, she urged civil rights organizations to take up mass incarceration as an important racial justice issue. *Id.* at 275–279. Even before the Ferguson Uprisings, some organizations were pivoting toward centering racial justice in discussions of mass incarceration. *See, e.g.*, Lawyers' Committee for Civil Rights Under Law, Unequal Justice: Mobilizing the Private Bar to Fight Mass Incarceration 6-11 (2015) (noting that the organization began "listening sessions" to strategize on how to address mass incarceration in 2013).

68. *See, e.g.*, Lee, *supra* note 1; Akbar, *supra* note 64. *See also* WE CHARGE GENOCIDE, COUNTER-CAPS REPORT: THE COMMUNITY ENGAGEMENT ARM OF THE POLICE STATE 5 (2015) (framing protests in response to policing killings of Michael Brown, Eric Garner, Freddie Gray, and Rekia Boyd as part of a larger legitimacy crisis in policing).

found that Ferguson Municipal Court had a pattern or practice of "focusing on revenue over public safety."[69] The Ferguson court often imposed "severe penalties" like the "routine use of arrest warrants" to secure collection and compliance when a person missed a required court appearance or court-imposed fine payment.[70] Additionally, the DOJ Civil Rights Division deemed the court's bond practice—whereby individuals could resolve outstanding warrants—as suffering from "substantial deficiencies."[71] As such, the DOJ Civil Rights Division characterized Ferguson's policing practices as deeply intertwined with its court practices as well.

Notably, many connected these court processes to incarceration. For example, DOJ's Civil Rights Division found that "arrest warrants [issued by the Ferguson Municipal Court] are used almost exclusively for the purpose of compelling payment through the threat of incarceration."[72] The report explained in detail how arrest warrants led to incarceration in local jails.[73] Additional investigative reporting around the Ferguson Uprisings raised awareness to how minor offenses, like municipal code violations, led to the incarceration of those unable to pay court-imposed fees and fines.[74] Indeed, in the wake of the Ferguson Uprisings, attention to jails, not just prisons, increased across the country.[75] As recently as February 2024, media outlets attributed a legal settlement between the City of Ferguson and thousands of people jailed for not having the money to pay fines, fees, and other court costs as "Michael Brown's legacy."[76]

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69. DOJ PD REPORT, *supra* note 61, at 42, 52–54.

70. *Id.* at 54–62.

71. *Id.* at 58.

72. *Id.* at 63 (finding "African Americans account for 96% of known arrests made exclusively because of an outstanding municipal warrant.").

73. *Id.* at 58-62.

74. *See, e.g.*, Joseph Shapiro, *In Ferguson, Court Fines and Fees Fuel Anger*, NAT'L PUB. RADIO (Aug. 25, 2014), https://www.npr.org/2014/08/25/343143937/in-ferguson-court-fines-and-fees-fuel-anger [https://perma.cc/6NQA-H2BU] (referencing studies by ArchCity Defenders on Ferguson, Missouri and investigative reporting by NPR on fees and fines across the country).

75. *See, e.g.*, *Criminal Justice*, MACARTHUR FOUND., https://www.macfound.org/programs/bigbets/criminal-justice/ [https://perma.cc/F6BH-DB4X] (focusing on changing the way America thinks and use jails); EAGLIN & SOLOMON, *supra* note 66; JACOB KANG-BROWN & RAM SUBRAMANIAN, VERA INST. OF JUSTICE, OUT OF SIGHT: THE GROWTH OF JAILS IN RURAL AMERICA 2 (2017), https://vera-institute.files.svdcdn.com/production/downloads/publications/out-of-sight-growth-of-jails-rural-america.pdf [https://perma.cc/RV5U-C8UN] ("[F]or too long, county jail systems have operated and grown outside of public.").

76. Kate Gibson, *Ferguson, Missouri, to Pay $4.5 Million to Settle Claims It Illegally Jailed Thousands*, CBS NEWS (Feb. 28, 2024, 4:44 PM), https://www.cbsnews.com/news/ferguson-missouri-

These examples demonstrate how the Ferguson Uprisings expanded our understanding of how criminal law enforcement leads to incarceration. To be sure, momentum to address mass incarceration—meaning the exponential rise in the U.S. prison population since the 1970s and its disproportionate impact on marginalized Black and Brown communities—already existed.[77] Yet to the extent that mass incarceration stands for incarceration in more than just state and federal prisons, the Ferguson Uprisings facilitated this broader meaning. In this sense, the Ferguson Uprisings demonstrated that criminal law can and does systemically put people in boxes in myriad ways.

III. THINKING OUTSIDE A BOX

> "Sometimes a door is more than a door. . . . Sometimes when you make a way through, you think you opened it, but is the door who opened you." – Marlon James[78]

Playing with the idea of the black box helps delineate important doors opened by the Ferguson Uprisings. These doors have multifaceted effects on legal discourse. This final Section asserts that the robust legal discourse on algorithms in criminal law illuminates the effects of opening these various akin, but distinct, doors. Quite simply, reflecting on the Ferguson Uprisings provides a more descriptively rich understanding of why the legal discourse on race and algorithms in criminal law became socially and politically significant. By mapping how and why the legal discourse is shaped as it is, such a sociolegal analysis provides a strong foundation to anticipate and prevent stagnation in the critical thrust of legal discourse around race, algorithms, and criminal law going forward.

A. Doors to the Present

Identifying the effects of the Ferguson Uprisings resituates the

to-pay-4-5-million-to-settle-claims-over-so-called-debtors-prison/ [https://perma.cc/J2DU-T8NP].

77. *See, e.g.*, Jessica M. Eaglin, *Against Neorehabilitation*, 66 SMU L. REV. 189 (2013) (detailing reforms implemented to address the economic and to a lesser extent social costs of mass incarceration); *see generally* ALEXANDER, *supra* note 67; *see also* Levin, *supra* note 36, at 269 (noting the distinctions in what people mean when they refer to mass incarceration).

78. MARLON JAMES, MOON WITCH, SPIDER KING 467 (2022).

expansive and controversial legal discourse on algorithms in criminal law in a broader social context. The Ferguson Uprisings had many effects, each of which influenced and coalesced the others. Understanding these various threads helps to provide descriptive correctives for scholars of criminal law and law and technology.

Among scholars and policymakers specializing in criminal law, it is common to point to racial discrimination and mass incarceration as the key social contexts that shape the discourse on race and algorithms in criminal law.[79] Such insight is correct as far as it goes.[80] As this Essay demonstrated above, social understandings of the Ferguson Uprisings surely support these characterizations.

Yet these characterizations are incomplete. The Ferguson Uprisings also shifted perspectives on technology in criminal law more broadly. To be sure, algorithms are distinct from the tasers, rubber bullets, and tankers visibly used by law enforcement during the Ferguson Uprisings. But they are all technologies. Each item extends human capacity through a reproducible technique.[81]

Looking to the discourse that flourished since 2014 reveals that the Ferguson Uprisings destabilized a social assumption often taken for granted in criminal law's administration: the naturalized association between technology and normative goodness.[82] The confluence of these effects positioned critiques about the racial impact of algorithms in criminal law as a socially and politically salient topic. And because law is based in social

79. For vastly different perspectives demonstrating this point, *see, e.g.*, Mayson, *supra* note 4, at 2281 ("[G]iven the state of practice and the state of our knowledge, there is every reason to expect that subjective risk assessment produces greater racial disparity than algorithmic risk assessment—and that it does so with less transparency and less potential for accountability or intervention."); Bernard E. Harcourt, *Risk as a Proxy for Race*, 27 FED. SENT'G REP. 237, 240 (2015) ("In the end, the use of risk instruments focused on prior criminal history is toxic. The consequence is unacceptable: relying on prediction instruments to reduce mass incarceration will surely aggravate what is already an unacceptable racial disproportionality in our prisons.").

80. For more on the limits of such frameworks, *see, e.g.*, Jessica M. Eaglin, *Racializing Algorithms*, 111 CAL. L. REV. 753, 766 (2023) ("The existing legal perspectives on [algorithms] and mass incarceration, whether intentionally or not, take for granted the existence of race and racial hierarchy as transparent and relatively uncontroversial social facts.").

81. Rebecca Crootof & BJ Ard, *Structuring Techlaw*, 34 HARV. J. L. & TECH. 347, 348 n.1 (2021) (defining technology as "any combination of tools, machines, products, processes, and techniques by which human capability is extended."); Lyria Bennett Moses, *Why Have a Theory of Law and Technological Change?*, 8 MINN. J. L. SCI. & TECH. 589, 591–92 (2007).

82. *See supra* notes 48-51 and accompanying text.

relations,[83] it should be no surprise that scholars and advocates alike turned to law as the means to grapple with all three—race, technology, and the criminal legal apparatus—at once.

To the extent that we center technology in the legal discourse on race and criminal law in society, deconstructing the black box metaphor also productively expands the law and technology discourse. An increasingly settled assumption in the legal discourse presumes that the "black box" refers to the operation of technology in society.[84] By deconstructing the term "black box" in relation to the Ferguson Uprisings' social effects, this Essay urges deeper reflection on the work that the black box metaphor does at the juncture of law and technology. It shifts and expands the location(s) of the unknown. Perhaps what is unknown is the mysterious processes between the inputs and the outputs of a machine. Just as important, however, the unknown may be the settled assumptions we share in relation to society rather than just the technology and its outputs. From this perspective, law emerges as an important site to engage and contest both kinds of black boxes—those grounded in technological capacity and those grounded in social assumptions—in contemporary society. Taking such a descriptive insight seriously suggests that the kinds of interventions that may fall within the scope of what law and technology scholarship addresses can and should expand.

B. Doors to the Future

A more robust description of the present can also lead to prescriptive directives for the future. In mapping the contours of our present, this Essay also begins to identify parameters of legal discourse which can, under certain circumstances, become a box in the future. To the extent that the Ferguson Uprisings opened doors in criminal law discourse, those doors

83. *See* Jack M. Balkin, *The Path of Robotics Law*, 6 CAL. L. REV. 45, 46–47 (2015) ("When we consider how a new technology affects law, our focus should not be on what is *essential* about the technology but on what features of social life the technology makes newly *salient*.").

84. For example, in a recent article Brandon L. Garrett and Cynthia Rudin define black box artificial intelligence as "AI designed to be non-interpretable, meaning that its processes cannot be fully understood by laypeople or even by experts." Brandon L. Garrett & Cynthia Rudin, *The Right to a Glass Box: Rethinking the Use of Artificial Intelligence in Criminal Justice*, 109 CORNELL L. REV. 561, 563 (2024). In criminal law at least, such technology "poses risks to both public safety and to fundamental human and constitutional rights." *Id*. at 564.

created a new status quo in how scholars and policymakers conventionally engage with algorithms.

In legal scholarship, the discourse around algorithms in criminal law is highly saturated, particularly as it relates to issues of race. Legal scholars do not agree on how to move forward or why. Some scholars want to fix the technology.[85] Others want to fix the law.[86] Others propose a combination of the two.[87] The assumed alternative in these scenarios is often characterized as the abyss—those who would abandon technology all together.

Each of these types of legal interventions is fruitful but potentially limiting. As I have argued elsewhere, the focus on fixing or eliminating the algorithm obscures how people rearticulate the social meaning of race through law where technology and criminal law intersect.[88] Building from that insight, I hope that the image of opening doors in relation to legal discourse can also provoke the image of doors that become walls, creating new boxes for legal scholars. The well-intentioned effort to consider and address concerns with algorithms in law can—if not careful and critical about the social assumptions about race baked into our critiques—emerge as a foundation to constrain legal imagination rather than foster it.

The same peril applies for scholars of law and technology as well. Not only can law constrain our imagination about where and how law fits into the dynamic between technology and society, it can constrain our understanding of what a technology is in society. There is a tendency in law to focus on the exceptional aspects of technology.[89] As in law more broadly, this tendency is present in criminal law, too. So, while criminal law scholarship critically examines all kinds of technologies including tasers, algorithms, electronic monitoring devices, more; scholars and policymakers tend to take on the legal implications of these technologies one innovation at a time.[90] It grapples with what makes these technologies exceptional and

85. *See, e.g.*, Crystal S. Yang & Will Dobbie, *Equal Protection Under Algorithms: A New Statistical and Legal Framework*, 119 MICH. L. REV. 291 (2020); Starr, *supra* note 17.

86. *See, e.g.*, Aziz Z. Huq, *Racial Equity in Algorithmic Criminal Justice*, 68 DUKE L.J. 1043 (2019).

87. Mayson, *supra* note 4, at 2228; Ion Meyn, *Race-Based Remedies in Criminal Law*, 63 WM. & MARY L. REV. 219, 225 (2021).

88. Eaglin, *supra* note 54, at 757.

89. *See* Crootof & Ard, *supra* note 81, at 349 (critiquing "the exceptionalist approach" to technology because it "fosters siloed and potentially incomplete analyses").

90. *But see, e.g.*, Malcolm M. Feeley & Jonathan Simon, *The New Penology: Notes on the Emerging Strategy of Corrections and Its Implications*, 30 CRIMINOLOGY 449 (1992); DAVID GARLAND,

unique from one another and from whatever was used before each technology appeared in society.

However, situating the discourse on algorithms in the context of the Ferguson Uprisings contradicts this tendency. In the eyes of many, and grassroots activists in particular, algorithms are one among many different technologies proliferating in criminal law.[91] What ties them together is not necessarily how they work distinctly. One technology relies on prediction while another enables surveillance from afar, for example. Rather, what ties different technologies in criminal law together may be what they do in society—normalize social arrangements—through law.

That such an interpretation could flow from the very activists who ensured that the Ferguson Uprisings would not be ignored is itself instructive to law. It expands our understanding of the walls which legal scholars confront when grappling with technology in society. It demonstrates how considering technologies based upon just their exceptional features fosters constructed walls that need not exist in law.[92] Just as importantly, it highlights that the constructed walls around technology are constructs made real through law—they do not necessarily exist in the social world.[93] These walls can, unwittingly, produce incomplete perspectives on how people engage with and understand technologies in social context and through law.

In this sense, anticipating doors that become walls is not a prescriptive end in and of itself. It can, at the same time, illuminate a pathway to moving outside potential confines. "Looking to the bottom" here may mean thinking alongside grassroots activists who experience and think across technologies already.[94] This act may foster creative and productive paths forward in

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THE CULTURE OF CONTROL: CRIME AND SOCIAL ORDER IN CONTEMPORARY SOCIETY (2001). Notably, these influential works set the stage for various critiques of algorithms in criminal law, specifically.

91. *See, e.g.*, MOVEMENT FOR BLACK LIVES, *supra* note 58.

92. *See* Crootof & Ard, *supra* note 81, at 348-49 ("The conventional approach is to . . . identify[] something about a technology or its use that is 'exceptional' and argue that this distinction necessitates new law or even a new legal regime; or, alternatively, that a lack of exceptional characteristics implies that the technology can be adequately governed by extant rules. But while these focused studies are individually useful, the exceptionalist approach fosters siloes and potentially incomplete [legal] analyses[.]").

93. SIMONE BROWNE, DARK MATTERS: ON THE SURVEILLANCE OF BLACKNESS (2015) (analyzing disparate surveillance technologies over time to demonstrate the social production of race).

94. Professor Mari Matsuda defines "looking to the bottom" as "adopting the perspective of those who have seen and felt the falsity of the liberal promise." Mari J. Matsuda, *Looking to the Bottom: Critical Legal Studies and Reparations*, 22 HARV. CIV. R. & CIV. LIB. REV. 323, 324 (1987). Much

criminal law scholarship. To the extent that the scholarly debates about race, algorithms and criminal law are stagnating and "techlaw" is formalizing, now is the time to think across technologies within criminal law. This can include thinking across technology in terms of harm.[95] Just as important, however, interesting questions may generate in terms of innovation in how to address technologies in criminal law too. There is some movement on this front as legal scholars push to break silos around governing algorithms in the public and private sector.[96] It is my hope that more scholarship pushes the boundaries in how to govern across technologies within criminal law as well.

CONCLUSION

Reflecting on the Ferguson Uprisings is both a backward and forward-looking exercise. It provides crucial insight into the social salience of the legal discourse around algorithms in criminal law in the last ten years. It can also illuminate different pathways forward. To the extent that criminal law itself is at a crossroad, thinking across technologies in criminal law illuminates our incomplete perspectives on the present. It may also open pathways to different means to understand and engage with the future through law.

recent scholarship builds on this idea in criminal law, *see, e.g.*, JOCELYN SIMONSON, RACIAL ACTS OF JUSTICE: HOW ORDINARY PEOPLE ARE DISMANTLING MASS INCARCERATION (2023), and in technology and society studies, *see, e.g.*, RUHA BENJAMIN, IMAGINATION: A MANIFESTO (2024). My point here is to highlight and encourage more consideration among legal scholars on how these two threads can converge and flourish in legal scholarship about criminal law.

95. *See, e.g.*, Kate Weisburd, *The Carceral Home*, 103 B.U. L. REV. 1879, 1888–89 (2023).

96. *See, e.g.*, Ngozi Okidegbe, *To Democratize Algorithms*, 69 UCLA L. REV. 1688, 1696–98 (2023).