

CRITICAL DATA THEORY

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ABSTRACT

Critical Data Theory examines the role of AI and algorithmic decisionmaking at its intersection with the law. This theory aims to deconstruct the impact of AI in law and policy contexts. The tools of AI and automated systems allow for legal, scientific, socioeconomic, and political hierarchies of power that can profitably be interrogated with critical theory. While the broader umbrella of critical theory features prominently in the work of surveillance scholars, legal scholars can also deploy criticality analyses to examine surveillance and privacy law challenges, particularly in an examination of how AI and other emerging technologies have been expanded in law enforcement practices, and homeland and national security programs. To take one example of AI's impact, this Article argues that mass incarceration's technological interdependencies and trajectories can be better conceptualized through Critical Data Theory. This Article proposes that the theory can help assess the computational and AI impact of technological developments that may exacerbate mass incarceration and limit criminal procedure rights.

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INTRODUCTION

This Article contends that Critical Data Theory¹ is required to critique the intersection of AI, law, and power, just as Critical Race Theory is required to critique the intersection of race, law, and power.² Critical Data Theory draws upon that critical theory's

1. Multiple scholars have deployed critical analyses in examining the impact of technology and emerging technologies on society. *See, e.g.*, SIMON LINDGREN, CRITICAL THEORY OF AI (2023); LUCI PANGRAZIO & NEIL SELWYN, CRITICAL DATA LITERACIES: RETHINKING DATA AND EVERYDAY LIFE (2023); ANDREAS HEPP, JULIANE JARKE & LEIF KRAMP, NEW PERSPECTIVES IN CRITICAL DATA STUDIES: THE AMBIVALENCES OF DATA POWER—AN INTRODUCTION (Andreas Hepp et al. eds., 2022); DAVID J. GUNKEL, THE MACHINE QUESTION: CRITICAL PERSPECTIVES ON AI, ROBOTS, AND ETHICS (2012); Rosalie Waelen, *Why AI Ethics is a Critical Theory*, 35 PHIL. AND TECH. (2022); David M. Berry, *Against Infrasonmatization: Towards a Critical Theory of Algorithms*, in DATA POLITICS: WORLDS, SUBJECTS, RIGHTS 43 (Didier Bigo et al. eds., 2019); ANNIKA RICHTERICH, THE BIG DATA AGENDA: DATA ETHICS AND CRITICAL DATA STUDIES (2018); Siva Vaidhyanathan, *Afterword: Critical Information Studies*, 20 CULTURAL STUD. 292-315 (2006); Andrew Iliadis & Federica Russo, *Critical Data Studies: An Introduction*, 3 BIG DATA & SOC'Y, July-Dec. 2016; Rob Kitchin & Tracey P. Lauriault, *Towards Critical Data Studies: Charting and Unpacking Data Assemblages and Their Work*, in GEOWEB AND BIG DATA (Jim Thatcher et al., eds. 2014); Katja Mayer & Jürgen Pfeffer, *Editorial: Critical Data and Algorithm Studies*, 6 FRONTIERS IN BIG DATA: DATA MINING AND MANAGEMENT 1 (2023).

2. Privacy theorist Julie Cohen has observed that legal scholarship on data privacy can benefit from a Critical Theory perspective, such as encouraging expanded dialogue between legal scholars and Surveillance Studies scholars in the social sciences. *See* Julie E. Cohen, *Studying Law Studying Surveillance*, 13 SURVEILLANCE & SOC'Y 91, 92 (2015). In taking up Cohen's call, this Article relied on Surveillance Studies research, including: SHOSHANA ZUBOFF, THE AGE OF SURVEILLANCE CAPITALISM: THE FIGHT FOR A HUMAN FUTURE AT THE NEW FRONTIER OF POWER (2019); SIMONE BROWNE, DARK MATTERS: ON THE SURVEILLANCE OF BLACKNESS (2015); JOHN GILLIOM & TORIN MONAHAN, SUPERVISION: AN INTRODUCTION TO THE SURVEILLANCE SOCIETY (2013); DAVID LYON, SURVEILLANCE SOCIETY: MONITORING EVERYDAY LIFE (Tim May ed., 2001) [hereinafter LYON, SURVEILLANCE SOCIETY]; DAVID LYON, SURVEILLANCE STUDIES: AN OVERVIEW (2007) [hereinafter LYON, SURVEILLANCE STUDIES]; Oscar H. Gandy, Jr., *Surveillance and the Formation of Public Policy*, 15 SURVEILLANCE & SOC'Y 158 (2017); Kevin D. Haggerty & Richard V. Ericson, *The Surveillant Assemblage*, 51 BRITISH J. SOCIOLOGY 605 (2000); Sean P. Hier, *Probing the Surveillant Assemblage: On the Dialectics of Surveillance Practices as Processes of Social Control*, 1 SURVEILLANCE & SOC'Y 399 (2003); David Lyon, *Surveillance, Snowden, and Big Data: Capacities, Consequences, Critique*, 1 BIG DATA & SOC'Y (2014) [hereinafter Lyon, *Surveillance, Snowden, and Big Data*]. In addition to Surveillance Studies, a number of other scholars have explored the need for a critical inquiry of data and its growing impact, including the fields of: critical data studies, critical information studies, digital humanities, mass media and culture, the data sciences, and other areas of related scholarship. *See, e.g.*, HELEN NISSENBAUM, PRIVACY IN CONTEXT: TECHNOLOGY, POLICY, AND THE INTEGRITY OF SOCIAL LIFE 1-3 (2010); DANIEL J. SOLOVE, UNDERSTANDING PRIVACY 191-93 (2008); danah boyd & Kate Crawford, *Critical Questions for*

essential techniques of narrative truth seeking and deconstructionism.³ As AI governance methods are increasingly captured by the National Surveillance State,⁴ a Critical Theory lens is increasingly needed to unmask the impact of algorithmic decisionmaking on constitutional democracy.

To take one example, digitizing discrimination—such as incentivizing the integration of AI and algorithmic decisionmaking in criminal justice tools—can make even more opaque how and why an addiction to mass incarceration may exist. Specifically, this Article accepts the invitation extended by Jeffrey Bellin in *Mass Incarceration Nation* to consider an integrated way to approach the challenge of overincarceration.⁵ Rather than place blame for mass incarceration on one factor over other factors, he recommends a theoretical analysis, a theory of the “criminal legal system,” to apply a more holistic lens to an extraordinarily complex phenomenon.⁶ Bellin

Big Data: Provocations for a Cultural, Technological, and Scholarly Phenomenon, 15 INFO. COMM’N & SOC’Y 662, 662-63 (2012); Ryan Calo, *Digital Market Manipulation*, 82 GEO. WASH. L. REV. 995, 1000-02 (2014); Danielle Keats Citron & Frank Pasquale, *The Scored Society: Due Process for Automated Predictions*, 89 WASH. L. REV. 1, 3, 18 (2014) [hereinafter Citron & Pasquale, *The Scored Society*]; Thomas P. Crocker, *Dystopian Constitutionalism*, 18 U. PA. J. CONST. L. 593, 594 (2015); Craig M. Dalton, Linnet Taylor & Jim Thatcher, *Critical Data Studies: A Dialog on Data and Space*, BIG DATA & SOC’Y 1, Jan.-June 2016, at 1; Rob Kitchin, *Big Data, New Epistemologies and Paradigm Shifts*, 1 BIG DATA & SOC’Y, Apr.-June 2014, at 1; Charlton McIlwain, *Racial Formation, Inequality and the Political Economy of Web Traffic*, 20 INFO. COMM’N & SOC’Y 1073, 1073-74, 1078 (2017); Neil M. Richards, *The Dangers of Surveillance*, 126 HARV. L. REV. 1934, 1935, 1939-40 (2013).

Critical Race Theory serves as the inspiration for the use of the term “Critical Data Theory” in this Article. See *infra* note 11.

3. See *infra* Part II.A.

4. See, e.g., Jack M. Balkin, *Old-School/New-School Speech Regulation*, 127 HARV. L. REV. 2296, 2297 (2014) (“The digital era is different. Governments can target for control or surveillance many different aspects of the digital infrastructure that people use to communicate: telecommunications and broadband companies, web-hosting services, domain name registrars, search engines, social media platforms, payment systems, and advertisers.”); see also Jack M. Balkin, *The Constitution in the National Surveillance State*, 93 MINN. L. REV. 1, 3 (2008) [hereinafter Balkin, *National Surveillance State*]; Jack M. Balkin & Sanford Levinson, *The Processes of Constitutional Change: From Partisan Entrenchment to the National Surveillance State*, 75 FORDHAM L. REV. 489, 521-23 (2006); David Lyon, *Biometrics, Identification and Surveillance*, 22 BIOETHICS 499, 501-03 (2008); Erin Murphy, *Paradigms of Restraint*, 57 DUKE L.J. 1321, 1328-44 (2008); Lior Jacob Strahilevitz, *Signaling Exhaustion and Perfect Exclusion*, 10 J. TELECOMM. & HIGH TECH. L. 321, 323 (2012).

5. JEFFREY BELLIN, *MASS INCARCERATION NATION: HOW THE UNITED STATES BECAME ADDICTED TO PRISONS AND JAILS AND HOW IT CAN RECOVER* 165-69 (2023).

6. *Id.* at 3.

argues that overcriminalization can be attributed in part to what he refers to as the criminal legal system, an attempt to use criminal law to impose a wide range of political and policy objectives.⁷ This Article attempts to add to this dialogue by asking how an epistemological theory, such as Critical Theory, can assist in deconstructing digitally-imposed and AI mediated forms of subordination that can compound the injustices of mass incarceration and diminish criminal procedure rights.

As we transition from an analog or small data world to an AI or an increasingly digitized big data world,⁸ what we consider to be acceptable modes of acquiring knowledge and methods of assessing verifiable evidence to inform governmental decisionmaking is rapidly changing.⁹ So too, techniques of governance are adapting to

7. *Id.* at 24-29, 164-69.

8. “Small data,’ like ‘big data,’ has no set definition.” Andrew Guthrie Ferguson, *Big Data and Predictive Reasonable Suspicion*, 163 U. PA. L. REV. 327, 329 n.6 (2015). “Small data” has been described in the following way: “Generally, small data is thought of as solving discrete questions with limited and structured data, and the data are generally controlled by one institution.” *Id.* (citing JULES J. BERMAN, *PRINCIPLES OF BIG DATA: PREPARING, SHARING, AND ANALYZING COMPLEX INFORMATION* 1-2 (2013)).

“Big data” is difficult to define, as it is a newly evolving field and the technologies that it encompasses are evolving rapidly as well. *See, e.g., The Big Data Conundrum: How to Define It?*, MIT TECH. REV. (Oct. 3, 2013), <http://www.technologyreview.com/2013/10/03/82990/the-big-data-conundrum-how-to-define-it/> [<https://perma.cc/KR7X-R742>].

In 2001, a Meta (now Gartner) report noted the increasing size of data, the increasing rate at which it is produced and the increasing range of formats and representations employed. This report predated the term “big data” but proposed a three-fold definition encompassing the “three Vs:” Volume, Velocity and Variety. This idea has since become popular and sometimes includes a fourth V: veracity, to cover questions of trust and uncertainty.

Id.; Neil M. Richards & Jonathan H. King, *Big Data Ethics*, 49 WAKE FOREST L. REV. 393, 394 n.3 (2014) (quoting *IT Glossary: Big Data*, GARTNER, <http://www.gartner.com/it-glossary/big-data/> [<https://perma.cc/9N6M-9VGS>]); *see id.* (citing the original “3-Vs” big data report, Doug Laney, *3D Data Management: Controlling Data Volume, Velocity, and Variety*, GARTNER (Feb. 6, 2001), <http://blogs.gartner.com/doug-laney/files/2012/01/ad949-3D-Data-Management-Controlling-Data-Volume-Velocity-and-Variety.pdf>). Multiple authors have addressed the characteristics of “big data” and the challenges posed by big data technologies. *See, e.g.,* ROB KITCHIN, *THE DATA REVOLUTION: BIG DATA, OPEN DATA, DATA INFRASTRUCTURES & THEIR CONSEQUENCES* 68 (2014); VIKTOR MAYER-SCHÖNBERGER & KENNETH CUKIER, *BIG DATA: A REVOLUTION THAT WILL TRANSFORM HOW WE LIVE, WORK, AND THINK* 13-17 (2013); CATHY O’NEIL, *WEAPONS OF MATH DESTRUCTION: HOW BIG DATA INCREASES INEQUALITY AND THREATENS DEMOCRACY* 6-13 (2016); *PRIVACY, BIG DATA, AND THE PUBLIC GOOD: FRAMEWORKS FOR ENGAGEMENT* 10-11 (Julia Lane et al. eds., 2014).

9. *BIG DATA, BIG CHALLENGES IN EVIDENCE-BASED POLICYMAKING* 36-38, 80 (H. Kumar Jayasuriya & Kathryn Ritcheske eds., 2015); boyd & Crawford, *supra* note 2, at 662-75 (2012);

the rapidly moving epistemological and ontological currents initiated by the Information Society.¹⁰ Critical Data Theory is now necessary to robustly analyze the government's recent capture of big data and data surveillance architecture. Without the assistance of new theoretical applications in legal scholarship, it will be impossible to appropriately critique the implications of newly emerging surveillance powers or AI and automated decisionmaking tools.¹¹

To advance this theory, this Article attempts to interweave and build upon several interdisciplinary bodies of scholarly research, including Critical Race Theory,¹² privacy law,¹³ AI governance,¹⁴ and

Ferguson, *supra* note 8, at 329-30; Kate Crawford, *The Anxieties of Big Data*, NEW INQUIRY (May 30, 2014), <http://thenewinquiry.com/essays/the-anxieties-of-big-data/> [<https://perma.cc/Y4AE-F8L5>].

10. The term “[g]lobal information society” recognizes that science and technology co-exist in a world where technology diminishes geographic, temporal, social, and national barriers to discovery, access, and use of data.” REPORT OF THE INTERAGENCY WORKING GROUP ON DIGITAL DATA TO THE COMMITTEE ON SCIENCE OF THE NATIONAL SCIENCE AND TECHNOLOGY COUNCIL 14 (2009), https://www.whitehouse.gov/files/documents/ostp/opengov_inbox/harnessing_power_web.pdf [<https://perma.cc/6U25-D9Y3>].

11. See generally Balkin & Levinson, *supra* note 4. See also SECRECY, NATIONAL SECURITY AND THE VINDICATION OF CONSTITUTIONAL LAW (David Cole et al., eds., 2013).

12. Critical Race Theory scholars have contributed significant works in recent years to develop how and why a theoretical approach to analyzing race in legal contexts is essential. See generally DERRICK BELL, *FACES AT THE BOTTOM OF THE WELL: THE PERMANENCE OF RACISM* (1992); DOROTHY BROWN, *CRITICAL RACE THEORY: CASES, MATERIALS, AND PROBLEMS* (2014); DEVON W. CARBADO & MITU GULATI, *ACTING WHITE? RETHINKING RACE IN “POST-RACIAL” AMERICA* (2013); JESSIE DANIELS, *CYBER RACISM: WHITE SUPREMACY ONLINE AND THE NEW ATTACK ON CIVIL RIGHTS* (2009); RICHARD DELGADO & JEAN STEFANCIC, *CRITICAL RACE THEORY: AN INTRODUCTION* (2017); LANI GUINIER, *LIFT EVERY VOICE: TURNING A CIVIL RIGHTS SETBACK INTO NEW VISION OF SOCIAL JUSTICE* (2003); PATRICIA J. WILLIAMS, *THE ALCHEMY OF RACE AND RIGHTS: DIARY OF A LAW PROFESSOR* (1991); *THE NEW BLACK: WHAT HAS CHANGED—AND WHAT HAS NOT—WITH RACE IN AMERICA* (Kenneth W. Mack & Guy-Uriel E. Charles eds., 2013); Derrick Bell, *Racial Realism*, 24 CONN. L. REV. 363 (1992); Paul Butler, *Much Respect: Toward a Hip-Hop Theory of Punishment*, 56 STAN. L. REV. 983 (2004); Paul Butler, *By Any Means Necessary: Using Violence and Subversion to Change Unjust Law*, 50 UCLA L. REV. 721 (2003); Devon W. Carbado & Daria Roithmayr, *Critical Race Theory Meets Social Science*, 10 ANN. REV. L. SOC. SCI. 149 (2014); Devon W. Carbado, *Critical What What?*, 43 CONN. L. REV. 1593 (2011); Guy-Uriel E. Charles, *Colored Speech: Cross Burnings, Epistemics, and the Triumph of the Critics?*, 93 GEO. L.J. 575 (2005); Kimberlé Crenshaw, *Race, Reform, and Retrenchment: Transformation and Legitimation in Antidiscrimination Law*, 101 HARV. L. REV. 1331 (1988); Neil Gotanda, *A Critique of “Our Constitution is Color-Blind,”* 44 STAN. L. REV. 1 (1991); Jerry Kang, *Implicit Bias and the Pushback from the Left*, 54 ST. LOUIS U. L.J. 1139 (2010) [hereinafter Kang, *Implicit Bias*]; Jerry Kang, *Trojan Horses of Race*, 118 HARV. L. REV. 1489 (2005) [hereinafter Kang, *Trojan Horses*]; Nancy Leong, *Racial Capitalism*, 126 HARV. L. REV. 2151 (2013); Kenneth W. Mack, *Rethinking Civil Rights Lawyering and Politics in the Era Before Brown*, 115 YALE L.J. 256 (2005); Mari Matsuda,

cybersurveillance and dataveillance or data surveillance.¹⁵ As Julie Cohen has noted, legal scholarship on modern surveillance is limited by its traditional, liberal framework and would benefit from an effort to incorporate the Critical Theory approach predominant in surveillance scholarship generally.¹⁶ Like the constructivity thesis of Critical Race Theory—which posits that law and science construct classifications of race that serve to entrench power norms¹⁷—Critical

When the First Quail Calls: Multiple Consciousness as Jurisprudential Method, 14 WOMEN'S RTS. L. REP. 297 (1992); Camille Gear Rich, *Elective Race: Recognizing Race Discrimination in the Era of Racial Self-Identification*, 102 GEO. L.J. 1501 (2014).

13. See generally ANITA L. ALLEN, UNPOPULAR PRIVACY: WHAT MUST WE HIDE? (2011); JULIE E. COHEN, CONFIGURING THE NETWORKED SELF: LAW, CODE, AND THE PLAY OF EVERYDAY PRACTICE (2012); NISSENBAUM, *supra* note 2; FRANK PASQUALE, THE BLACK BOX SOCIETY: THE SECRET ALGORITHMS THAT CONTROL MONEY AND INFORMATION (2015); PRISCILLA M. REGAN, LEGISLATING PRIVACY: TECHNOLOGY, SOCIAL VALUES, AND PUBLIC POLICY (2009); NEIL RICHARDS, INTELLECTUAL PRIVACY: RETHINKING CIVIL LIBERTIES IN THE DIGITAL AGE (2015); PRIVACY, BIG DATA, AND THE PUBLIC GOOD, *supra* note 8; SOLOVE, *supra* note 2; DANIEL SOLOVE, NOTHING TO HIDE: THE FALSE TRADEOFF BETWEEN PRIVACY AND SECURITY (2013); boyd & Crawford, *supra* note 2; Citron & Pasquale, *The Scored Society*, *supra* note 2; Danielle Keats Citron, *Technological Due Process*, 85 WASH. U. L. REV. 1249 (2008); Joshua A.T. Fairfield & Christoph Engel, *Privacy as a Public Good*, 65 DUKE L.J. 385 (2015); Richards, *supra* note 2.

14. See, e.g., Sonia K. Katyal, *Private Accountability in the Age of Artificial Intelligence*, 66 UCLA L. REV. 54 (2019); Pauline T. Kim, *Auditing Algorithms for Discrimination*, 166 U. PA. L. REV. ONLINE (2017); Joshua A. Kroll, Joanna Huey, Solon Barocas, Edward W. Felten, Joel R. Reidenberg, David G. Robinson & Harlan Yu, *Accountable Algorithms*, 165 U. PA. L. REV. 633 (2017); Solon Barocas & Andrew D. Selbst, *Big Data's Disparate Impact*, 104 CAL. L. REV. 671 (2016).

15. Several scholars have begun to use the term “big data surveillance” to describe how surveillance methods are evolving in light of the emerging pervasiveness of big data technologies. See, e.g., Mark Andrejevic, *Surveillance in the Big Data Era*, in EMERGING PERVASIVE INFORMATION AND COMMUNICATION TECHNOLOGIES (PICT): ETHICAL CHALLENGES, OPPORTUNITIES, AND SAFEGUARDS 56 (Kenneth D. Pimple ed., 2014); CAMBRIDGE HANDBOOK OF SURVEILLANCE LAW 121 (David Gray & Stephen Henderson eds., 2017); ROUTLEDGE HANDBOOK OF SURVEILLANCE STUDIES (Kirstie Ball et al. eds., 2012); Lyon, *Surveillance, Snowden, and Big Data*, *supra* note 2, at 4-5 (“The Big Data/surveillance link was recognized by US President Obama on 17 January 2014, when he called for a ‘comprehensive review of Big Data and privacy’ following the Snowden leaks.” (citation omitted)). Other scholars and experts have documented how the NSA, CIA, and other intelligence organizations capitalize on technological innovation in the evolution and expansion of intelligence gathering tools and methods. See generally JAMES BAMFORD, THE SHADOW FACTORY: THE ULTRA-SECRET NSA FROM 9/11 TO THE EAVESDROPPING ON AMERICA (2008); JAMES BAMFORD, THE PUZZLE PALACE: A REPORT ON AMERICA'S MOST SECRET AGENCY (1982); William C. Banks, *Programmatic Surveillance and FISA: Of Needles in Haystacks*, 88 TEX. L. REV. 1633 (2010); Peter P. Swire, *Privacy and Information Sharing in the War on Terrorism*, 51 VILL. L. REV. 951 (2006).

16. Cohen, *supra* note 2, at 99.

17. See, e.g., Richard Delgado, *Crossroads and Blind Alleys: A Critical Examination of*

Data Theory holds that, increasingly, law and technology construct classifications of suspect data and suspect digital avatars that also serve to entrench preexisting hierarchies. The constructivity thesis at the heart of Critical Data Theory turns upon the important work of scholars like Daniel Solove who pioneered the concept of digital personhood.¹⁸

Increasingly, privacy experts and scholars have explored the implications of the emergence of the cyber self,¹⁹ the networked self,²⁰ the data self,²¹ and the preservation of the autonomous self within the increasingly digitalized infrastructure of the Information Society.²² Building upon important privacy scholarship that has particularly focused on the legal and social implications that attach to the technologically-enabled construction of digital personhood and our networked selves, this Article incorporates the research of big data experts and technology scholars from a wide range of disciplines.

Recent Writing About Race, 82 TEX. L. REV. 121, 123 (2003) (“An ‘idealist’ school holds that race and discrimination are largely functions of attitude and social formation. For these thinkers, race is a social construction created out of words, symbols, stereotypes, and categories.”); Trina Jones & Kimberly Jade Norwood, *Aggressive Encounters & White Fragility: Deconstructing the Trope of the Angry Black Woman*, 102 IOWA L. REV. 2017 (2018) (deploying narrative and other analytical tools to heighten visibility of “how the intersectional nature of Black women’s identities triggers a particularized stereotype or trope of the ‘Angry Black Woman’”).

18. See, e.g., DANIEL J. SOLOVE, *THE DIGITAL PERSON: TECHNOLOGY AND PRIVACY IN THE INFORMATION AGE* 1-2 (2004); see also Daniel J. Solove, *Digital Dossiers and the Dissipation of Fourth Amendment Privacy*, 75 S. CAL. L. REV. 1083, 1089-95 (2002).

19. See, e.g., Chassitty N. Whitman & William H. Gottdiener, *The Cyber Self: Facebook as a Predictor of Well-being*, 13 INT’L J. APPLIED PSYCHOANALYTIC STUD. 142, 145 (2015).

20. See, e.g., danah boyd, *Social Network Sites as Networked Publics: Affordances, Dynamics, and Implications*, in *A NETWORKED SELF: IDENTITY, COMMUNITY, AND CULTURE ON SOCIAL NETWORK SITES*, 39, 43-45 (Zizi Papacharissi ed., 2010); COHEN, *supra* note 13, 5-7; Frank Pasquale & Danielle Keats Citron, *Promoting Innovation While Preventing Discrimination: Policy Goals for the Scored Society*, 89 WASH. L. REV. 1413, 1413-14 (2014) [hereinafter Pasquale & Citron, *Promoting Innovation*] (referring to the work of Professor Tal Z. Zarsky); Tal Z. Zarsky, *Mining the Networked Self*, 6 JERUSALEM REV. LEGAL STUD. 120, 120-22 (2012).

21. See, e.g., Robert Gordon, *The Electronic Personality and Digital Self*, 56 DISP. RESOL. J. 8, 13-14 (2001).

22. See, e.g., Pasquale & Citron, *Promoting Innovation*, *supra* note 20, at 1413-14 (discussing anti-discriminatory policy goals that arise in the context of the “proliferation of networked identities and selves”); Tal Z. Zarsky, *Understanding Discrimination in the Scored Society*, 89 WASH. L. REV. 1375, 1380-81 (2014); Julie E. Cohen, *What Privacy Is For*, 126 HARV. L. REV. 1904, 1913 (2013).

To explore Critical Data Theory, this Article borrows from the theoretical framework of Critical Race Theory, a field that has productively incorporated a Critical Theory approach within traditional legal analysis.²³ It contends that the theoretical naming and framing devices of Critical Theory can now help make sense of power relationships in the Age of AI.²⁴ Critical Data Theory, like Critical Race Theory, questions how power is negotiated through emerging governance and legal structures by interrogating the underlying sources of that power.²⁵

Concededly, whether Critical Race Theory is the most appropriate theory to critique the impact of the intersection of AI, law, and power—or whether other theoretical approaches may be more appropriate—is open to debate. This Article invites that debate. Other theories may add critical perspectives to the growing impact of AI and emerging technologies that are important and necessary.

This Article contends that the work of race theorists is important here because it can illustrate how apparently equal and objective legal developments and doctrines do not treat classes of individuals

23. See *supra* note 11 and accompanying text.

24. The consequences of what has been termed the big data revolution have been a topic of academic inquiry for almost a decade. See, e.g., Barocas & Selbst, *supra* note 14, at 673-74, 676; Kate Crawford & Jason Schultz, *Big Data and Due Process: Toward a Framework to Redress Predictive Privacy Harms*, 55 B.C. L. REV. 93, 95 (2014); Neil M. Richards & Jonathan H. King, *Three Paradoxes of Big Data*, 66 STAN. L. REV. ONLINE 41, 42 (2013); Omer Tene & Jules Polonetsky, *Privacy in the Age of Big Data: A Time for Big Decisions*, 64 STAN. L. REV. ONLINE 63, 65, 67-68 (2012). Some scholars have focused particularly on the algorithmic-driven decisionmaking consequences of emerging big data technologies. See generally PASQUALE, *supra* note 13; Citron & Pasquale, *The Scored Society*, *supra* note 2. Other experts have focused on the data mining and predictive analytic capacities of big data tools. See generally STEVEN FINLAY, PREDICTIVE ANALYTICS, DATA MINING AND BIG DATA: MYTHS, MISCONCEPTIONS, AND METHODS (2014); ERIC SIEGEL, PREDICTIVE ANALYTICS: THE POWER TO PREDICT WHO WILL CLICK, BUY, LIE, OR DIE (2013); NATE SILVER, THE SIGNAL AND THE NOISE: WHY SO MANY PREDICTIONS FAIL—BUT SOME DON'T (2012); Fred H. Cate, *Government Data Mining: The Need for a Legal Framework*, 43 HARV. C.R.-C.L. L. REV. 435 (2008); Christopher Slobogin, *Government Data Mining and the Fourth Amendment*, 75 U. CHI. L. REV. 317 (2008); Daniel J. Solove, *Data Mining and the Security-Liberty Debate*, 75 U. CHI. L. REV. 343 (2008). At the dawn of the big data revolution, scholars are now actively interrogating the implications of government-led big data uses by the government and law enforcement. See, e.g., Joshua A.T. Fairfield & Erik Luna, *Digital Innocence*, 99 CORNELL L. REV. 981 (2014); David Gray & Danielle Citron, *The Right to Quantitative Privacy*, 98 MINN. L. REV. 62 (2013); Richards, *supra* note 2.

25. See CARBADO & GULATI, *supra* note 12, at 1618-19; DELGADO & STEFANCIC, *supra* note 12, at 3; Carbado, *Critical What What?*, *supra* note 12; Charles, *supra* note 12, at 619, 625-26.

equally and objectively.²⁶ Critical Race Theory is especially useful as AI systems of governing increasingly cloak themselves in a comparable aura of equality and objectivity.²⁷ AI, in some contexts and by some definitions, removes the human element.²⁸ Proponents claim that the removal of the human element also removes inherent fallibilities associated with human decisionmaking.²⁹ These fallibilities may include faulty perception or misjudgment—discriminatory motivation and cognitive bias³⁰—particularly in the crimmigration³¹ and counterterrorism³² contexts. Database- and

26. See Derrick A. Bell, *Who's Afraid of Critical Race Theory?*, 1995 U. ILL. L. REV. 893, 901 (1995) (“We insist, for example, that abstraction, put forth as ‘rational’ or ‘objective’ truth, smuggles the privileged choice of the privileged to depersonify their claims and then pass them off as the universal authority and the universal good. To counter such assumptions, we try to bring to legal scholarship an experientially grounded, oppositionally expressed, and transformatively aspirational concern with race and other socially constructed hierarchies.”).

27. See, e.g., Crawford & Schultz, *supra* note 24, at 120, 127.

28. Experts have noted the need to preserve humanity in technological advances, including big data, algorithmic intelligence, and artificial intelligence (AI). See, e.g., Citron & Pasquale, *The Scored Society*, *supra* note 2, at 6-7 (arguing that “we need to create backstops for human review” when deploying artificial intelligence tools and algorithmic-driven scoring systems in order to “retain *human values* of fairness”); see also *id.* (characterizing “Human-out-of-the-Loop Weapons” as “potentially, autonomous, AI-driven[.]” and, therefore, in violation of international human rights law (citing HUM. RTS. WATCH, *LOSING HUMANITY: THE CASE AGAINST KILLER ROBOTS 2* (2012))); MAYER-SCHÖNBERGER & CUKIER, *supra* note 8, at 16-17 (“[T]he age of big data will require new rules to safeguard the sanctity of the individual.”).

29. See, e.g., Barocas & Selbst, *supra* note 14, at 671 (“Advocates of algorithmic techniques like data mining argue that [they] eliminate human biases from the decisionmaking process. But an algorithm is only as good as the data it works with.”); see also MAYER-SCHÖNBERGER & CUKIER, *supra* note 8, at 14 (“As humans we have been conditioned to look for causes, even though searching for causality is often difficult and may lead us down the wrong paths. In a big-data world, by contrast, ... [t]he correlations may not tell us precisely *why* something is happening, but they alert us *that* it is happening.”).

30. See, e.g., Citron & Pasquale, *The Scored Society*, *supra* note 2, at 4 (“Advocates applaud the removal of human beings and their flaws from the assessment process. Automated systems are claimed to rate all individuals in the same way, thus averting discrimination.”).

31. See, e.g., Juliet Stumpf, *The Crimmigration Crisis: Immigrants, Crime, and Sovereign Power*, 56 AM. U. L. REV. 367, 376-77 (2006) (defining crimmigration law as “[t]he criminalization of immigration law”); see also Jennifer M. Chacón, *Managing Migration Through Crime*, 109 COLUM. L. REV. SIDEBAR 135, 146 (2009); César Cuauhtémoc García Hernández, *Immigration Detention as Punishment*, 61 UCLA L. REV. 1346, 1375-76 (2014); Yolanda Vázquez, *Constructing Crimmigration: Latino Subordination in a “Post-Racial” World*, 76 OHIO ST. L.J. 599, 646-47 (2015).

32. ERIK LUNA & WAYNE MCCORMACK, *UNDERSTANDING THE LAW OF TERRORISM* 1 (2015) (explaining global terrorism “has been the principal focus of post-9/11 counterterrorism efforts

algorithmic-driven decisionmaking are purportedly neutral³³ and scientifically valid.³⁴ Proponents of big data governance methods contend that these newly emerging data-driven tools can serve crime and terrorism prevention goals. Chief among them are gaining big data insight,³⁵ avoiding direct racial and ethnic profiling,³⁶ and serving other security objectives, such as furthering what the U.S. Department of Homeland Security has termed “Identity Management”³⁷ goals domestically, and what the U.S. Department

by the United States”); BRIAN MICHAEL JENKINS, *THE STUDY OF TERRORISM: DEFINITIONAL PROBLEMS* 2-3 (1980) (“Terrorism ... is defined by the nature of the act, not by the identity of the perpetrators or the nature of the[] cause. All terrorist acts are crimes—murder, kidnapping, arson. Many would also be violations of the rules of war, if a state of war existed. All involve violence or the threat of violence, often coupled with specific demands. The violence is directed mainly against civilian targets. The motives are political. The actions generally are carried out in a way that will achieve maximum publicity. The perpetrators are usually members of an organized group, and unlike other criminals, they often claim credit for the act. And finally the act is intended to produce effects beyond the immediate physical damage.”).

33. See, e.g., Barocas & Selbst, *supra* note 14, at 673-74 (“Approached without care, data mining can reproduce existing patterns of discrimination, inherit the prejudice of prior decision makers, or simply reflect the widespread biases that persist in society. It can even have the perverse result of exacerbating existing inequalities by suggesting that historically disadvantaged groups actually deserve less favorable treatment.”).

34. See, e.g., Citron & Pasquale, *The Scored Society*, *supra* note 2, at 31 (“[L]egitimizing widespread subprime lending by purporting to scientifically rank individuals’ credit-worthiness with extraordinary precision. Secretive credit scoring can needlessly complicate the social world, lend a patina of objectivity to dangerous investment practices, and encode discriminatory practices in impenetrable algorithms.”).

35. See, e.g., MAYER-SCHÖNBERGER & CUKIER, *supra* note 8, at 13-14 (“What we lose in [small data] accuracy at the micro level we gain in [big data] insight at the macro level.”). Cf. FINLAY, *supra* note 24, at 17 (explaining that big data “expectations tend to become somewhat over-inflated”).

36. See Richard Berk, *The Role of Race in Forecasts of Violent Crime*, 1 RACE & SOC. PROBLEMS 231, 232 (2009) (“Yet, using age, race, and gender could be seen by some stakeholders as inappropriate and even illegal. At the same time, a failure to use those predictors risked less accurate forecasts and a substantial number of homicides that might otherwise have been prevented.”); Ferguson, *supra* note 8, at 389-91. Cf. Bernard E. Harcourt, *Risk as a Proxy for Race*, U. Chi. Pub. L. & Legal Theory Working Paper No. 323 (2010) (discussing “recurring problems of racial and gender discrimination” when using risk-assessment tools).

37. The U.S. Department of Homeland Security (DHS) offers this definition of identity management:

Identity Management (IdM) is a broad administrative area that deals with identifying and managing individuals within a government, state, local, public, or private sector network or enterprise. In addition, authentication and authorization to access resources such as facilities or, sensitive data within that system are managed by associating user rights, entitlements, and privileges with the established identity.

Identity Management and Data Privacy Technologies Project, DHS CYBER SEC. RSCH. & DEV.

of Defense has termed “Population Management”³⁸ goals internationally.

Digital data-driven tools, data scoring and indexation programs, and big data governance systems—like database screening and digital watchlisting systems—are presented as scientifically objective, value neutral, and the most technologically efficacious method of governance. Jack Balkin, Sanford Levinson, and others have offered research on what has been termed the National Surveillance State³⁹ to explicate why big data techniques of governance can be better understood through data surveillance and cybersurveillance capacities.⁴⁰ These data surveillance, or “dataveillance,”⁴¹ techniques

CTR., <http://www.cyber.st.dhs.gov/idmdp/> [<https://perma.cc/U3W7-XKR4>]. For an overview of identity management as a policy concept, see Lucy L. Thomson, *Critical Issues in Identity Management—Challenges for Homeland Security*, 47 JURIMETRICS 335, 336, 341 (2007).

38. The 2011 U.S. Army Commander’s Guide to Biometrics in Afghanistan specifically offers “a section titled ‘Population Management.’” *Identity Dominance: The U.S. Military’s Biometric War in Afghanistan*, PUB. INTEL. (Apr. 21, 2014), <https://publicintelligence.net/identity-dominance/> [<https://perma.cc/QZ6Q-DUKU>]. The term “Population Management” is utilized by the U.S. military to operationalize and explicate the justification for the data collection of the biometrics and “contextual data” of “every living person in Afghanistan.” *See id.*

39. *See* Balkin & Levinson, *supra* note 4, at 2329-30.

40. Multiple works have explored the legal implications of mass surveillance and cybersurveillance. *See generally* Deven R. Desai, *Constitutional Limits on Surveillance: Associational Freedom in the Age of Data Hoarding*, 90 NOTRE DAME L. REV. 579, 619-24 (2014); Laura K. Donohue, *Section 702 and the Collection of International Telephone and Internet Content*, 38 HARV. J.L. & PUB. POL’Y 117 (2015); Laura K. Donohue, *Bulk Metadata Collection: Statutory and Constitutional Considerations*, 37 HARV. J.L. & PUB. POL’Y 757 (2014); Margot E. Kaminski & Shane Witnov, *The Conforming Effect: First Amendment Implications of Surveillance, Beyond Chilling Speech*, 49 U. RICH. L. REV. 465 (2015); Orin S. Kerr, *A Rule of Lenity for National Security Surveillance Law*, 100 VA. L. REV. 1513 (2014); Peter Margulies, *Dynamic Surveillance: Evolving Procedures in Metadata and Foreign Content Collection After Snowden*, 66 HASTINGS L.J. 1 (2014); Paul Ohm, *Electronic Surveillance Law and the Intra-Agency Separation of Powers*, 47 U.S.F. L. REV. 269 (2012); Nathan Alexander Sales, *Domesticating Programmatic Surveillance: Some Thoughts on the NSA Controversy*, 10 I/S: J.L. & POL’Y INFO. SOC’Y 523 (2014); Margo Schlanger, *Intelligence Legalism and the National Security Agency’s Civil Liberties Gap*, 6 HARV. NAT’L SEC. J. 112 (2015); Christopher Slobogin, *Panvasive Surveillance, Political Process Theory, and the Nondelegation Doctrine*, 102 GEO. L.J. 1721 (2014); Christopher Slobogin, *Cause to Believe What? The Importance of Defining A Search’s Object—Or, How the ABA Would Analyze the NSA Metadata Surveillance Program*, 66 OKLA. L. REV. 725 (2014); Omer Tene, *A New Harm Matrix for Cybersecurity Surveillance*, 12 J. TELECOMM. & HIGH TECH. L. 391 (2014); Patrick Toomey & Brett Max Kaufman, *The Notice Paradox: Secret Surveillance, Criminal Defendants, & the Right to Notice*, 54 SANTA CLARA L. REV. 843 (2014); Stephen I. Vladeck, *Big Data Before and After Snowden*, 7 J. NAT’L SEC. L. & POL’Y 333 (2014); Stephen I. Vladeck, *Standing and Secret Surveillance*, 10 I/S: J.L. & POL’Y INFO. SOC’Y 551 (2014). Several important works have been published in recent years, shedding light on mass surveillance technologies, and

have resulted in disparate impacts on groups that have traditionally suffered discrimination.⁴² Under new forms of big data governance, however, it is suspicious data that is targeted, not necessarily suspicious persons.⁴³ Therefore, the current regime intended to protect rights—civil rights statutes and equal protection jurisprudence—may be inadequate.⁴⁴ Further, discrimination that proceeds under big data, through database-driven or algorithmic-driven tools, may not be obvious because big data itself may be largely invisible.

Consequently, this Article proceeds in three parts. Part I examines why Critical Theory offers a valuable approach to examining the impact of big data on law and governance. Specifically, this discussion explores how one critical theoretical structure, Critical

the policy and programmatic framework of cybersurveillance and covert intelligence gathering. *See generally* JULIA ANGWIN, DRAGNET NATION: A QUEST FOR PRIVACY, SECURITY, AND FREEDOM IN A WORLD OF RELENTLESS SURVEILLANCE (2014); JENNIFER STISA GRANICK, AMERICAN SPIES: MODERN SURVEILLANCE, WHY YOU SHOULD CARE, AND WHAT TO DO ABOUT IT (2017); SHANE HARRIS, @WAR: THE RISE OF THE MILITARY-INTERNET COMPLEX (2014); SHANE HARRIS, THE WATCHERS: THE RISE OF AMERICA'S SURVEILLANCE STATE (2010); ROBERT O'HARROW, JR., NO PLACE TO HIDE (2005); DANA PRIEST & WILLIAM M. ARKIN, TOP SECRET AMERICA: THE RISE OF THE NEW AMERICAN SECURITY STATE (2010); JEFFREY ROSEN, THE NAKED CROWD: RECLAIMING SECURITY AND FREEDOM IN AN ANXIOUS AGE (2004); BRUCE SCHNEIER, DATA AND GOLIATH: THE HIDDEN BATTLES TO COLLECT YOUR DATA AND CONTROL YOUR WORLD (2015).

41. Roger Clarke is attributed with first introducing the term “dataveillance” into academic discourse. *See* Roger A. Clarke, *Information Technology and Dataveillance*, 31 COMM'N ACM 498, 498 (1988). Clarke describes dataveillance as the systematic monitoring or investigation of people's actions, activities, or communications through the application of information technology. *Id.* at 499; *see also* LYON, SURVEILLANCE STUDIES, *supra* note 2, at 16 (“Being much cheaper than direct physical or electronic surveillance [dataveillance] enables the watching of more people or populations, because economic constraints to surveillance are reduced. Dataveillance also automates surveillance. Classically, government bureaucracies have been most interested in gathering such data.”); MARTIN KUHN, FEDERAL DATAVEILLANCE: IMPLICATIONS FOR CONSTITUTIONAL PRIVACY PROTECTIONS 1-2 (2007) (examining constitutional implications of “knowledge discovery in databases” (KDD applications) through dataveillance).

42. *See infra* Part II.B.

43. *See, e.g.*, Margaret Hu, *Big Data Blacklisting*, 67 FLA. L. REV. 1735, 1757-58 (2015).

44. Crenshaw, *supra* note 12, at 1348 (“In antidiscrimination law, the conflicting interests actually reinforce existing social arrangements, moderated to the extent necessary to balance the civil rights challenge with the many interests still privileged over it.”); Kroll et al., *supra* note 14, at 692 (“[G]overnance of algorithms to promote nondiscrimination runs into the complicated field of antidiscrimination law ... given the current state of antidiscrimination law, designing for nondiscrimination is important because users of algorithms may be legally barred from revising processes to correct for discrimination after the fact, and technical tools offer solutions to help.”).

Race Theory, operates to critique hierarchies of law and power that may otherwise go unquestioned. Part II introduces a discussion on why philosophies of AI governance and government-led algorithmic-decisionmaking programs are in need of critical theoretical treatment. Part III attempts to show how Critical Data Theory might work in practice. Part III explores narrative in the context of Fourth Amendment jurisprudence. References to Orwell emerge as warning signals from courts that they have reached the limits of their legal doctrines; judges instead rely on dystopian themes to convey concerns about constitutionalizing norms of big data collection and mass surveillance. These references mark the starting point for Critical Data Theory to begin the project of reframing what is reasonable and normative in the Age of AI. This Part ends with the example of mass incarceration's growth under AI and automated systems, and the manner in which Critical Data Theory can illuminate the necessity for an AI Bill of Rights.

As small data privacy laws and small data jurisprudence may prove increasingly impotent, the need for more meaningful methods of critique and reform will likely become more apparent. Critical Race Theory and Critical Feminist Theory⁴⁵ gained scholarly attention as other forms of legal critique were viewed as increasingly inadequate.⁴⁶ Critical Data Theory may increase in its prescriptive utility as traditional paths of legal reform to address data privacy concerns of the National Surveillance State prove inadequate.

45. See, e.g., CATHERINE KNIGHT STEELE, *DIGITAL BLACK FEMINISM* (2021); KATHARINE T. BARTLETT, *FEMINIST LEGAL THEORY: READINGS IN LAW AND GENDER* 2, 8-10 (Katharine T. Bartlett & Rosanne Kennedy eds., 1991); CATHERINE MACKINNON, *TOWARD A FEMINIST THEORY OF THE STATE* 5 (1989); CATHERINE MACKINNON, *FEMINISM UNMODIFIED: DISCOURSES ON LIFE AND LAW* 2-3 (1987); Katharine T. Bartlett, *Feminist Legal Methods*, 103 *HARV. L. REV.* 829, 829-31 (1990); Rhonda S. Breitzkreuz, *Engendering Citizenship? A Critical Feminist Analysis of Canadian Welfare-to-Work Policies and the Employment Experiences of Lone Mothers*, 32 *J. SOCIO. & SOC. WELFARE* 147, 149 (2005) ("Critical feminist theory is an amalgam of [critical theory and feminist theory], seeking to reveal structural oppression, transform systems, and emancipate oppressed individuals, using gender as a key category of analysis."); Deborah L. Rhode, *Feminist Critical Theories*, 42 *STAN. L. REV.* 617, 617, 619 (1990); Deborah L. Rhode, *Feminism and the State*, 107 *HARV. L. REV.* 1181, 1181-83 (1994).

46. See, e.g., LANI GUINIER & GERALD TORRES, *THE MINER'S CANARY: ENLISTING RACE, RESISTING POWER, TRANSFORMING DEMOCRACY* 34-36 (2002); andré douglas pond cummings, *Derrick Bell: Godfather Provocateur*, 28 *HARV. J. RACIAL & ETHNIC JUST.* 51, 52 (2012) ("Critical Race Theory was originally founded as a response to what had been deemed a stalled civil rights agenda in the United States.").

The Article concludes that the legality and constitutionality of AI and automated systems, and data-driven techniques of governance, can be better understood through the application of analytical frameworks that assess emerging digital identity and AI policy structures through a critical theoretical lens.

I. CRITICAL THEORY AND GOVERNING THROUGH AI

Where power is based upon algorithmic decisionmaking, a key concern involves the proper investigatory methods to critique the underlying power dynamics. The best methodological approach to understand decisions in law and policy-making that act upon digitally constructed identities has not yet been determined. Understanding the implications of digitally constructed identities in an AI world can benefit from efforts to understand the implications of racially constructed identity in a small data world.

In both Critical Race Theory and Critical Data Theory, the emphases on constructivity is key. The “collect-it-all”⁴⁷ tools of AI facilitate the construction of digital avatars,⁴⁸ or the virtual representation⁴⁹ of our digital selves.⁵⁰ Increasingly, with algorithmic

47. GLENN GREENWALD, *NO PLACE TO HIDE: EDWARD SNOWDEN, THE NSA, AND THE U.S. SURVEILLANCE STATE* 97-98 (2014) (citing an NSA slide from the Snowden disclosures titled, “New Collection Posture” and quoting an NSA data collection procedure known as “Collect it All”); see also David Cole, *No Place to Hide* by Glenn Greenwald, on the NSA’s *Sweeping Efforts to ‘Know it All’*, WASH. POST (May 12, 2014, 11:25 PM), https://www.washingtonpost.com/opinions/no-place-to-hide-by-glenn-greenwald-on-the-nsas-sweeping-efforts-to-know-it-all/2014/05/12/dfa45dee-d628-11e3-8a78-8fe50322a72c_story.html [https://perma.cc/2GG6-2V9L] (“In one remarkable [NSA] slide presented at a 2011 meeting of five nations’ intelligence agencies and revealed here for the first time, the NSA described its “collection posture” as “Collect it All,” “Process it All,” “Exploit it All,” “Partner it All,” “Sniff it All” and, ultimately, “Know it All.”).

48. The term “digital avatar” is used often in the video gaming context, and it most commonly refers to a digitally constructed representation of the computing user or, in some instances, the representation of the user’s alter ego or character. See, e.g., *Hart v. Elec. Arts, Inc.*, 717 F.3d 141, 146 (3d Cir. 2013). In *Hart v. Electronic Arts, Inc.*, a class action suit, college athletes alleged that their digital avatars and likeness had been unlawfully appropriated for profit by the video game developer, Electronic Arts, Inc. See *id.* at 146-47.

49. The introduction of virtual reality and virtual worlds has raised increasingly complicated legal questions. In *Brown v. Entertainment Merchants Ass’n*, the Supreme Court considered the First Amendment implications of expressive speech of video games. 564 U.S. 786, 790 (2011). The Court explained,

Like the protected books, plays, and movies that preceded them, video games communicate ideas—and even social messages—through many familiar literary

and automation tools at the government's disposal, post-9/11 legal, policy, and technological innovations construct data hierarchies. These innovations have since accelerated the construction and governance of data selves or digital avatars and further imperiled the privacy rights held under digital personhood.⁵¹

A. Critical Theory Methods in Law and Legal Critique

Critical Legal Studies represents a movement in legal scholarship that some credit with intellectual origins stemming from an outgrowth of social movements of the 1960s and 1970s and opposition to American Legal Realism.⁵² The founding conference of Critical

devices (such as characters, dialogue, plot, and music) and through features distinctive to the medium (such as the player's interaction with the virtual world). That suffices to confer First Amendment protection.

Id.; see also Marc Jonathan Blitz, *The Freedom of 3D Thought: The First Amendment in Virtual Reality*, 30 CARDOZO L. REV. 1141, 1148, 1153 (2008); Joshua A.T. Fairfield, *Mixed Reality: How the Laws of Virtual Worlds Govern Everyday Life*, 27 BERKELEY TECH. L.J. 55, 71 (2012); Joshua A.T. Fairfield, *Virtual Parentalism*, 66 WASH. & LEE L. REV. 1215, 1217-19 (2009); Joshua A.T. Fairfield, *Escape Into the Panopticon: Virtual Worlds and the Surveillance Society*, 118 YALE L.J. POCKET PART 131, 131-33 (2009). Increasingly, scholars are interrogating the legal implications of self-representations and digital avatar representations in virtual worlds. See, e.g., Llewellyn Joseph Gibbons, *Law and the Emotive Avatar*, 11 VAND. J. ENT. & TECH. L. 899, 899-902 (2009).

50. See *infra* Part III.A; see also David Cole, *Is Privacy Obsolete? Thanks to the Revolution in Digital Technology, Privacy is About to Go the Way of the Eight-Track Player*, NATION (Mar. 23, 2015), <http://www.thenation.com/article/198505/privacy-20-surveillance-digital-age#> [<https://perma.cc/56ZK-URY5>] ("Digital technology has exponentially expanded the government's ability to construct intimate portraits of any particular individual by collecting all sorts of disparate data and combining and analyzing them for revealing patterns."); Frank Gillett, *How Will You Manage Your Digital Self?*, INFOWEEK (Oct. 30, 2013), <http://www.informationweek.com/software/social/how-will-you-manage-your-digital-self/d/d-id/1112130> [<https://perma.cc/X84K-RG9N>]; Qaseem Siddique, *The Crisis of Identity in a Digital Virtual World*, LINKEDIN (July 24, 2014), <https://www.linkedin.com/pulse/20140724143303-99126850-the-crisis-of-identity-in-a-digital-virtual-world/> [<https://perma.cc/32UG-BEQG>] ("The digital self is not just your work and personal computer files. It includes *all* of the complex and varied digital information that you and the organizations you deal with generate.").

51. See SOLOVE, *supra* note 18, at 5-6.

52. See, e.g., Jonathan Turley, *The Hitchhiker's Guide to CLS, Unger, and Deep Thought*, 81 NW. U. L. REV. 593, 595 & n.8 (1987); Mark Tushnet, *Critical Legal Studies and Constitutional Law: An Essay in Deconstruction*, 36 STAN. L. REV. 623, 626 (1984) ("The Critical Legal Studies movement is the direct descendant of Realism and the law-and-society movement. It too attacks from the left the complacency of the existing center; it too denies that law is autonomous; it too insists on the contradictions within the rule system."); Roberto Mangabeira Unger, *The Critical Legal Studies Movement*, 96 HARV. L. REV. 561, 576 (1983).

Legal Studies was convened by a group of interdisciplinary academics with the goal of questioning the presumed neutrality and objectivity of law through critical methods. This conference challenged the “theoretical underpinnings of American jurisprudence,” for example, “Legal Realism, Formalism, [and] Liberalism.”⁵³ Critical Legal Studies “wage[d] war on the very ‘criteria for valid theory,’ denouncing fundamental ‘neutral’ principles as biased and rejecting past modes of legal analysis as self-legitimizing.”⁵⁴ Critical Legal Studies was also influenced by a branch of poststructural theory, deconstructionism, to interrogate the underlying presumptions of the law.⁵⁵

Critical Race Theory inherits a tradition from Critical Legal Studies: “a commitment to being ‘critical.’”⁵⁶ Some theorists argue that Critical Race Theory is “the heir to both CLS [Critical Legal Studies] and traditional civil rights scholarship.”⁵⁷ In borrowing from deconstructionism, Critical Race Theory contends that “law constructs race.”⁵⁸ The theory asserts that race is not a static phenomenon or fixed concept but rather is dynamically constructed by hierarchies of power—whether they be based upon law, politics and structures of governance, economics, presentations of history, culture, educational and academic institutions, knowledge and methods of inquiry, or any other source of power deemed legitimate by society.

The theory asserts that the concept of race does not embody an objective or neutral truth, condition, or value. As Devon Carbado explains, the theory “rejects the view that race precedes law, ideology and social relations.”⁵⁹ Critical Race Theory “has also

53. Turley, *supra* note 52, at 595 (citing Allan C. Hutchinson & Patrick J. Monahan, *Law, Politics, and the Critical Legal Scholars: The Unfolding Drama of American Legal Thought*, 36 STAN. L. REV. 199, 200 (1984)).

54. *Id.* at 594 (quoting Allan C. Hutchinson & Patrick J. Monahan, *Law, Politics, and the Critical Legal Scholars: The Unfolding Drama of American Legal Thought*, 36 STAN. L. REV. 199, 200 (1984)).

55. *See, e.g., id.* at 604.

56. Angela P. Harris, *Foreword: The Jurisprudence of Reconstruction*, 82 CALIF. L. REV. 741, 743 (1994).

57. *Id.* at 743.

58. Carbado, *supra* note 12, at 1610.

59. *Id.*

focused more specifically on how the law constructs whiteness.”⁶⁰ Race constructions “support the contemporary economies of racial hierarchy.”⁶¹

Critical Theory combines a study of progressive political justice movements with critiques of conventional legal and social or scientific norms to examine how such norms function within hierarchies of power. Critical Race Theory scholarship focuses on race and racial power as constructions of law and culture. The theory contends that regimes of privilege are maintained by the rule of law and constitutional doctrines despite equality guarantees. Critical theorists do not view law or economic policy rationales as value-neutral tools of governance,⁶² but instead as part of the construction of potential tools of subordination.⁶³ Increasingly, research is focused on unseen forces that may shape law and policy, such as, implicit or cognitive biases; a lack of empiricism in explicating discriminatory phenomena and their manifestation; and representations of race as heuristics in mass media, entertainment, modes of knowledge, and education.⁶⁴

60. *Id.* at 1610-11.

61. *Id.* at 1609.

62. See, e.g., Richard Delgado, *Recasting the American Race Problem*, 79 CALIF. L. REV. 1389, 1394 (1991) (book review) (“Formal equal opportunity is ... calculated to remedy at most the more extreme and shocking forms of racial treatment; it can do little about the business-as-usual types of racism that people of color confront every day and that account for much of our subordination, poverty, and despair.”); Devon W. Carbado & Mitu Gulati, *The Law and Economics of Critical Race Theory*, 112 YALE L.J. 1757, 1761-65 (2003) (book review).

63. Dorothy A. Brown, *Fighting Racism in the Twenty-First Century*, 61 WASH. & LEE L. REV. 1485, 1486 (2004) (“Although CRT does not employ a single methodology, it seeks to highlight the ways in which the law is not neutral and objective, but designed to support White supremacy and the subordination of people of color.”) (footnote omitted); Kimberle Crenshaw, *A Black Feminist Critique of Antidiscrimination Law and Politics*, in *THE POLITICS OF LAW: A PROGRESSIVE CRITIQUE* 195, 212, 213 n.7 (David Kairys ed., rev. ed. 1990) (“Critical race theory goes beyond the liberal [race] critiques, however, in that it exposes the facets of law and legal discourse that create racial categories and legitimate racial subordination.”).

64. See Delgado, *supra* note 62, at 1394-95 (“[C]ulture constructs its own social reality ... we construct it through images, pictures, stories, and narratives that, among other things, tell us who is and deserves to be poor, ... and that the current unfortunate racial polarization and poverty affecting persons of color will right themselves in time.”) (emphasis omitted); Brown, *supra* note 63, at 1485 (“[T]wentieth century racism was blatant, intentional, and its existence generally undisputed. The obvious nature of how racism operated in the twentieth century led to the passage of civil rights laws. Twenty-first century racism, on the other hand, is more subtle.”) (footnote omitted).

The theory is understood to be a subset of this broader theoretical movement, and an important aspect of the deconstructive method—narrative and storytelling—must be appreciated.⁶⁵ The poststructural and postmodernist aspects of Critical Race Theory lie in its embrace of literary tools.⁶⁶ Narrative is not just an end product of the theory but a means to deliver the theory.⁶⁷ The process of bearing witness to racism—forcing self-directed dialogue and reflective insight on the nature and scope of race-related discrimination—is presented as a core method of theoretical interrogation.⁶⁸ As we shall see in Part III, federal courts also resort to narrative: Orwellian rhetoric and invocations of dystopian literature in the face of novel problems presented by contemporary surveillance, criminal procedure, and individual privacy concerns. Narrative itself is not inherently valuable; it foregrounds how knowledge and truth are culturally and socially embedded.

Narrative in Critical Race Theory is crucial because it provides context from which supposedly contextless truths, purportedly objective, become exposed as subjective socio-economic, political, cultural, and racial formations.⁶⁹ Ultimately, the theory advances principles about knowledge creation. A foundational epistemological

65.

CLS contributed the institutional space in which competing conceptions about race, knowledge, and social hierarchy could be vetted, refined and reproduced. Taking a page from the CLS tradition, the task at hand is to interrogate (racial) power where we live, work, socialize and exist. For academics, that world is implicated in the ways that the disciplines were built to normalize and sustain the American racial project. A contemporary critical race theory would thus take up the dual tasks of uncovering the epistemic foundations of white supremacy as well as the habits of disciplinary thought that cabin competing paradigms through colorblind conventions. Unraveling this story while at the same time generating an inventory of critical tools that have been fashioned by generations of Race Critics effectively replicates across disciplines the construction of CRT within one discipline.

Kimberlé Williams Crenshaw, *Twenty Years of Critical Race Theory: Looking Back To Move Forward*, 43 CONN. L. REV. 1253, 1348 (2011) (explaining that Critical Race Theory grew from “a convergence with and contestation within CLS [Critical Legal Studies]”).

66. See Bell, *supra* note 26, at 899 (“Critical race theory writing and lecturing is characterized by frequent use of the first person, storytelling, narrative, allegory, interdisciplinary treatment of law, and the unapologetic use of creativity.”).

67. See *id.*

68. See Kimberlé Crenshaw, *Mapping the Margins: Intersectionality, Identity Politics, and Violence Against Women of Color*, 43 STAN. L. REV. 1241, 1252 (1991).

69. See Bell, *supra* note 26, at 899.

principle holds that all truths—what is accepted as knowledge and reality—are embedded in cultural and social narratives, even if those promoting the knowledge or reality cannot see this.⁷⁰ Narratives, then, operate as a crucial prerequisite for elevating a view or position to something purportedly beyond established knowledge as a *prima facie* truth.⁷¹ Narrative serves as an unspoken and obvious premise for critical discourse.⁷² Narrative reembeds “objective” knowledge into the social, racial, gendered, or cultural framework within which it arose and helps reveal the ends, otherwise invisible, which it serves.⁷³

While the narrative method of knowledge acquisition might be controversial in the context of scientific knowledge and other contexts,⁷⁴ most would not dispute that legal doctrines and justice systems arise from specific social, economic, cultural, and racial contexts.⁷⁵ These legal doctrines, supported by assumed truths and

70. *See id.* at 901 (explaining that “a neutral perspective does not, and cannot, exist—that we all speak from a particular point of view ... a ‘positioned perspective’”).

71. *See, e.g.,* Cummings, *supra* note 46, at 53 (“Critical Race theorists championed storytelling and narrative as valuable empirical proof of reality and the human experience, while rejecting traditional forms of legal studies, pedagogy, and various forms of civil rights leadership.”); Richard Delgado & Jean Stefancic, Essay, *Critical Race Theory: An Annotated Bibliography*, 79 VA. L. REV. 461, 462 (1993) (“To analyze and challenge these power-laden beliefs [surrounding race-based assumptions], some writers employ counterstories, parables, chronicles, and anecdotes aimed at revealing their contingency, cruelty, and self-serving nature.”).

72. Peter Goodrich & Linda G. Mills, *The Law of White Spaces: Race, Culture, and Legal Education*, 51 J. LEGAL EDUC. 15, 38 (2001) (“Critical race theory has tended to concentrate on the moment and form of attacks upon the racial outsider. It has attempted to assert an oppositional voice ... It is the untold story with which we began. It is the narrative of ... the impoverishment of colorblindness.”).

73. Bell, *supra* note 26, at 907 (“The narrative voice, the teller, is important to critical race theory in a way not understandable by those whose voices are tacitly deemed legitimate and authoritarian. The voice exposes, tells and retells, signals resistance and caring, and reiterates what kind of power is feared most—the power of commitment to change.”); HIP HOP AND THE LAW xxi (Pamela Bridgewater et al. eds., 2015) (describing hip hop as a form of storytelling that critiques “American law and legal culture ... Indeed, Hip Hop artists have often experienced the blunt trauma of the American legal system first hand and as young men of color in the United States, are keenly positioned to critique a system that disproportionately imprisons and discards African American and Latino youth”).

74. *See* Lisa Kern Griffin, *Narrative, Truth, and Trial*, 101 GEO. L.J. 281, 335 (2013) (“[T]he story model is incomplete and recognizing its limitations reveals opportunities to improve truth seeking and counteract bias.”).

75. *See, e.g.,* Susan Silbey, *Law and Society Movement*, in 2 LEGAL SYSTEMS OF THE WORLD: A POLITICAL, SOCIAL, AND CULTURAL ENCYCLOPEDIA 860-62 (Herbert M. Kritzer ed.,

serving specific ends in the above contexts, can and should be interrogated. Critical Race Theory invites interrogation of any transcendent or *a priori* truth and has as its own truth that nothing transcends the social fabric into which it first emerges.⁷⁶ Put differently, everything has a story, and sometimes that story can be a crucial first step in challenging the hegemony of a concept, truth, or doctrine.⁷⁷ In Critical Race Theory, the story of the storyless typically begins at the edges, the story of a speaker racially positioned at the margin of mainstream society whose own narrative calls into question mainstream values and truths.⁷⁸

The critical race theorist asserts that bodies of knowledge, and hierarchies of law and power, flow through the filter of race.⁷⁹ Consequently, several critical race theorists advance the position that knowledge through art and storytelling is representative of a type of truth that operates as a backstory to hierarchies of law and power that may not be seen otherwise.⁸⁰ Critical Race Theory posits

2002); TOM R. TYLER, ROBERT J. BOECKMANN, HEATHER J. SMITH & YUEN J. HUO, *SOCIAL JUSTICE IN A DIVERSE SOCIETY* 1 (1997).

76. Big data and the digital economy have introduced new theories by which to examine the new social fabric that is now digitally mediated. *See, e.g.*, JOSÉ VAN DIJCK, *THE CULTURE OF CONNECTIVITY: A CRITICAL HISTORY OF SOCIAL MEDIA* 5-6 (2013) (“As a [technological] medium coevolves with its quotidian users’ tactics, it contributes to shaping people’s everyday life, while at the same time this mediated sociality becomes part of society’s institutional fabric.”); José van Dijck, *Datafication, Dataism and Dataveillance: Big Data Between Scientific Paradigm and Ideology*, 12 *SURVEILLANCE & SOC’Y* 197, 198 (2014); *see also* COHEN, *supra* note 13, at 3-8.

77. *See* MARGARET M. ZAMUDIO, CASKEY RUSSELL, FRANCISCO A. RIOS & JACQUELYN L. BRIDGEMAN, *CRITICAL RACE THEORY MATTERS: EDUCATION AND IDEOLOGY* 5 (Taylor & Francis E-Libr. 2010) (“Critical race theorists understand that narratives are not neutral, but rather political expressions of power relationships. That is, history is always told from the perspective of the dominant group. Minority perspectives in the form of narratives, testimonies, or storytelling challenge the dominant group’s accepted truths.”); Jerome M. Culp, Jr., Angela P. Harris & Francisco Valdes, *Subject Unrest*, 55 *STAN. L. REV.* 2435, 2443-44 (2003) (“[T]he narrative tradition of critical race theory provides a way to explore the dilemma of the uncertain subject of subordination.”); CHARLTON D. MCILWAIN, *BLACK SOFTWARE: THE INTERNET AND RACIAL JUSTICE, FROM THE AFRONET TO BLACK LIVES MATTER* (2019) (tracing first-hand narratives of black engineers, Internet pioneers, and others from 1960s to present to demonstrate racial justice and resistance in online organizing).

78. *See, e.g.*, BELL, *supra* note 12, at 3; Mari J. Matsuda, *Looking to the Bottom: Critical Legal Studies and Reparations*, 22 *HARV. C.R.-C.L. L. REV.* 323, 324-26 (1987).

79. Kevin R. Johnson, *Richard Delgado’s Quest for Justice for All*, 33 *LAW & INEQ.* 407, 409 (2015) (“Delgado considers racism to be both a central organizing principle and permanent feature of American social life.”).

80. Kang, *Trojan Horses*, *supra* note 12, at 1506 (“[T]he ‘power of race is invisible.’”)

narrative as a method of delivering backstory truths—especially the truth or the reality of the subordinated—or an alternate reality that may be otherwise ignored or rejected.⁸¹

Critical Race Theory also draws upon multiple critical strategies to expose how the law constructs race to disadvantage individuals. Instead of purely deconstructive critiques, the theory also emphasizes redemptive critiques.⁸² Because Critical Race Theory draws from both Critical Legal Studies and civil rights scholarship, it looks to civil rights movements as a primary prescriptive vehicle rather than waiting for legal reforms. Critical Race Theory depends more upon dissenting narratives and civil rights protests than the avenues of statutory and constitutional reform. Other important sites of intervention by critical race theorists are endeavors to demonstrate the manner in which: (1) racism is systemic, endemic, and not aberrational or anomalous;⁸³ (2) neutrality and objectivity principles under the law act to replicate discrimination and perpetuate preexisting hierarchies;⁸⁴ and (3) the foci of the analytical

(footnote omitted); Rachel F. Moran, *Whatever Happened to Racism?*, 79 ST. JOHN'S L. REV. 899, 919-20 (2012) (“Redefining the meaning of disparate treatment is not the only way to fight unconscious bias. Structural changes can avoid the unfairness of blaming individuals for conduct that is automatic, unconscious, and widespread.”); Robert S. Chang, *Toward an Asian American Legal Scholarship: Critical Race Theory, Post-Structuralism, and Narrative Space*, 81 CALIF. L. REV. 1241, 1245 (1993); see also Camara Phyllis Jones, *Confronting Institutionalized Racism*, 50 PHYLON 7, 10-11 (2003).

81. See Richard Delgado, *Storytelling for Oppositionists and Others: A Plea for Narrative*, 87 MICH. L. REV. 2411, 2415 (1988) (“[B]y combining elements from the story and current reality, we may construct a new world richer than either alone. Counterstories can quicken and engage conscience. Their graphic quality can stir imagination in ways in which more conventional discourse cannot.”) (footnote omitted).

82. Harris, *supra* note 56, at 743. Critical Legal Theory also embraces deconstruction as a form of redemptive reconstruction. See, e.g., Turley, *supra* note 52, at 595 (noting that Roberto Mangabeira Unger, a prominent theorist “in particular sought to unravel our legal institutions, but only in order to build again with a full understanding of the political nature of law and the experimental nature of human beings”).

83. See, e.g., MARI J. MATSUDA, CHARLES R. LAWRENCE III, RICHARD DELGADO & KIMBERLE WILLIAMS CRENSHAW, *WORDS THAT WOUND: CRITICAL RACE THEORY, ASSAULTIVE SPEECH, AND THE FIRST AMENDMENT* 6 (1993) (contending that “racism is endemic to American life”); Guy-Uriel E. Charles, *Toward a New Civil Rights Framework*, 30 HARV. J.L. & GENDER 353, 353 (2007) (“Looking at the gaping racial disparities on most socio-economic indicators, there are clearly two classes of citizens: Whites and coloreds.”).

84. See, e.g., MATSUDA ET AL., *supra* note 83, at 6 (“Critical [R]ace [T]heory expresses skepticism toward dominant legal claims of neutrality, objectivity, color blindness, and meritocracy.”); Carbado, *supra* note 12, at 1609 (arguing that Critical Race Theory challenges “two dominant principles upon which American anti-discrimination law and politics rest—to

methods in legal jurisprudence can and should be informed by personal context and contextualized history.⁸⁵ Critical Race Theory sets a valuable foundation for the probe into the discriminatory impact of AI and algorithmic decisionmaking, and other techniques of governing a citizenry through automated or semi-automated systems.

B. Challenging Presumed Objectivity and Neutrality of AI, Automated Systems, and Digital Data

In a small data world, the concept of small data—in both its analog and digital forms—is often presented as objective, natural, reliable, and scientific.⁸⁶ Governing techniques and decisions driven by AI and digital data systems of automation, however, are markedly distinct from governing techniques that rely on small data.⁸⁷ Yet, the presumptive empirical value of all data—both small and big—seems to indiscriminately attach to data-driven determinations. In the absence of a rigorous interrogation of the underlying assumptions that have been attached to AI's over-promise, algorithmic decisionmaking and protocols appear to be inevitable and incontrovertible. Within this environment, a largely unchallenged belief in the superiority of governance tools that are automated and AI-driven is allowed to take root.⁸⁸

To understand governance through AI systems, it is important to first understand that AI is more than technology: its application in both public and private sectors is premised upon a number of often unarticulated but real philosophical assumptions.⁸⁹ Because AI is

wit, that colorblindness necessarily produces race neutrality and that color consciousness necessarily produces racial preferences”).

85. See, e.g., MATSUDA ET AL., *supra* note 83, at 6 (“Critical [R]ace [T]heory insists on recognition of the experiential knowledge of people of color and our communities of origin in analyzing law and society.”); Derrick A. Bell, Jr., *Brown v. Board of Education and the Interest-Convergence Dilemma*, 93 HARV. L. REV. 518, 523 (1980) (“Translated from judicial activity in racial cases both before and after *Brown*, this principle of ‘interest convergence’ provides: The interest of blacks in achieving racial equality will be accommodated only when it converges with the interests of whites.”).

86. See, e.g., MAYER-SCHÖNBERGER & CUKIER, *supra* note 8, at 65-68.

87. See, e.g., *id.* at 12-14; Ferguson, *supra* note 8, at 352, 376; Margaret Hu, *Small Data Surveillance v. Big Data Cybersurveillance*, 42 PEPP. L. REV. 773, 793-94, 798 (2015).

88. See *infra* Part III.A.

89. See, e.g., *Hearing Before the S. Comm. on Homeland Sec. & Gov'tal Affs.*, 118th Cong.

presumed to enhance efficiency, there is an impetus to upgrade administrative systems in ways that can exploit those AI and automated system efficiencies.⁹⁰ And, in a self-reinforcing cycle, the public and private embrace of AI systems leads to ever-increasing amounts of digital data available to be exploited by tools that harvest and analyze such data. Thus, AI, in its philosophical form and technological reality, compounds AI-centric forms of government bureaucracies. The overall result is the emergence of AI governance as a superstructure or meta philosophy of governance.

Of the multiple presumptions driving the embrace of AI as a meta philosophy of governance, Critical Data Theory focuses on two that are fundamental to why AI and emerging technologies such as algorithmic and automated systems are viewed as a superior governance method.⁹¹ The first presumption is the efficacy of benefits that flow from newly emerging technological tools. The presumed efficacies justify the embrace of such tools as reliable. The second presumption is that newly emerging AI tools are objectively neutral, which is used to justify the embrace of such tools as value-enhancing and furthering antidiscrimination aims.⁹² After the terrorist attacks of September 11, 2001, what has been referred to as a “military-intelligence-information complex”⁹³ or a “surveillant assemblage”⁹⁴ has encompassed more and more technologically

(2023) (statements of Daron Acemoglu, Margaret Hu, and Shannon Vallor, Expert Witnesses), *The Philosophy of AI: Learning From History, Shaping Our Future*; Evgeny Morozov, *The True Threat of Artificial Intelligence*, N.Y. TIMES (June 30, 2023), <https://www.nytimes.com/2023/06/30/opinion/artificial-intelligence-danger.html> [<https://perma.cc/Y76A-QWHX>]; van Dijck, *supra* note 76, at 198 (“[T]he ideology of *dataism* shows characteristics of a widespread *belief* in the objective quantification and potential tracking of all kinds of human behavior and sociality through online media technologies. Besides, *dataism* also involves *trust* in the (institutional) agents that collect, interpret, and share (meta)data culled from social media, internet platforms, and other communication technologies.”); *see also infra* note 109 and accompanying text.

90. *See, e.g.*, MAYER-SCHÖNBERGER & CUKIER, *supra* note 8, at 17-18.

91. *See, e.g., id.* at 171-72.

92. *See, e.g., id.* at 161 (“The promise of big data is that we do what we’ve been doing all along—profiling—but make it better, less discriminatory, and more individualized.”). *See also* MEREDITH BROUSSARD, MORE THAN A GLITCH: CONFRONTING RACE, GENDER, AND ABILITY BIAS IN TECH (2023) (challenging myth of the neutrality and objectivity of technological tools).

93. *See, e.g.*, PRIEST & ARKIN, *supra* note 40, at 52.

94. Hier, *supra* note 2, at 402 (“[S]urveillance is driven by the desire to integrate component parts into wider systems, they insist that data simulations are not simply ‘representational’ by nature, but involve a more advanced form of pragmatics having to do

enhanced data screening and digital watchlisting methods. Policymakers have justified the growth of algorithmic-decisionmaking system adoption on the basis that AI and data or predictive analytic tools are inherently nondiscriminatory.⁹⁵ These key decisionmakers appear to be proceeding with the assumption that databases and algorithms are race neutral and colorblind.⁹⁶ Racial profiling risks that might attach to the targeting of suspected terrorists on the basis of protected classifications—such as race, ethnicity, color, gender, religion, national origin, and immigration status—are presented as eliminated or significantly mitigated.⁹⁷

To assert a necessary challenge to the presumptions of efficacy and neutrality that attach to rapidly expanding AI data governance tools, AI and digital data's operation within legal and policy contexts must be subjected to a theoretical critique. Critical Theory encourages counterintuitive counternarratives. Critical Race Theory challenges presumed truths about race that invisibly inform and shape

with their instrumental efficacy in making discriminations among divergent populations.”).

95. See, e.g., Stumpf, *supra* note 31.

96. See, e.g., Rep. Elton Gallegly, *GALLEGLY: E-Verify Ready to Put Americans to Work*, WASH. TIMES (Mar. 16, 2012), <http://www.washingtontimes.com/news/2012/mar/16/e-verify-ready-to-put-americans-to-work/?page=all> [<https://perma.cc/LZC5-GU29>] (Rep. Elton Gallegly (Republican-Cal.), Chairman of the Judiciary Committee's Immigration Policy and Enforcement Subcommittee, explaining that E-Verify's "accuracy rate is far superior to that of the I-9 forms that currently are used to check eligibility, it lowers costs for employers, and it's race-neutral").

97. In formulating policies for big data systems that include the No Fly List and the Terrorist Watchlist, the Federal Bureau of Investigation (FBI) has explained that racial profiling is not allowed. *Terrorist Screening Center: Frequently Asked Questions*, FED. BUREAU OF INVESTIGATION, <https://ucr.fbi.gov/nsb/tsc/terrorist-screening-center-frequently-asked-questions-032416.pdf> [<https://perma.cc/Y9PQ-XW9C>] (“An individual is included in the Terrorist Screening Database when there is a reasonable suspicion that the person is a known or suspected terrorist.... Nominations to the Terrorist Screening Database are not accepted if they are based solely on race, ethnicity, national origin, religious affiliation, or First Amendment-protected activities, such as free speech, the exercise of religion, freedom of the press, freedom of peaceful assembly, or petitioning the government for redress of grievances.”). Nonetheless, litigation surrounding challenges to the No Fly List and Terrorist Watchlist has raised concerns about the racial profiling risks attached to these big data digital watchlisting programs. See, e.g., *Latif v. Holder*, 28 F. Supp. 3d 1134, 1151 (D. Or. 2014). Protected classifications under equal protection jurisprudence have often turned on an inquiry centered on whether a perceived group lacks political power. Bertrall L. Ross II & Su Li, *Measuring Political Power: Suspect Class Determinations and the Poor*, 104 CALIF. L. REV. 323, 377-79 (2016) (arguing in favor of a “more holistic” approach to determining suspect class determinations, including the utilization of multiple factors that may provide “additional guidance” to courts).

the law. Critical Data Theory can operate similarly in rejecting the view that digital data and AI or algorithmic determinations “precede[] law, ideology, and social relations.”⁹⁸ Just as Critical Race Theory has focused on how the law constructs hierarchical dominance based on race,⁹⁹ Critical Data Theory focuses its attention on how and why AI tools, especially under crimmigration-counterterrorism¹⁰⁰ policy rationales, can work in conjunction with other governance tools to construct hierarchies based upon digital data.

At the earliest stages of the introduction of AI into automated systems, scholars have illuminated the transformative nature of data and supercomputing.¹⁰¹ Specifically, they note the disruptive nature of algorithmic- and data-driven discrimination.¹⁰² There is growing evidence that AI and automated tools and algorithmic-driven determinations lead to a disparate impact based on race, gender, or other protected classifications.¹⁰³ Racial-ethnic minorities,

98. Carbado, *supra* note 12, at 1610.

99. *See, e.g., id.* at 1610-11; Delgado & Stefancic, *supra* note 71, at 462 (“Many Critical Race theorists consider that a principal obstacle to racial reform is majoritarian mindset—the bundle of presuppositions, received wisdoms, and shared cultural understandings persons in the dominant group bring to discussions of race.”).

100. *See, e.g.,* Margaret Hu, *Militarized Cyberpolicing: Mass Biometric Dataveillance Under Crimmigration-Counterterrorism* (forthcoming).

101. *See generally* boyd, *supra* note 20; KITCHIN, *supra* note 8; JARON LANIER, *YOU ARE NOT A GADGET: A MANIFESTO* (2010); MAYER-SCHÖNBERGER & CUKIER, *supra* note 8; EVGENY MOROZOV, *TO SAVE EVERYTHING, CLICK HERE: THE FOLLY OF TECHNOLOGICAL SOLUTIONISM* (2013); PASQUALE, *supra* note 13; Citron & Pasquale, *The Scored Society*, *supra* note 2; Tene & Polonetsky, *supra* note 24; Crawford, *supra* note 9; Edward W. Felten, *Net Neutrality Is Hard to Define*, N.Y. TIMES (Aug. 10, 2010, 11:06 AM), <http://www.nytimes.com/roomfordebate/2010/08/09/who-gets-priority-on-the-web/net-neutrality-is-hard-to-define> [<https://perma.cc/3P9P-SUEW>]. Other experts have focused on the data mining and predictive analytic capacities of big data tools. *See generally* FINLAY, *supra* note 24; SIEGEL, *supra* note 24; SILVER, *supra* note 24; Cate, *supra* note 24; Slobogin, *supra* note 24; Solove, *supra* note 24.

102. *See generally* Barocas & Selbst, *supra* note 14; Crawford & Schultz, *supra* note 24; Pasquale & Citron, *Promoting Innovation*, *supra* note 20; Scott R. Peppet, *Regulating the Internet of Things: First Steps Towards Managing Discrimination, Privacy, Security and Consent*, 93 TEX. L. REV. 85 (2015).

103. *See, e.g., supra* note 24 and accompanying text; *infra* notes 104-05, 108, and Part III.C; EXEC. OFFICE OF THE PRESIDENT, *BIG DATA: SEIZING OPPORTUNITIES, PRESERVING VALUES* 47, 51, 53, 58-59 (2014) [hereinafter *PODESTA REPORT*], https://obamawhitehouse.archives.gov/sites/default/files/docs/big_data_privacy_report_may_1_2014.pdf [<https://perma.cc/J5MF-D3ZZ>]; PRESIDENT’S COUNCIL OF ADVISORS ON SCIENCE AND TECHNOLOGY (PCAST), *BIG DATA AND PRIVACY: A TECHNOLOGICAL PERSPECTIVE* 25, 49 (2014), https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_big_data_and_privacy_-

as well as other subpopulations, including immigrants and religious minorities who may reside at the socioeconomic and cultural margins, often manifest what is increasingly construed as unstable, anomalous, outlying, nonconforming, or suspect digital data.¹⁰⁴ Unconscious discrimination and cognitive (or implicit) bias may play a role in the development of algorithms,¹⁰⁵ the collection and analysis of data,¹⁰⁶ and the human interface with technological tools.¹⁰⁷ Experts have observed that AI systems and automated tools

_may_2014.pdf [https://perma.cc/Y7JP-ZFF3]; DAVID ROBINSON, HARLAN YU & AARON RIEKE, BIG DATA, AND OUR ALGORITHMIC FUTURE 8, 12, 16 (Sept. 2014), http://bigdata.fairness.io/wp-content/uploads/2014/09/Civil_Rights_Big_Data_and_Our_Algorithmic-Future_2014-09-12.pdf [https://perma.cc/E8PN-XTCQ]; FED. TRADE COMM'N, DATA BROKERS: A CALL FOR TRANSPARENCY AND ACCOUNTABILITY C-3, C-7 (2014), <https://www.ftc.gov/system/files/documents/reports/data-brokers-call-transparency-accountability-report-federal-trade-commission-may-2014/140527databrokerreport.pdf> [https://perma.cc/PYP7-ZK6P]; FED. TRADE COMM'N, BIG DATA: A TOOL FOR INCLUSION OR EXCLUSION?: UNDERSTANDING THE ISSUES 19 (2016), <https://www.ftc.gov/system/files/documents/reports/big-data-tool-inclusion-or-exclusion-understanding-issues/160106big-data-rpt.pdf> [https://perma.cc/7TJ5-TPZ4]; see also Katharine T. Bartlett & Mitu Gulati, *Discrimination by Customers*, 102 IOWA L. REV. 223, 236-38 (2016).

104. See Hu, *supra* note 43, at 1780, 1784-85.

105. See Barocas & Selbst, *supra* note 14, at 680-81, 684; Citron & Pasquale, *The Scored Society*, *supra* note 2, at 5 (arguing that “black box” scoring systems have traditionally been “plagued by arbitrary results. They may also have a disparate impact on historically subordinated groups”); Batya Friedman & Helen Nissenbaum, *Bias in Computer Systems*, 14 ACM TRANSACTION ON INFO. SYS. 332, 334-35 (1996) (differentiating between preexisting bias, technical bias, and emergent bias in computer systems); Pauline T. Kim, *Data-Driven Discrimination at Work*, 58 WM. & MARY L. REV. 857, 888 (2017); A.R. Lange, *Digital Decisions: Policy Tools in Automated Decision-Making*, CTR. DEMOCRACY & TECH. 3-4, 11 (Jan. 14, 2016), https://cdt.org/wp-content/uploads/2016/01/2016-01-14-Digital-Decisions_Policy-Tools-in-Auto2.pdf [https://perma.cc/TS78-NPR8] (examining bias in algorithms); ALEX ROSENBLAT, KATE WIKELIUS, DANAH BOYD, SEETA PEÑA GANGADHARAN & CORINNE YU, DATA & CIVIL RIGHTS: HOUSING PRIMER, DATA & SOC'Y RESEARCH INST. 3-5 (Oct. 30, 2014), <http://www.datacivilrights.org/pubs/2014-1030/Housing.pdf> [https://perma.cc/Q6VG-RWY8] (exploring bias in mortgage lending risk-assessment algorithms, credit scores, and online advertising); Latanya Sweeney, *Discrimination in Online Ad Delivery*, 56 COMM'N ACM 44, 46-47 (2013).

106. JULES J. BERMAN, PRINCIPLES OF BIG DATA: PREPARING, SHARING, AND ANALYZING COMPLEX INFORMATION 159 (2013) (“Big Data resources may contain systemic biases.... Every Big Data resource has its blind spots—areas in which data is missing, scarce, or otherwise unrepresentative of the data domain.”).

107. *Id.* (“Often, the Big Data managers are unaware of such [Big Data] deficiencies. In some cases, Big Data managers blame the data analyst for ‘inventing’ a deficiency.”); see also Thomas B. Sheridan, *Speculations on Future Relations Between Humans and Automation*, in AUTOMATION & HUMAN PERFORMANCE: THEORY & APPLICATIONS 449, 458 (Raja Parasuraman & Mustapha Mouloua eds., 1996) (“It is so tempting to trust to the magic of computers and automation.... if a computer program compiles, we often believe, the software is valid and the intention will be achieved.”) (citation omitted); Citron, *supra* note 13, at 1283 (stating that

such as predictive scoring systems are inherently dependent upon classification and indexing systems, which can exacerbate discriminatory effects.¹⁰⁸ Experts have also suggested the remedial potential of AI and algorithmic assessments to identify and potentially mitigate the discriminatory impact.¹⁰⁹

II. CRITICAL DATA THEORY

Critical Data Theory can play a role comparable to Critical Race Theory in the big data context. Big data can be treated as a philosophy.¹¹⁰ Therefore, a philosophical effort like Critical Data Theory is needed to critique the philosophy of big data. The governing philosophy of big data must be subjected to critical theoretical treatment as a prerequisite to assessing its impact on newly emerging legal and policy developments, and on core constitutional

administrative hearing officers have an automation bias by trusting computer systems over human witnesses even in the face of contrary evidence).

108. See, e.g., BROUSSARD, *supra* note 92; SAFIYA UMOJA NOBLE, ALGORITHMS OF OPPRESSION: HOW SEARCH ENGINES REINFORCE RACISM (2018); RUHA BENJAMIN, RACE AFTER TECHNOLOGY ABOLITIONIST TOOLS FOR THE NEW JIM CODE (2019); YARDEN KATZ, ARTIFICIAL WHITENESS: POLITICS AND IDEOLOGY IN ARTIFICIAL INTELLIGENCE (2020); BROWNE, *supra* note 2; O'NEIL, *supra* note 8; VIRGINIA EUBANKS, AUTOMATING INEQUALITY: HOW HIGH-TECH TOOLS PROFILE, POLICE, AND PUNISH THE POOR (2018); ANDREW SELBST, DANAH BOYD, SORELLE A. FRIEDLER, SURESH VENKATASUBRAMANIAN & J. VERTESI, FAIRNESS AND ABSTRACTION IN SOCIOTECHNICAL SYSTEMS *in* ACM Conference on Fairness, Accountability and Transparency (2019); Julia Angwin, Jeff Larson, Surya Mattu & Lauren Kirchner, *Machine Bias*, PROPUBLICA (May 23, 2016), <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing> [<https://perma.cc/2A7F-MWLN>]; JOY BUOLAMWINI & TIMNIT GEBRU, GENDER SHADES: INTERSECTIONAL ACCURACY DISPARITIES IN COMMERCIAL GENDER CLASSIFICATION, Conference on Fairness, Accountability, and Transparency 81: 1-15 (2018); Rashida Richardson, Jason M. Schultz & Kate Crawford, *Dirty Data, Bad Predictions: How Civil Rights Violations Impact Police Data, Predictive Policing Systems, and Justice*, 94 N.Y.U. L. REV. ONLINE 15 (2019); Barocas & Selbst, *supra* note 14, at 674, 680, 682.

109. See generally Sean Alan Hill II, *Bail Reform and the (False) Racial Promise of Algorithmic Risk Assessments*, 68 UCLA L. REV. 910, 928-37 (2021); JULES POLONETSKY & CHRISTOPHER WOLF, FUTURE OF PRIVACY FORUM & ANTI-DEFAMATION LEAGUE, BIG DATA: A TOOL FOR FIGHTING DISCRIMINATION AND EMPOWERING GROUPS (2014), <https://fpf.org/wp-content/uploads/2014/08/Big-Data-A-Tool-for-Fighting-Discrimination-and-Empowering-Groups-21.pdf> [<https://perma.cc/AYY9-HV5R>].

110. Some experts have explained that big data is more of a philosophy than a science. See, e.g., FINLAY, *supra* note 24, at 14 (“Rather than getting hung up on a precise definition of Big Data, an alternative perspective is to view Big Data as a philosophy about how to deal with data.”); KITCHIN, *supra* note 8, at 2 (explaining big data requires a more “philosophical perspective”).

rights and principles. The advent of the big data revolution necessitates an evolution of theoretical structures of analysis to properly critique the intersection of AI, law, and power. Just as Critical Theory utilizes developments in postmodern and post-structural scholarship,¹¹¹ Critical Data Theory is now required to accomplish similar aims of deconstruction.

Put differently, just as Critical Race Theory introduced an approach to legal jurisprudence to deconstruct race classification as it operates in legal contexts, Critical Data Theory is now required to deconstruct the legal and constitutional impact of big data. Critical Race Theory helped unearth and deconstruct racial assumptions that were invisibly embedded in the law and policy. Critical Data Theory must bring contemporary theorizations of a big data society to bear on traditional areas of the law that are presently colliding with and being reshaped by AI data programs adopted as governance systems.¹¹² This application is necessary to understand and to challenge the underlying philosophies of AI policymaking and AI governance as an integrated form of governmental decisionmaking. Underlying presumptions regarding the innate quality of digital data, the reliability of databases, or the inherent objectivity and predictive accuracy of big data products can mislead an inquiry and thwart other insights.¹¹³ AI tools of governance in particular deserve interrogation regarding the manner in which they facilitate norms of categorizations surrounding social sorting protocols¹¹⁴ and methods of classification,¹¹⁵ and can

111. See, e.g., Ben Agger, *Critical Theory, Poststructuralism, Postmodernism: Their Sociological Relevance*, 17 ANN. REV. SOC. 105, 120-21, 126 (1991).

112. See, e.g., *supra* notes 99, 102, 104 and accompanying text. For an excellent overview of the types of data collected and analyzed by the government for criminal and national security profiling, see RACHEL LEVINSON-WALDMAN, *WHAT THE GOVERNMENT DOES WITH AMERICANS' DATA* (2013). For a summary of the implications of big data cybersurveillance, including the consequences of big data "precrime" systems, see MAYER-SCHÖNBERGER & CUKIER, *supra* note 8; Richards, *supra* note 2; and Cohen, *supra* note 22.

113. See, e.g., boyd & Crawford, *supra* note 2, at 667; Cohen, *supra* note 22, at 1921-23; Crawford & Schultz, *supra* note 24, at 99. Richards & King, *supra* note 24; Tene & Polonetsky, *supra* note 24.

114. See GEOFFREY C. BOWKER & SUSAN LEIGH STAR, *SORTING THINGS OUT: CLASSIFICATION AND ITS CONSEQUENCES* 10-11 (1999); OSCAR H. GANDY, JR., *THE PANOPTIC SORT: A POLITICAL ECONOMY OF PERSONAL INFORMATION* 2, 10-11, 18 (1993).

115. See LYON, *SURVEILLANCE STUDIES*, *supra* note 2, at 73-74, 79-81; ROSEN, *supra* note 40, at 98-103.

exacerbate harms such as overpolicing and the expansion of mass incarceration.¹¹⁶

Critical Data Theory can contest the embedded and nearly invisible assumption of AI governance and the constructivity aspects of AI and automated system. A theoretical interrogation is necessary to confront “truths” that may lead to disparate impacts: that algorithmic decisionmaking and the underlying databases that support AI systems are race neutral and mitigate human biases. Critical Data Theory can operate to make more visible the process of datafication or the translation of digital data subject to AI-driven or automated forms of administrative regulation.

A. Critical Theory and Constructivity

What is recognized as Critical Theory¹¹⁷ initially arose in the 1920s and 1930s from academic efforts to examine political labor movements and the impact of capitalism, anti-Semitism, and the rise of fascism.¹¹⁸ As a formal school of thought, Critical Theory has been instrumental in examining the ways modern governance shapes society and culture.¹¹⁹ It encompasses a close interrogation of the meaning of emancipation¹²⁰ and, relatedly, the preservation

116. *See infra* Part III.C.

117. *See, e.g.*, DAVID C. HOY & THOMAS MCCARTHY, CRITICAL THEORY 13-15 (1994); THOMAS MCCARTHY, IDEALS & ILLUSIONS: ON RECONSTRUCTION AND DECONSTRUCTION IN CONTEMPORARY CRITICAL THEORY 127-29 (1992); Theodor Adorno & Walter Benjamin, *Esthetic Theory and Cultural Criticism*, in THE ESSENTIAL FRANKFURT SCHOOL READER 205 (Andrew Arato & Eike Gebhardt eds., 1985) (“Marcuse and Horkheimer both argued that critical theory receives present confirmation of its interest in a future liberated society in the fantasy (read: advanced art) of the present that anticipates an entirely new utopian sensibility and the philosophy of the past.”); *see also* AMY ALLEN, THE END OF PROGRESS 161 (2016); THEODOR W. ADORNO, THE CULTURE INDUSTRY 114 (J.M. Bernstein ed., 1947); Walter Benjamin, *The Work of Art in the Age of Mechanical Reproduction*, in ILLUMINATIONS: ESSAYS & REFLECTIONS 217, 218 (Hannah Arendt ed., Harry Zahn trans., 1969); MAX HORKHEIMER & THEODOR W. ADORNO, DIALECTIC OF ENLIGHTENMENT 155 (John Cumming trans., Herder & Herder 1972) (1944); FREDRIC JAMESON, POSTMODERNISM, OR, THE CULTURAL LOGIC OF LATE CAPITALISM 58 (Stanley Fish ed., 1991); HERBERT MARCUSE, ONE-DIMENSIONAL MAN: STUDIES IN THE IDEOLOGY OF ADVANCED INDUSTRIAL SOCIETY 110 (2d ed. 1964).

118. *See, e.g.*, THEODOR W. ADORNO, NEGATIVE DIALECTICS 37, 166, 257 (1966); MAX HORKHEIMER, ECLIPSE OF REASON 143 (1947); Adorno & Benjamin, *supra* note 117, at 195.

119. *See, e.g.*, THOMAS MCCARTHY: THE CRITICAL THEORY OF JÜRGEN HABERMAS 215 (1978).

120. *See, e.g.*, ALLEN, *supra* note 117, at 157; Herbert Marcuse, *Some Social Implications of Modern Technology*, in THE ESSENTIAL FRANKFURT SCHOOL READER, *supra* note 117, at 138-39; JÜRGEN HABERMAS, KNOWLEDGE & HUMAN INTERESTS 52-55 (Jeremy J. Shapiro trans.,

of both individual autonomy and social community. Critical Theory gained prominence in an era when state governments were developing the administrative tools to expand their reach throughout society, as well as the authoritarian tools to quell dissent in its multifarious forms.¹²¹ Principal concerns originally involved what critical theorists viewed as the massification consequences of industrialization and capitalism:¹²² the loss of human individuality¹²³ that critical theorists contend results from an assembly line culture built upon mass-produced goods and services,¹²⁴ and the mass delivery of cultural memes¹²⁵ and modes of thought.¹²⁶

Critical Theory now encompasses multiple dimensions of critique, covering a wide range of social, economic, political, legal, and cultural frames. In the contemporary era, Critical Theory often focuses its critical lens on commodification and fetishization within postcolonial neoliberalism, oligarchy, and postcapitalist mass culture.¹²⁷ Keith Booker claims the Critical Theory movement's impact

Beacon Press 1971) (1968); JÜRGEN HABERMAS, *THE THEORY OF COMMUNICATIVE ACTION* 74, 144, 367 (Thomas McCarthy trans., Beacon Press 1984) (1981).

121. Max Horkheimer, *The Authoritarian State*, in *THE ESSENTIAL FRANKFURT SCHOOL READER*, *supra* note 117, at 95-96.

122. Massification involves the study of mass production, commodification, and standardization. *See, e.g.*, MARCUSE, *supra* note 117, at 6, 11-12, 14.

123. MAX HORKHEIMER, *CRITICAL THEORY: SELECTED ESSAYS* 237 (Matthew J. O'Connell et al. trans., Continuum Publishing Co. 2002) (1975); HERBERT MARCUSE, *NEGATIONS: ESSAYS IN CRITICAL THEORY* 35-36 (Steffen G. Böhm, ed., 2009).

124. ADORNO, *supra* note 117, at 40; HORKHEIMER & ADORNO, *supra* note 117, at 126; MARCUSE, *supra* note 117, at 10.

125. *See, e.g.*, JACK M. BALKIN, *CULTURAL SOFTWARE: A THEORY OF IDEOLOGY* 43 (1998). Cultural memes refer to "the building blocks of the cultural software that forms our apparatus of understanding." *Id.* (citing RICHARD DAWKINS, *THE SELFISH GENE* (1976)).

Memes are spread from person to person by observation and social learning—either face to face or through media of communication like writing, television, or the Internet.... In this way, memes are communicated from mind to mind, are adapted into our cultural software, and become a part of us.... We use memes to understand, yet memes also "use" us, because they are inside us.

Id. Balkin, as a part of the Critical Legal Studies movement, has advanced scholarship that adopts critical theorization. *See, e.g.*, Balkin, *National Surveillance State*, *supra* note 4.

126. *See generally* HORKHEIMER & ADORNO, *supra* note 117; HORKHEIMER, *supra* note 118. Several scholars have addressed the phenomena of mass production of consent and groupthink. *See* EDWARD S. HERMAN & NOAM CHOMSKY, *MANUFACTURING CONSENT: THE POLITICAL ECONOMY OF THE MASS MEDIA* (1988); IRVING L. JANIS, *GROUPTHINK: PSYCHOLOGICAL STUDIES OF POLICY DECISIONS & FIASCOES* (2d. ed. 1983).

127. *See generally* THOMAS ALLMER, *CRITICAL THEORY AND SOCIAL MEDIA: BETWEEN EMANCIPATION & COMMODIFICATION* (2015); THOMAS ALLMER, *TOWARDS A CRITICAL THEORY*

has been wide-reaching—as critical theorists “have made contributions to modern cultural criticism that recall the concerns of writers of dystopian literature.”¹²⁸ Dystopian literature, written in the same period in which Critical Theory developed, addressed many of the same social and political concerns—although in a more graphic and easily accessible mode. The dystopian genre of literature is embodied by the political and cultural critique of authors like George Orwell in *1984*,¹²⁹ Aldous Huxley in *Brave New World*,¹³⁰ and Arthur Koestler in *Darkness at Noon*.¹³¹ In fact, some scholars have identified the literary nexus between the theory and the narrative of social phenomena as why Critical Theory is a theory of distinct political relevance.¹³²

The Snowden disclosures in June 2013 awoke fears that a drift towards a form of dystopia was possible, if not real.¹³³ Some claim the threat of a new form of dataveillance fascism or AI-centered dictatorship is overblown and hyperbolic.¹³⁴ Yet, journalist and

OF SURVEILLANCE IN INFORMATIONAL CAPITALISM (2012); STEVEN BEST & DOUGLAS KELLNER, *POSTMODERN THEORY: CRITICAL INTERROGATIONS* (1991); STEVEN BEST & DOUGLAS KELLNER, *THE POSTMODERN ADVENTURE: SCIENCE, TECHNOLOGY, AND CULTURAL STUDIES AT THE THIRD MILLENNIUM* (2001); MICHAEL HARTD & ANTONIO NEGRI, *EMPIRE* (2000); EDWARD SAID, *CULTURE AND IMPERIALISM* (1993); THOMAS MCCARTHY, *RACE, EMPIRE, AND THE IDEA OF HUMAN DEVELOPMENT* (2009); EDWARD W. SAID, *ORIENTALISM* (1978).

128. M. KEITH BOOKER, *DYSTOPIAN LITERATURE: A THEORY & RESEARCH GUIDE* 13 (1994).

129. GEORGE ORWELL, *1984* (1949).

130. ALDOUS HUXLEY, *BRAVE NEW WORLD* (1932).

131. ARTHUR KOESTLER, *DARKNESS AT NOON* (1940).

132. See, e.g., M. KEITH BOOKER, *THE DYSTOPIAN IMPULSE IN MODERN LITERATURE: FICTION AS SOCIAL CRITICISM* 18-21 (1994); BOOKER, *supra* note 128, at 13; FREDRIC JAMESON, *POSTMODERNISM, OR, THE CULTURAL LOGIC OF LATE CAPITALISM* 370-71 (Stanley Fish ed., 1991).

133. See, e.g., Tom Engelhardt, *Glenn Greenwald, How I Met Edward Snowden*, TOMDISPATCH (May 13, 2014), http://www.tomdispatch.com/post/175843/tomgram%3A_glenn_greenwald,_how_i_met_edward_snowden/ [https://perma.cc/S6S9-YWK7] (“Technologically speaking, what Snowden revealed to the world ... was a remarkable achievement, as well as a nightmare directly out of some dystopian novel.”); Jon L. Mills, *The Future of Privacy in the Surveillance Age*, in *AFTER SNOWDEN: PRIVACY, SECRECY, AND SECURITY IN THE INFORMATION AGE* 223 (Ronald Goldfarb ed., 2015).

134. Peter Foster, *Edward Snowden Is a Self-Regarding Idealist Whose Warnings of Tyranny Ring Hollow*, TELEGRAPH (July 18, 2013, 7:19 PM), <http://www.telegraph.co.uk/news/uknews/defence/10188209/Edward-Snowden-is-a-self-regarding-idealist-whose-warnings-of-tyranny-ring-hollow.html> [https://perma.cc/BB2M-VGJV] (“[Snowden] has failed to produce a single concrete example of an abuse of a spy apparatus which he claims is trampling the constitution. He asserts portentously that NSA operatives like him ‘had the power to change people’s fates’, but cannot show where actual wrongs have been committed.”).

attorney Glenn Greenwald, journalist and documentary filmmaker Laura Poitras, and other surveillance experts have noted that the Snowden disclosures profoundly implicate questions of democratic governance. Greenwald has explained: “[Snowden] has made it clear, with these disclosures, that we stand at a historic crossroads. Will the digital age usher in the individual liberation and political freedoms that the Internet is uniquely capable of unleashing? Or will it bring about a system of omnipresent monitoring and control?”¹³⁵ Poitras has also stated that the Snowden disclosures’ significance turns on their impact on the democratic experiment. The “Snowden [revelations] don’t only expose a threat to our privacy but to our democracy itself,” Poitras explained.¹³⁶ Surveillance expert Rachel Levinson-Waldman has put it this way: “The collection and retention of non-criminal information about Americans for law enforcement and national security purposes poses profound challenges to our democracy and our liberties.”¹³⁷

Constitutional scholars Jack Balkin and Sanford Levinson have coined the term, the “National Surveillance State.”¹³⁸ They explain that the integration of bureaucratized and normalized surveillance technologies into day-to-day governance should be understood as a distinctive concern of American constitutionalism.¹³⁹ Balkin and Levinson define the National Surveillance State as being “characterized by a significant increase in government investments in technology and government bureaucracies devoted to promoting domestic security and (as its name implies) gathering intelligence and surveillance using all of the devices that the digital revolution allows.”¹⁴⁰ The theory of the National Surveillance State explicates why disruptive technological innovations are now incentivizing concurrent revolutions in methods of governance.¹⁴¹

135. GREENWALD, *supra* note 47, at 6.

136. Peter Maass, *The Intercept’s Laura Poitras Wins Academy Award for ‘Citizenfour’*, INTERCEPT (Feb. 22, 2015, 10:55 PM), <https://firstlook.org/theintercept/2015/02/22/poitras-wins-oscar-for-citizenfour/> [<https://perma.cc/LS9C-BYUG>] (explaining the relevance of Snowden disclosures at the 87th Academy Awards in her acceptance speech for the Oscar Award for Best Documentary Feature as the director of *Citizenfour*).

137. LEVINSON-WALDMAN, *supra* note 112, at 9.

138. See Balkin & Levinson, *supra* note 4, at 521.

139. See *id.* at 520-21.

140. *Id.*

141. See, e.g., Balkin, *National Surveillance State*, *supra* note 4, at 3-4 (“The question is not

In the National Surveillance State, AI-driven technological innovations enable surveillance to serve multiple roles as a discrete tool of policing, foreign intelligence gathering, and advancing counter-terrorism and defense goals. This type of surveillance was commonly accepted and understood in a small data world.¹⁴² In contrast, AI forms of digital surveillance-anchored governing are not commonly understood. Cybersurveillance involves integrating AI technologies into daily governance activities: distributing benefits, tracking identities, and mediating rights and privileges.¹⁴³ New forms of surveillance made possible by AI's availability and adoption now result in new forms of governmental activities. These new forms of governmental activity are now evolving into normalized governing protocols, particularly under a "paradigm of prevention."¹⁴⁴ AI-driven governance systems may be less visible due to the black box nature of AI technologies and thus are more difficult to challenge in a vastly complex administrative state.¹⁴⁵

What is referred to as the National Surveillance State is the most conspicuous manifestation of the phenomenon of AI governance.¹⁴⁶ It is the governmental adoption of a philosophical approach to digital data with other prevailing governance structures and

whether we will have a surveillance state in the years to come, but what sort of surveillance state we will have. Will we have a government without sufficient controls over public and private surveillance, or will we have a government that protects individual dignity and conforms both public and private surveillance to the rule of law?").

142. See Hu, *supra* note 87, at 799-800.

143. See, e.g., EUBANKS, *supra* note 108, Andrejevic, *supra* note 15, at 56 ("[I]n the era of 'big data' surveillance, the imperative is to monitor the population as a whole: otherwise it is harder to consistently and reliably discern useful patterns."); Balkin, *National Surveillance State*, *supra* note 4, at 3-4; Hu, *Big Data Blacklisting*, *supra* note 43; Margaret Hu, *Algorithmic Jim Crow*, 86 *FORDHAM L. REV.* 633 (2017) [hereinafter Hu, *Algorithmic Jim Crow*]; Citron, *Technological Due Process*, *supra* note 13.

144. David Cole, *The Difference Prevention Makes*, 9 *CRIM. L. & PHIL.* 501, 502 (2015) (explaining that the "paradigm of prevention" includes many tools, including "charg[ing] thousands of loosely defined 'suspects' with pretextual offenses, both criminal and immigration-based, in the hope that by doing so some undetected terrorist plot might be averted" and "vastly expand[ing] surveillance").

145. See, e.g., Balkin, *National Surveillance State*, *supra* note 4, at 13-15; Balkin & Levinson, *supra* note 4, at 523; Jennifer C. Daskal, *Pre-Crime Restraints: The Explosion of Targeted, Noncustodial Prevention*, 99 *CORNELL L. REV.* 327, 329-32 (2014); Fairfield & Luna, *supra* note 24, at 984-86; Gray & Citron, *supra* note 24, at 65-67; Strahilevitz, *supra* note 4, at 323; Lyon, *supra* note 4, at 502-03.

146. See Balkin, *National Surveillance State*, *supra* note 4, at 3-4.

philosophies.¹⁴⁷ In the same way that AI is altering the nature of the market into a digital economy in which a person is reduced to a consumer profile of data points subject to corporate surveillance, analysis, and exploitation, so too the National Surveillance State is seizing upon the citizenry's data trails for purposes of regulating and policing the AI state.¹⁴⁸ In fact, "bureaucratic capitalism" and the National Surveillance State are mutually reinforcing, particularly in their drive to develop tools to expand the reach of AI systems.¹⁴⁹ Evgeny Morozov warns of the dangers of an "emerging data-centric capitalism."¹⁵⁰ He emphasizes the need for more protections for an increasingly vulnerable citizenry to counteract the imbalance of power created by those who control AI technologies.¹⁵¹ Similarly, scholars have identified the risks associated with "informational capitalism" as stemming from consumption-oriented surveillance.¹⁵²

147. See, e.g., Julie E. Cohen, *The Biopolitical Public Domain: The Legal Construction of the Surveillance Economy*, 31 J. PHIL. & TECH. 213, 214, 231 (2018).

148. ZUBOFF, *supra* note 2; MAYER-SCHÖNBERGER & CUKIER, *supra* note 8, at 157 (contending that "the new thinking is that people are the sum of [the data]").

And because the government never knows whom it will want to scrutinize, it collects, stores, or ensures access to information not necessarily to monitor everyone at all times, but so that when someone falls under suspicion, the authorities can immediately investigate rather than having to start gathering the info from scratch.

Id.; Evgeny Morozov, *Digital Technologies and the Future of Data Capitalism*, SOC. EUR. (June 23, 2015), <https://www.socialeurope.eu/2015/06/digital-technologies-and-the-future-of-data-capitalism> [<https://perma.cc/K8RB-BUF2>].

149. ZUBOFF, *supra* note 2; MAURICE MEISNER, THE DENG XIAOPING ERA: AN INQUIRY INTO THE FATE OF CHINESE SOCIALISM, 1978-1999 300 (1996) (defining "bureaucratic capitalism" as the "use of political power and official influence for private pecuniary gain through capitalist or quasi-capitalist methods of economic activity."); Shoshana Zuboff, *Big Other: Surveillance Capitalism and the Prospects of an Information Civilization*, 30 J. INFO. TECH. 75, 75, 77 (2015).

150. Morozov, *supra* note 148 ("We must take the matter of digital identity completely out of commercial jurisdiction and instead turn it into a public good. Think of this is as the intellectual infrastructure of the data-centric capitalism. To reiterate: If we are faced with emerging data-centric capitalism, then the only way to guarantee that citizens won't be crushed by it is to ensure that its main driving force—data—remains squarely in public hands.")

151. *Id.*

152. See JULIE E. COHEN, BETWEEN TRUTH AND POWER: THE LEGAL CONSTRUCTIONS OF INFORMATIONAL CAPITALISM (2019); see also ZUBOFF, *supra* note 2; ALLMER, TOWARDS A CRITICAL THEORY OF SURVEILLANCE, *supra* note 127, at 62-64.

Increasingly, post-9/11 automated systems of decisionmaking and semi-automated AI-dependent programs allow for core rights and freedoms to be partially or completely obstructed in the name of law enforcement, national security, and homeland and border security.¹⁵³ Because of the virtual and classified or quasi-classified¹⁵⁴ nature of database screening protocols, the digital mediation of and potential interference with liberty interests can occur without our knowledge or consent.¹⁵⁵ Indeed, governance by AI and automated methods seems normal because we are immersed in a digitized culture and digital political economy. Much of our social and commercial interactions are digitally mediated and leave data trails, thus governance can proceed through monitoring by private and public interests alike.

Critical Data Theory is needed to denormalize the digital world. This denormalization can proceed through a close assessment of the impact of new AI governance methods that are significantly distinct from small data methods. In an Information Society where individuals actively construct their data selves, security “apparatuses”¹⁵⁶ or “surveillant assemblages”¹⁵⁷ likewise are able to construct parallel

153. The recent White House Report on the consequences of big data, including government-led big data programs, recognizes that big data technologies can profoundly influence rights and privileges. *See, e.g.*, PODESTA REPORT, *supra* note 103, at 48-53.

154. For the purposes of this Article, certain programs, such as the Terrorist Watchlist and No Fly List are referred to as classified or semi-classified. While these programs themselves are not technically classified, the government has explained that these programs are informed by classified information. *See* Daskal, *supra* note 145, at 345-46. “The term ‘classified information’ means information which ... is, for reasons of national security, specifically designated by a United States Government Agency for limited or restricted dissemination or distribution.” 18 U.S.C. § 798(b) (1996).

155. This Article does not address private big data blacklisting consequences, however, important scholarship is being conducted on this subject. *See, e.g.*, PASQUALE, *supra* note 13, at 101-03 (describing private credit scoring regimes and computerization of the finance sector); Citron & Pasquale, *The Scored Society*, *supra* note 2, at 3-4 (discussing algorithmic and scoring systems implemented by various individuals or companies that use data to make decisions on characterizing a person in numerous aspects of society).

156. MICHEL FOUCAULT, SECURITY, TERRITORY, POPULATION: LECTURES AT THE COLLÈGE DE FRANCE 1977-1978 45 (Graham Burchell trans. 2007) (explaining “apparatuses of security” as including multiple governing characteristics such as “the constant tendency to expand; they are centrifugal ... Security therefore involves organizing, or anyway allowing the development of ever-wider circuits”).

157. Hier, *supra* note 2, at 400 (“[Surveillant assemblages] denote the increasing convergence of once discrete systems of surveillance. They [Kevin Haggerty and Richard Ericson] argue that the late modern period has ushered in the proliferation of information and data

data selves of those that they govern. The citizenry may present itself digitally under a sense of autonomy and even self-expression. Simultaneously, however, simply by entering the spheres of the digital economy and Information Society, the citizenry submits digitally to the newly emerging governance methods of the AI Age. Regarding database screening and digital watchlisting systems, this involuntary submission to the monitoring of the data self will often occur without notice or consent.¹⁵⁸

The consequences of AI governance as an automated superstructure may not be understood by the small data citizen¹⁵⁹ nor, in some instances, understood by those tasked with administering AI or automated and semi-automated system tools. The ability to grasp the consequences may be even more attenuated when a state or corporate entity has been delegated with the task of deploying AI and algorithmic big data tools by the government.¹⁶⁰ By removing the human element through algorithmic-facilitated decisionmaking, AI policymaking may unfold in a “black box” manner, for example, an overreliance on algorithmic intelligence tools.¹⁶¹ Critical Theory requires that we understand how this digital culture inflects our thinking, including our legal analysis or policymaking protocols.

gathering techniques which operate to break the human body into a number of discrete signifying data flows. Reassembled as ‘functional hybrids’ whose unity is found solely in temporal moments of interdependence, resulting surveillance simulations bring together a seemingly limitless range of information to formulate categorical images or risk data profiles which render otherwise opaque flows of information comprehensible.” (citing Haggerty & Ericson, *supra* note 2, at 605).

158. See generally PRIVACY AND POWER: A TRANSATLANTIC DIALOGUE IN THE SHADOW OF THE NSA-AFFAIR (Russell A. Miller ed., 2016); Anjali S. Dalal, *Shadow Administrative Constitutionalism and the Creation of Surveillance Culture*, 2014 MICH. ST. L. REV. 61 (2014); Chris Jay Hoofnagle, *Big Brother’s Little Helpers: How ChoicePoint and Other Commercial Data Brokers Collect and Package Your Data for Law Enforcement*, 29 N.C. J. INT’LL. & COM. REGUL. 595 (2004); Anil Kalhan, *Immigration Surveillance*, 74 MD. L. REV. 1 (2014); Ohm, *supra* note 40; Toomey & Kaufman, *supra* note 40.

159. See, e.g., LANIER, *supra* note 101, at 19-22; see generally Joel Achenbach, *The Resistance*, WASH. POST (Dec. 26, 2015), <http://www.washingtonpost.com/sf/national/2015/12/26/resistance/> [<https://perma.cc/42NR-V5D2>]; see also Calo, *supra* note 2, at 999 (“[T]he digitization of commerce dramatically alters the capacity of firms to influence consumers at a personal level. [It] ... will empower corporations to discover and exploit the limits of each individual consumer’s ability to pursue his or her own self-interest. Firms will increasingly be able to trigger irrationality or vulnerability in consumers.”).

160. See Hoofnagle, *supra* note 158, at 622-23; see also Kalhan, *supra* note 158, at 5-6.

161. See, e.g., COHEN, *supra* note 13, at 27, 235; PASQUALE, *supra* note 13, at 213-17; Citron & Pasquale, *The Scored Society*, *supra* note 2, at 4-5; Citron, *supra* note 13, at 1272, 1277.

Doing so advances an understanding of how our private autonomy is narrowed through big data and, from that perspective, a theorization of how the law must evolve to safeguard it.

B. Distinguishing Critical Data Theory from Other Critical Theory

Critical Data Theory is not about race. It is about how best to critique algorithmic- and AI-centered power and the construction of digital identity as those phenomena impact law and policy. Critical Data Theory is especially necessary in an Information Society where the digital economy and big data governance tools unfold virtually in the cloud, over the internet, through database screening and digital watchlisting programs, and through algorithmic scoring systems.¹⁶² The manner in which power is shifting means that the questions and answers surrounding how to preserve core emancipatory principles are also rapidly shifting.¹⁶³ How privacy and freedom of association, speech, thought, and protest are understood and threatened in a big data world now must anchor these questions. Small data governance accountability systems appear unable to keep pace with big data governance ambitions.¹⁶⁴ Just as race theorists deconstructed governance ambitions underpinned by race and fueled by race-based classifications in law and policy, data and privacy theorists are now deconstructing governance ambitions motivated by data-based classifications and fueled by the availability and capabilities of data collection, storage, and analysis.

Critical Data Theory is needed to examine how law and technology construct classifications of suspect data and suspect digital avatars that reinforce preexisting power hierarchies. The constructivist thesis at the heart of Critical Race Theory is also at the heart of Critical Data Theory.¹⁶⁵ Techniques of AI governance are evolving

162. See Ferguson, *supra* note 8, at 369-71 (explaining an example of database screening); see also Daskal, *supra* note 145, at 331 (discussing an example of digital watchlists); Citron & Pasquale, *The Scored Society*, *supra* note 2, at 3-4 (explaining algorithmic scoring systems).

163. See generally Balkin & Levinson, *supra* note 4; see also Elizabeth E. Joh, *The New Surveillance Discretion: Automated Suspicion, Big Data, and Policing*, 10 HARV. L. & POL'Y REV. 15, 33-38 (2016).

164. See, e.g., MAYER-SCHÖNBERGER & CUKIER, *supra* note 8, at 151-53; Daskal, *supra* note 145, at 365-67; Ferguson, *supra* note 8, at 349-51, 387-88; Hu, *supra* note 87, at 804-05; Joh, *supra* note 163, at 30-33.

165. See Carbado, *Critical What What?*, *supra* note 12, at 1611-13; see also Citron &

to keep pace with the disruptive and revolutionary developments initiated by the Information Society.¹⁶⁶ Critical Data Theory must provide legal scholars and policymakers the tools to interrogate the implications of big data-centered power.

Just as Critical Race Theory teaches how race often informs ostensibly race-neutral legal norms, so must Critical Data Theory interrogate how AI is reshaping law enforcement and surveillance, crimmigration-counterterrorism and national security. The tools of AI and data science allow for legal, scientific, and socioeconomic-political constructions that parallel the manner in which tools of race negotiation and race definition have facilitated legal, scientific, and socioeconomic-political constructions.¹⁶⁷ Data collection, sorting, and analysis tools are often presented as scientifically objective and nondiscriminatory.¹⁶⁸ AI and algorithmic-driven automated decision-making systems nonetheless can shape the treatment of classes and subclasses of individuals in profoundly disparate ways.¹⁶⁹ The legality and constitutionality of AI-driven techniques of governing citizenry cannot be fully understood without the application of analytical frameworks that assess emerging digital identity and AI-dependent law and policy structures through a critical theoretical lens. Without a theoretical approach, the sources and forces of AI power as it operates within governing structures will remain largely unchallenged and unseen.

Critical Data Theory can make AI power and the discrimination it produces more visible. As Simone Browne illustrates, for example, utilizing the tools of critique pioneered by Surveillance Studies and Critical Theory can unmask how governance structures normalize “anti-black surveillance” and the hyperpolicing of minority communities.¹⁷⁰ Increased visibility forces a conversation on the renegotiation of power under the impact of AI tools of surveillance and

Pasquale, *The Scored Society*, *supra* note 2, at 24.

166. See Hu, *supra* note 87, at 804-05; see also Joh, *supra* note 163, at 33-38.

167. See Citron & Pasquale, *The Scored Society*, *supra* note 2, at 4-5; see also Bell, *supra* note 26, at 901.

168. See Citron & Pasquale, *The Scored Society*, *supra* note 2, at 4-5; see also Bell, *supra* note 26, at 901.

169. See, e.g., Ferguson, *supra* note 8, at 401-03; Hu, *Algorithmic Jim Crow*, *supra* note 143; Margaret Hu, *Crimmigration-Counterterrorism*, 2017 WISC. L. REV. 955 (2017).

170. BROWNE, *supra* note 2, at 21.

policing, in particular, that can lead to the overpolicing of communities of color and the exponential growth of mass incarceration.

Critical Data Theory, like Critical Race Theory, is a part of a broader political philosophy.¹⁷¹ Deconstruction unveils how supposed immutable or natural norms and truths are constructed, usually by social forces.¹⁷² From that excavation, challenges to dominant epistemologies and structures of governance are made possible. As AI drifts from philosophical dimensions to more ideological dimensions,¹⁷³ a political philosophy that can deconstruct AI's impact and its surrounding phenomena becomes more crucial.

Besides interrogating how our digital identities are being constructed and utilized, Critical Data Theory can also interrogate the underlying philosophy and presumptions of techniques of AI governance and automated systems of governing. Interrogating these presumptions is a prerequisite to assessing how contemporary technology is impacting legal and policy developments, along with core constitutional rights and principles. In the next part, we will look to the Fourth Amendment as the most salient example of how algorithmic decisionmaking technology is placing constitutional doctrines under stress.

III. CRITICAL DATA THEORY AND THE CONSTITUTION

As discussed in Part I, Critical Race Theory often emphasizes the importance of narratives—particularly when they articulate the

171. See, e.g., Thomas McCarthy, *Political Philosophy and Racial Injustice: From Normative to Critical Theory*, in PRAGMATISM, CRITIQUE, JUDGMENT 149, 151-66 (Seyla Benhabib & Nancy Fraser eds., 2004); see also Goodrich & Mills, *supra* note 72, at 20 (“[C]ritical race theory has had considerable success in making the norms of exclusion explicit and in legitimizing the experiences and narratives of racial outsiders as forms of knowledge, of culture, of institution, and of law. The various tools that have been developed to assert identities and discourses of color have focused on a politics of confrontation, resistance, intersection, and recuperation.”).

172. See Carbado, *supra* note 12, at 1608-09.

173. See, e.g., MOROZOV, *supra* note 101, at 5 (arguing that big data expresses an “ideology that legitimizes and sanctions such aspirations [the drive toward computable or algorithmically-driven solutions as technological] ‘solutionism.’”); Cohen, *supra* note 22, at 1924 (“[W]e seem unable to challenge the techniques of Big Data as knowledge-production practices. But the denial of ideology is itself an ideological position.”); van Dijck, *supra* note 76, at 198.

views of the marginalized and subordinated.¹⁷⁴ Part II explored how Critical Theory movements use deconstructive methods to reveal how social and legal norms are not “normal” for everyone and provide the opening for critique as well as, for those not on the margin, understanding.¹⁷⁵ Part III turns to the following question: how do you bring the techniques of critiquing power under Critical Race Theory specifically and Critical Theory generally into a new theory, Critical Data Theory? The remainder of the Article will discuss how Critical Data Theory can operate on the ground through narratives as deployed by federal courts in privacy and surveillance cases.

Privacy and technology scholars have already recognized that the predominant tools that have been traditionally utilized by critical theorists can be valuable in shedding light.¹⁷⁶ James Boyle has suggested that science fiction better explains how the law needs to adapt to technological developments than the law.¹⁷⁷ Science fiction, like dystopian literature, is an art form that tells a story about technology and humanity.¹⁷⁸ A storytelling method of critique is essential to explain the impact of big data, artificial intelligence, and the algorithmic decisionmaking that predominates a black box society. Science fiction storytelling is theoretical in the sense that it offers a parallel, if often dystopian, universe that provides a denaturalizing perspective on our society.¹⁷⁹ Such narratives serve to open critical possibilities on big data power that otherwise might be hard to unearth.

A. Dystopian Narratives as a Constitutional Touchstone

The application of Critical Theory to the phenomena of big data and the national surveillance state is and has been an ongoing project in the social sciences—specifically, in what is known as

174. See *supra* notes 69-78 and accompanying text.

175. See *supra* Part II.

176. See *supra* note 132 and accompanying text.

177. See James Boyle, *Endowed by Their Creator?*, in CONSTITUTION 3.0: FREEDOM AND TECHNOLOGICAL CHANGE 194, 200-02 (Jeffrey Rosen & Benjamin Wittes eds., 2011).

178. BOOKER, *supra* note 132, at 18-21; BOOKER, *supra* note 128, at 13.

179. See BOOKER, *supra* note 132, at 18-19.

Surveillance Studies.¹⁸⁰ The problem, however, as Julie Cohen has observed, is that that work does not inform legal scholarship and in many respects is simply not easily amenable to adoption by legal scholars.¹⁸¹ Legal scholarship is, after all, comparatively speaking, much more pragmatically oriented to questions of law and policy.¹⁸² A highly theoretical discourse concerning contemporary surveillance and its reshaping of subjectivity is not easily translated into such a pragmatic context. That is especially the case given that there tends to be resistance in legal scholarship to highly theoretical ventures, as critical race theorists have discovered in staking out a role for theory in the law.¹⁸³

That reluctance to embrace theory has, Cohen points out, hindered legal scholarship on surveillance.¹⁸⁴ That is in large part why Critical Data Theory respectfully borrows from the approaches pioneered by critical race theorists. Doing so may provide an entry into legal discourse of a more complex and nuanced way to think about issues of personal privacy and limits on government and other private surveillance. As Cohen notes, legal discourse tends to operate within a classic liberal political framework that may not be fully capable of grappling with the way surveillance impacts society.¹⁸⁵ Processes of law are often tethered to Enlightenment principles that center upon liberal theory as their axis: “Law owes allegiance principally to liberal theory and Surveillance studies principally to [C]ritical [T]heory, and the different approaches to the topics of power and subjectivity within the two traditions complicate efforts at dialogue.”¹⁸⁶

Posing the question as how to protect an autonomous subject’s privacy may not suffice where technology is increasingly placing autonomy and privacy in tension, and government surveillance capacities now stretch far beyond simple police surveillance of

180. See *supra* note 1 and accompanying text.

181. Cohen, *supra* note 2, at 92.

182. *Id.* (“[T]he law in operation is pragmatic.”).

183. See, e.g., Bell, *supra* note 26, at 898–908 (“Part II. The Ongoing Debate over the Legitimacy of Critical Race Theory”).

184. Cohen, *supra* note 2, at 93 (noting “resistance to grappling with the complexity and pervasiveness of networked surveillance” in recent articles).

185. *Id.* at 91–92.

186. *Id.* at 92.

potential criminal activity.¹⁸⁷ As Cohen makes clear, the classic liberal framework within which our legal doctrines find their home must come to grips with the more dystopian reality of ubiquitous and “liquid” surveillance in our daily lives.¹⁸⁸ Surveillance Studies scholars David Lyon, Oscar Gandy, Kevin Haggerty, Richard Ericson, Mark Andrejevic, John Gilliom, Torin Monahan, Sean Hier, Mireille Hildebrant, Katja de Vries, and others have already drawn upon the Critical Theory tradition in their work.¹⁸⁹ Legal scholars can also rely upon the Critical Theory tradition in examining AI in law and policy.¹⁹⁰

The collision of these two frameworks—liberal theory and Critical Theory—is already playing out in the courts.¹⁹¹ The discussion below focuses on the eruption of Orwellian rhetoric and dystopian narratives in the judicial context. These examples, proliferating in the federal courts for several decades, demonstrate how Critical Data Theory can play out on the ground. They provide a narrative framework for a problem that is not otherwise cognizable within the current terms of legal discourse.

References to dystopian literature emerge to contextualize judicial results and evoke police state or totalitarian implications in federal court decisions. In effect, dystopian narrative references mark the limits of current legal doctrines when confronted by the fast changing social realities of a technologically-driven economy and society.¹⁹² The invocation of dystopian narrative provides an extralegal framework to explain why a potential legal result is intolerable even when, in a strictly legal framework, the result is not problematic at all.¹⁹³ Such rhetorical outbursts have no legal value in the sense that they are, of course, no more than just rhetoric.¹⁹⁴ But they are valuable in this context as a marker for the

187. *Id.* at 93–94.

188. *Id.*

189. *See generally id.*

190. *See id.* at 96 (citing the work of privacy theorists Neil Richards, James Grimmelman, Helen Nissenbaum, and Daniel Solove, although noting that not all privacy theorists have embraced Critical Theory).

191. *See infra* notes 197–98.

192. *See supra* note 132 and accompanying text.

193. *See supra* note 178 and accompanying text.

194. Courts are often resistant to parties raising these arguments. *See, e.g.*, *Camara v. Gonzales*, 166 Fed. App’x 840, 844 (6th Cir. 2006) (“This Court, however, does not have the

limits and gaps of our traditional legal discourse and the need for critical data theory to address them.

As Cohen noted, American law processes operate under the presumption that liberal theory protects in a way that is sufficient.¹⁹⁵ The legal tools that statutory and constitutional frameworks offer under a political theory of liberalism are presumed to be sufficient.¹⁹⁶ Critical Legal Studies and Critical Race Theory challenge these presumptions. Critical Data Theory explains why federal courts reach beyond statutes, constitutional law, and case precedent to invoke dystopian narrative. References to George Orwell's *1984* conjure up specific and widely-recognized images of a police state,¹⁹⁷ mass surveillance,¹⁹⁸ torture,¹⁹⁹ tyranny,²⁰⁰ and thought crime.²⁰¹ *1984* often serves as a placeholder to explain how the law has failed to preserve individual autonomy and dignity rights in the face of

authority to overturn federal regulations based on policy arguments, nor do the writings of George Orwell or any other fiction writer provide this Court with any legal authority.”). Courts do, however, regularly refer to Orwell independently. *See infra* notes 195-201.

195. *See* Cohen, *supra* note 2, at 91-92.

196. *Id.*

197. *See, e.g.*, United States v. Mitchell, 652 F.3d 387, 409 (3d Cir. 2011); United States v. Weikert, 504 F.3d 1, 14-15 (1st Cir. 2007); Johnson v. Quander, 440 F.3d 489, 499 (D.C. Cir. 2006); United States v. Heinz, 983 F.2d 609, 619 (5th Cir. 1993) (per curiam) (Parker, J., concurring in part and dissenting in part); United States v. Penn, 647 F.2d 876, 882 (9th Cir. 1980); United States v. McCotry, No. IP 06-CR-25-01-H18, 2006 WL 2460757, at *16 (S.D. Ind. July 13, 2006), *rev'd by* United States v. Hollingsworth, 495 F.3d 795 (7th Cir. 2007).

198. *See, e.g.*, Florida v. Riley, 488 U.S. 445, 466-67 (1989) (Brennan, J., dissenting); United States v. Kyllo, 190 F.3d 1041, 1050 (9th Cir. 1999) (Noonan, J., dissenting), *rev'd by* Kyllo v. United States, 533 U.S. 27 (2001); United States v. Real Property Located at 15324 County Highway E, Richland Center, Richland County, Wisconsin, 219 F.3d 602, 603 (7th Cir. 2000), *vacated by* Acker v. United States, 533 U.S. 913 (2001); Cramer v. Consolidated Freightways, Inc., 209 F.3d 1122, 1135-36 (9th Cir. 2000) (Fisher, J., dissenting in part); United States v. Torres, 751 F.2d 875, 877 (7th Cir. 1984); *id.* at 887 (Cudahy, J., concurring); United States v. Cuevas-Sanchez, 821 F.2d 248, 251 & n.3-4 (5th Cir. 1987); United States v. Finazzo, 583 F.2d 837, 841-42 (6th Cir. 1978), *vacated by* 441 U.S. 929 (1979); Klayman v. Obama, 957 F. Supp. 2d 1, 29, 33 (D. D.C. 2013), *vacated and remanded by* Obama v. Klayman, 800 F.3d 559 (D.C. Cir. 2015); Hansen v. Turnage, No. C88-30261, 1988 WL 147881, at *3 (N.D. Cal. July 28, 1988); Capua v. City of Plainfield, 643 F. Supp. 1507, 1511 (D.N.J. 1986); Martinez v. Winner, 548 F. Supp. 278, 334 (D. Colo. 1982), *aff'd in part, rev'd in part*, 771 F.2d 424 (10th Cir. 1985).

199. *See, e.g.*, United States v. Weber, 451 F.3d 552, 554 (9th Cir. 2006); Conner v. Sticher, 801 F.2d 1266, 1269 (11th Cir. 1986) (Clark, J., dissenting).

200. *See, e.g.*, United States v. Black, 750 F.3d 1053, 1057 (9th Cir. 2014).

201. *See, e.g.*, Weber, 451 F.3d at 554, 570-71 (Noonan, J., concurring).

changing social and political circumstances.²⁰² The moral force of *1984* can be attributed in part to Orwell's commitment to the democratic experiment.²⁰³ Scholars have observed that the democratic principles embodied by the Constitution and the Declaration of Independence animated Orwell's philosophical vision for his novel.²⁰⁴ Orwell concludes *1984* with an excerpt of the Declaration of Independence,²⁰⁵ and as Akhil Amar, Jack Balkin, and others have explained, the Declaration of Independence animates and anchors the Constitution.²⁰⁶ As a heuristic for a surveillance state and how democratic principles are betrayed, *1984* is easily adopted by federal courts to explain phenomena not yet explained by legal tools.²⁰⁷ *1984* serves as a frame of reference for anticipating failures of the law as the judiciary interprets the law.

B. Critical Data Theory and the Fourth Amendment

Critical Theory, as explained above, focuses on methodological tools of inquiry that allow for deconstructionism. Critical Race Theory and other theoretical progeny adopt narrative and other truth-seeking methods of deconstruction and poststructuralism. In this Part, the discussion will focus on how federal courts are attempting to tell the story of the National Surveillance State through a narrative method. Specifically, through references to

202. See, e.g., *id.* (Noonan, J., concurring); *Kyllo*, 190 F.3d at 1050 (Noonan, J., dissenting), *rev'd*, 533 U.S. 27 (2001); *Penn*, 647 F.2d at 882; see also Brian C. Murchison, *Speech and the Truth-Seeking Value*, 39 COLUM. J. L. & ARTS 55, 100 (2015) ("Perhaps the cases do not involve acts of power as audacious or violent as that imagined by Orwell, but the strong doctrines developed by courts display a wariness of power all the same, particularly its ability to come between the individual and his 'world.'").

203. GEORGE ORWELL, *WHY I WRITE* 8 (Penguin 2005) (1946) ("Every line of serious work that I have written since 1936 has been written, directly or indirectly, *against* totalitarianism and *for* democratic Socialism, as I understand it.").

204. CHRISTOPHER HITCHENS, *WHY ORWELL MATTERS* 103-13 (2003).

205. ORWELL, *supra* note 129, at 428.

206. See, e.g., AKHIL REED AMAR, *AMERICA'S UNWRITTEN CONSTITUTION: THE PRECEDENTS AND PRINCIPLES WE LIVE BY* 253-55 (2012) ("The Constitution's enactment was widely understood as an implementation and extension of the Declaration's ringing language."); JACK M. BALKIN, *CONSTITUTIONAL REDEMPTION: POLITICAL FAITH IN AN UNJUST WORLD* 23-24 (2011) (contending that the Declaration of Independence anchors "[t]he ultimate goal of our constitutional order ... to produce not merely democratic procedures but a *democratic culture*").

207. See, e.g., Crocker, *supra* note 2, at 603-06.

Orwell's *1984* in the context of the reasonable expectation of privacy standard in Fourth Amendment cases, federal courts (including the Supreme Court) increasingly express concern about mass surveillance as a social norm and the potential of constitutionalizing that norm.²⁰⁸ Moving Critical Data Theory away from a purely abstract theoretical principle and into a pragmatic, legal realm of applicability requires this analysis.

Courts do not consciously apply Critical Theory in their legal analyses. Nonetheless, Critical Data Theory is necessary to see why invocations to dystopian narratives are legally significant. Because Critical Theory is intertwined with dystopian literature,²⁰⁹ the federal courts' invocation of dystopian literature is arguably a manifestation of Critical Theory. This invocation signals a critical need in the law: taking the pulse of the Constitution and related legal doctrines to ensure democratic vitality.²¹⁰ Thomas Crocker argues that dystopian constitutional analysis "provides a method through which constitutional values are articulated and applied in contrast to values and practices the American polity agrees it wishes to avoid."²¹¹ If there were sufficient legal vocabulary to explain the threat of a police state or surveillance state, courts would not feel compelled to resort to extralegal vocabulary to describe potential dystopian consequences.²¹²

In short, Critical Theory has become inadvertently operationalized by federal courts in imbuing a deeper meaning into formal reasoning, of which pure legal reasoning is a part. References to George Orwell in Fourth Amendment cases unmask the power

208. This argument appears to be consistent with Critical Legal Studies. Mark Tushnet explains that it is possible to "abandon" constitutional rights if they are "defined on too abstract a level to be helpful in resolving the claims presented in particular cases." Mark Tushnet, *Critical Legal Studies: An Introduction to Its Origins and Underpinnings*, J. LEGAL EDUC. 505, 516 (1986) ("According to the critique of rights, people cannot know what rights they have, and there are no political methods that guarantee those rights. The term "Kafkaesque" is perfectly appropriate and provides a clue to the justification for the constructive program—or for the program of interminable critique. For by invoking Kafka's vision, the term allows CLS to say that it, like Kafka, is describing the condition of the modern world.").

209. See, e.g., *supra* note 132.

210. See, e.g., Crocker, *supra* note 2, at 595.

211. *Id.*

212. *Id.* at 606 ("[D]ystopian states form a shared vocabulary on which constitutional analysis can draw.").

abuses that postfascism critical theorists identified at the birth of the theory. Even if courts do not formally recognize Critical Theory, Orwell and other dystopian authors adopted an aesthetic manifestation of the theory, which is incidentally imported into federal courts' reasoning when judges and Supreme Court Justices cite Orwell.²¹³

Because the potential long-term consequences of big data cyber-surveillance and advancing cybersurveillance technologies are difficult to visualize, *1984* gives meaning to the Fourth Amendment in a way that the text of the Amendment and constitutional doctrine alone cannot. The Fourth Amendment protects ordinary citizens from mass surveillance and suspicionless surveillance fishing expeditions.²¹⁴ Increasingly, ordinary citizens and other private parties are seeking Fourth Amendment protection from the expanding encroachment and intrusiveness of bureaucratized cybersurveillance and big data cybersurveillance.²¹⁵ These technologies execute surveillance through algorithmic and AI- and database-driven methodologies that are increasingly comprehensive in scope.²¹⁶

It is unsurprising that George Orwell's antisurveillance novel, *1984*,²¹⁷ a deeply embedded cultural touchstone, was invoked by the Supreme Court during oral argument in *United States v. Jones* on several occasions in response to positions advocated by the

213. *See id.*

214. *See, e.g.,* Solove, *supra* note 18, at 1107 (“[B]y obtaining private sector records, the government can conduct the type of ‘fishing expeditions’ that the Framers feared.”) (citing LEONARD W. LEVY, *ORIGINS OF THE BILL OF RIGHTS* 158 (1999); Tracey Maclin, *When the Cure for the Fourth Amendment Is Worse Than the Disease*, 68 S. CAL. L. REV. 1, 9 (1994)).

215. *See* *Clapper v. Amnesty Int'l USA*, 568 U.S. 398, 404 (2013) (presenting *prima facie* challenges to a provision of the Foreign Intelligence Surveillance Amendments Act of 2008, which empowers the FISC court to authorize surveillance without a showing of probable cause that the target of surveillance is an agent of a foreign power).

216. Biometric databases, particularly DNA databases, are increasingly relied upon for a variety of criminal law purposes, including DNA trawling or DNA fishing for prosecution and conviction, as well as using DNA databases for genetic profiling to assess any predictive or diagnostic value. *See, e.g.,* David H. Kaye, *Please, Let's Bury the Junk: The CODIS Loci and the Revelation of Private Information*, 102 NW. U. L. REV. COLLOQUY 70, 70-72 (2007); David H. Kaye, *Rounding Up the Usual Suspects: A Legal and Logical Analysis of DNA Trawling Cases*, 87 N.C. L. REV. 425, 425 (2009) (discussing how prosecutors are identifying a defendant by “fishing through a database of DNA types to find a match”); Andrea Roth, *Safety in Numbers? Deciding When DNA Alone Is Enough to Convict*, 85 N.Y.U. L. REV. 1130, 1132 (2010).

217. ORWELL, *supra* note 129.

government.²¹⁸ Additionally, in the post-Snowden litigation on the constitutionality of the NSA's bulk telephony data program, Judge Richard Leon of the U.S. District Court for the District of Columbia invoked images of *1984* as well. In *Klayman v. Obama*, Judge Leon ruled that the NSA's mass collection of U.S. telephone data is "almost-Orwellian," and a likely violation of the U.S. Constitution.²¹⁹ Judge Leon explained, "I cannot imagine a more 'indiscriminate' and 'arbitrary invasion' than this systematic and high-tech collection and retention of personal data on virtually every single citizen for purposes of querying and analyzing it without prior judicial approval."²²⁰

C. Critical Data Theory and an AI Bill of Rights

Because Critical Data Theory examines the role of AI and algorithmic decisionmaking at its intersection with the law, it can also help assess the computational and AI impact of technological developments that may exacerbate mass incarceration and limit criminal procedure rights. The technological evolution of mass incarceration and its impact, for example, can be better visualized and conceptualized through Critical Data Theory. Critical Race Theory, like Critical Theory, has a broad range of approaches. Narrative is only one of them.

The theoretical tools of Critical Data Theory, therefore, cannot stop with narratives. The emancipatory objectives of the theory inquire as well into the capture of AI and algorithmic decisionmaking by the administrative state, cultural memes surrounding AI,²²¹ the data science and logic of algorithmic power norms, technologically mediated network of social connectivity,²²² constructivity of the digital avatar,²²³ and new forms of governance intended to govern

218. Transcript of Oral Argument at 13:10-11, 25:8-12, 26:22-27:2, 33:13-17, 35:11-12, 57:16-19, *United States v. Jones*, 565 U.S. 400 (2012) (No. 10-1259), http://www.supremecourt.gov/oral_arguments/argument_transcripts/2011/10-1259.pdf [<https://perma.cc/CBC2-ZA76>].

219. 957 F. Supp. 2d 1, 32-33 (D.D.C. 2013), *vacated*, 800 F.3d 559 (2015).

220. *Id.* at 42.

221. See BALKIN, *supra* note 125, at 43.

222. See generally COHEN, *supra* note 13.

223. See generally Gibbons, *supra* note 49.

digital personhood.²²⁴ The deconstructive process necessarily involves multiple techniques of interrogation that can be borrowed from Critical Theory. A new kind of legal theory is essential to address the realities of the techniques and consequences of AI governing techniques and AI governance. While much research and scholarship has already addressed this reality that must be built upon, this Article suggests that we take some valuable lessons from Critical Race Theory and try to develop something on the order of Critical Data Theory. The rapid adoption of AI and automated systems into the criminal and carceral systems offers a pathway for this, as both theories can help illuminate the necessity for an AI Bill of Rights.

The *Blueprint for an AI Bill of Rights: Making Automated Systems Work for the American People* was released by the White House Office of Science and Technology Policy under the leadership of Alondra Nelson in 2022.²²⁵ The *Blueprint for an AI Bill of Rights* suggested multiple AI fair principles for safeguarding rights, and limiting the harms of AI and automated systems. An AI Bill of Rights is paramount as criminal procedure rights are increasingly diminished by AI and mass surveillance harms that are enabled by data and electronic tracking and other emerging technologies.²²⁶ Like the original Bill of Rights, an AI Bill of Rights can benefit from a philosophy of natural rights, and a theory of analyses of what negative and positive rights demand inclusion. Critical Data Theory and critical theoretical critique must be a part of this developing conversation.

224. See Solove, *supra* note 18, at 1149-51.

225. THE WHITE HOUSE, BLUEPRINT FOR AN AI BILL OF RIGHTS: MAKING AUTOMATED SYSTEMS WORK FOR THE AMERICAN PEOPLE (Oct. 2022), <https://www.whitehouse.gov/wp-content/uploads/2022/10/Blueprint-for-an-AI-Bill-of-Rights.pdf> [<https://perma.cc/4BYX-X527>].

226. See generally Murphy, *Paradigms of Restraint*, *supra* note 4; Margaret Hu, *Biometrics and an AI Bill of Rights*, 60 DUQ. L. REV. 283 (2022); Andrea Roth, *Machine Testimony*, 126 YALE L. J. 1972 (2017); Brandon L. Garrett & Cynthia Rudin, *The Right to a Glass Box: Rethinking the Use of Artificial Intelligence in Criminal Justice*, CORNELL L. REV. (forthcoming); Emily Berman, *Individualized Suspicion in the Age of Big Data*, 105 IOWA L. REV. 463 (2020); Elizabeth E. Joh, *Feeding the Machine: Policing, Crime Data, & Algorithms*, 26 WM. & MARY BILL RTS. J. 287 (2017); Margaret Hu, *Orwell's 1984 and a Fourth Amendment Cybersurveillance Nonintrusion Test*, 92 WASH. L. REV. 1819 (2018); Paul Ohm, *The Fourth Amendment in a World Without Privacy*, 81 MISS. L. J. 1309 (2012).

In her groundbreaking work, *The New Jim Crow*, Michelle Alexander explains that mass incarceration “refers not only to the criminal justice system but also to the web of laws, rules, policies, and customs that control those labeled criminals both in and outside of prison.”²²⁷ Jessica Eaglin argues that “a theoretical lens centered on racism and the law ... reveals [that] deeply embedded social assumptions about race that propel algorithms as criminal legal reform in response to mass incarceration.”²²⁸ In calling for a critical theory intervention to examine mass incarceration, she acknowledges that many experts are concerned with racial disparities associated with AI and automated systems adopted by criminal programs, however, she states that “concern with racial disparities is not the same as critically questioning race and racial hierarchies in law.”²²⁹

In *Mass Incarceration Nation*, Bellin points out that from 1972 to 2019, almost 50 years, the prison population has grown at an exponential rate: “Over a period when the nation’s population increased about 55 percent, federal and State prison populations increased more than ten times that. That’s Mass Incarceration.”²³⁰ Black adults are incarcerated at almost four times the rate of white adults. According to the Bureau of Justice Statistics: “Among racial and ethnic groups, black persons had the highest imprisonment rate in 2021 (1,186 per 100,000 adult black residents) ... white persons (222 per 100,000).”²³¹

Alexander, Bennett Capers, Eaglin, Dorothy Roberts and many other scholars have examined mass incarceration and the policing of communities of color through the lens of race and racism. Multiple experts take particular note of the role that suspicionless electronic surveillance and predictive policing may play in overpolicing

227. MICHELLE ALEXANDER, *THE NEW JIM CROW: MASS INCARCERATION IN THE AGE OF COLORBLINDNESS* XXVII (2010).

228. Jessica Eaglin, *Racializing Algorithms*, 111 CAL. L. REV. 753 (2023).

229. *Id.* at 757 (citing Kimberlé Crenshaw, *From Private Violence to Mass Incarceration: Thinking Intersectionally About Women, Race, and Social Control*, 59 UCLA L. REV. 1418, 1468-69 (2012)).

230. See BELLIN, *supra* note 5, at 20.

231. *Jail Inmates in 2021 - Statistical Tables and Prisoners in 2021 - Statistical Tables*, BUREAU JUST. STATS. (Dec. 20, 2022), [https://bjs.ojp.gov/press-release/jail-inmates-2021-statistical-tables-and-prisoners-2021-statistical-tables#:~:text=Among%20racial%20and%20ethnic%20groups,Asians%20\(90%20per%20100%2C000\)](https://bjs.ojp.gov/press-release/jail-inmates-2021-statistical-tables-and-prisoners-2021-statistical-tables#:~:text=Among%20racial%20and%20ethnic%20groups,Asians%20(90%20per%20100%2C000)) [<https://perma.cc/732K-WKEZ>].

these communities. Roberts explains that: “Algorithms that predict future conduct reinforce the state’s control over marginalized populations by legitimizing punishment without the need to prove individual culpability.”²³² Eaglin asserts that automated and technical processes such as algorithmic decisionmaking carry significant risks, including producing race and entrenching racial hierarchies in ways that technically standardize racism invisibly through the administration of criminal law programs and protocols.²³³ Similarly, Kate Weisburd asserts that electronic surveillance and data tracking that is incorporated into probation, parole, and community supervision,²³⁴ and other forms of data surveillance executed during incarceration and the criminal process—what she refers to as “punitive surveillance”—is “a form of racialized carceral control” and “allows government officials, law enforcement, and for-profit companies to track, record, search, and analyze the location, biometric data, and other meta-data of thousands of people on probation and parole.”²³⁵

In summary, the invitation by Bellin to consider how the “criminal legal system”²³⁶ works hand-in-hand with new forms of surveillance and automated policing and restraint can be useful to see additional dimensions of the root causes of mass incarceration. The “criminal legal system,” particularly as it may drift into administrative procedures, is capable of commandeering AI and emerging technologies and transforming the black box of AI into new methods of punishment and restraint that fall outside of traditional criminal procedure protections afforded by the U.S.

232. Dorothy E. Roberts, *Digitizing the Carceral State*, 132 HARV. L. REV. 1695, 1712 (2019) (“Prediction is also fundamental to white supremacy because it both helps to obscure structural racism and is essential to the very concept of race.”) *See also* CRITICAL RACE JUDGMENTS: REWRITTEN U.S. COURT OPINIONS ON RACE AND THE LAW (Bennett Capers, Devon Carbado, R.A. Lenhardt, and Angela Onwuachi-Willig, eds. (2022)).

233. Eaglin, *supra* note 228, at 760 n.21 (citing DAVID THEO GOLDBERG, *THE THREAT OF RACE: REFLECTIONS ON RACIAL NEOLIBERALISM* 67 (2009); BROWNE, *supra* note 2, at 16-17).

234. Kate Weisburd, *Sentenced to Surveillance: Fourth Amendment Limits on Electronic Monitoring* 98 N.C. L. REV. 717 (2020).

235. Kate Weisburd, *Punitive Surveillance*, 108 VA. L. REV. 147 (2022); *see also* Michele Gilman & Rebecca Green, *The Surveillance Gap: The Harms of Extreme Privacy and Data Marginalization*, 42 N.Y.U. REV. L. SOCIAL CHANGE 253, 258 (2018) (discussing harms that can result from data marginalization and, for instance, “felony conviction histories suffering collateral consequences of their convictions”).

236. BELLIN, *supra* note 5, at 3, 24-29, 164-69.

Constitution. Both law and technologies deployed under the law can use law enforcement, and homeland security and national security justifications, to impose a wide range of political and policy objectives. Consequently, an AI Bill of Rights can utilize Critical Data Theory and other theories to excavate other constitutional protections beyond the Fourth Amendment and other criminal procedure protections.²³⁷

CONCLUSION

At the broadest level, efforts to theorize contemporary AI governing methods and techniques of control and punishment by automated systems are already underway and provide an invaluable starting point for a Critical Data Theory. David Lyon has explained, “as political-economic and socio-technological circumstances change, so surveillance also undergoes alteration, sometimes transformation.”²³⁸ Similarly, the National Surveillance State is transformative because tracking systems are bureaucratized and surveillance technologies are incorporated into day-to-day governance activities, evading traditional legal and constitutional analyses.²³⁹ The invisible nature of historical transformations propelled by the AI revolution and digital age demands critical theoretical methods to help see what otherwise cannot be seen or comprehended.

237. See generally Margot E. Kaminski & Jennifer M. Urban, *The Right to Contest AI*, 121 COLUM. L. REV. 1957 (2021) (exploring AI governance and “right to contest” as part of tradition of due process in US and EU); Sonia K. Katyal, *Democracy & Distrust in an Era of Artificial Intelligence*, DAEDALUS, J. AM. ACADEMY ARTS & SCIENCES (2022) (proposing a theory of judicial review of AI and showing how due process and equal protection “can be recuperated in a modern AI era ... for better oversight and accountability”); Ryan Calo & Danielle Keats Citron, *The Automated Administrative State: A Crisis of Legitimacy*, 70 EMORY L. J. 797 (2021); Ngozi Okidegbe, *The Democratizing Potential of Algorithms?*, 53 CONN. L. REV. 739, 739 (2022) (“[C]urrently employed algorithms are exclusionary of the viewpoints and values of the racially marginalized communities most impacted by their usage, since these algorithms are often procured, adopted, constructed, and overseen without input from these communities.”); Hu, *Biometrics and AI Bill of Rights*, *supra* note 226; Hu, *Algorithmic Jim Crow*, *supra* note 143; Hu, *Big Data Blacklisting*, *supra* note 43; Citron, *supra* note 13.

238. Lyon, *supra* note 2, at 2. See generally ROBERT WALLACE, H. KEITH MELTON & HENRY ROBERT SCHLESINGER, *SPYCRAFT: THE SECRET HISTORY OF THE CIA’S SPYTECHS FROM COMMUNISM TO AL-QAEDA* (2008); Balkin, *supra* note 4; Balkin & Levinson, *supra* note 4; Murphy, *supra* note 4.

239. See generally, Balkin, *National Surveillance State*, *supra* note 4.

The philosophical governance aspects of AI and automated systems are unfolding almost invisibly. Digital data analytics, algorithmic decisionmaking, and AI and automated systems—as techniques of governing that are in the process of transforming into a governing philosophy—can assume the position of an ideology. In conjunction with an interrogation of AI’s impact on law and policy, a separate academic effort is paramount to engage with AI philosophically, politically, and theoretically. The ambition of Critical Data Theory encompasses the broader vision of Critical Theory: emancipatory principles through preserving identity, autonomy, and community. Critical Data Theory compels the critique of algorithmic- and AI-centered power and the governance of digital identities under law and policy.

At the earliest dawn of the Age of AI, AI and algorithmic governance tools, and other automated and semi-automated systems of decisionmaking, appear objective and efficacious, particularly in negotiation of data in legal contexts and the legal treatment of digital persons. The monitoring of networked identities, or the construction and management of digital avatars, often purportedly to prevent criminal or terroristic threats, raises new legal challenges that have yet to be met. The ability to construct the digital identities of others, and to base administrative decisionmaking upon this construction, presents unprecedented challenges under pre-existing privacy doctrine and data privacy laws.

Contemporary economic and policy incentives impel the construction and dissection of digital identities. For example, such constructed identities are subject to market-driven categorizations that may be highly problematic.²⁴⁰ Theorists have asserted that gender, racial, and sexual identities, among other identities, are fluid. Critical Race Theory proponents assert that new legal doctrines are necessary to accommodate what Mari Matsuda has described as a “multiple consciousness” identity—an identity that is informed by conflicting and intersecting experiences, particularly experiences of subordination.²⁴¹ Critical Data Theory also must produce similar analyses of the intersectionality and fluidity of data-constructed identities and push for an evolution of legal doctrines to

240. See Citron & Pasquale, *The Scored Society*, *supra* note 2, at 24.

241. See Matsuda, *supra* note 12, at 298-300.

accommodate the emergence of the data self and digital personhood. To initiate a rigorous, theoretical critique of the asymmetries of power created by AI and automated systems, Critical Data Theory can play an important role in launching a similar interrogative method to Critical Race Theory. Critical Race Theory is an established theory with a history of multidisciplinary catechization and a framework for searching legal criticism.²⁴² It can model the approach needed to examine AI governance tools and the broader impact of algorithmic technologies.²⁴³ Critical Race Theory is uniquely situated to offer critical insight into AI-related discrimination for several reasons. These reasons include the manner in which: (1) digital data and data science, like race, are offered as a natural and objective referent; (2) AI-dependent structures of law and power can operate to entrench discrimination in ways that are largely invisible, much like race-based structures of law and power can operate invisibly; and (3) AI tools and automated systems can manifest race-based proxies in black box contexts that make legal and constitutional challenges difficult.

Inadequate theoretical tools risk permanently embedding AI and automated programs and algorithmic decisionmaking into preexisting bureaucratized surveillance systems without the benefit of critical legal or jurisprudential examination. Just as Critical Race Theory contested race-based assumptions and negotiations of power, Critical Data Theory is needed to contest and deconstruct the new normalization of mass surveillance and mass incarceration: digital data-based assumptions that define power and legal relationships. Critical Data Theory serves as a way to narrate and humanize an understanding of AI-centric power and its impact.

242. *See supra* notes 76-82 and accompanying text.

243. *See supra* notes 96-98 and accompanying text.