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Access to Algorithms

Hannah Bloch-Wehba
Texas A&M University School of Law, hbw@law.tamu.edu

ARTICLES

ACCESS TO ALGORITHMS

*Hannah Bloch-Wehba**

Federal, state, and local governments increasingly depend on automated systems—often procured from the private sector—to make key decisions about civil rights and liberties. When individuals affected by these decisions seek access to information about the algorithmic methodologies that produced them, governments frequently assert that this information is proprietary and cannot be disclosed.

Recognizing that opaque algorithmic governance poses a threat to civil rights and liberties, scholars have called for a renewed focus on transparency and accountability for automated decision-making. But scholars have neglected a critical avenue for promoting public accountability and transparency for automated decision-making: the law of access to government records and proceedings. This Article fills this gap in the literature, recognizing that the Freedom of Information Act, its state equivalents, and the First Amendment provide unappreciated legal support for algorithmic transparency.

The law of access performs three critical functions in promoting algorithmic accountability and transparency. First, by enabling any individual to challenge algorithmic opacity in government records and proceedings, the law of access can relieve some of the burden otherwise borne by parties who are often poor and underresourced. Second, access law calls into question government's procurement of algorithmic decision-making technologies from private vendors, subject to contracts that include sweeping protections for trade secrets and intellectual property rights.

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* Assistant Professor of Law, Drexel University Thomas R. Kline School of Law; Affiliated Fellow, Information Society Project, Yale Law School. My thanks to Jack Balkin, Emily Berman, David Cohen, Ellen Goodman, Ben Green, Ben Grunwald, Christina Koningisor, Irina Manta, Christopher Reed, Rory Van Loo, and Andrew Selbst for helpful conversations and feedback. I am indebted to Lauren Kirchner and Julia Angwin, now of The Markup, and to Dick Tofel of ProPublica for bringing this issue to my attention. I am also grateful for the opportunity to present earlier versions of this project at the Seton Hall Law Artificial Intelligence and the Law Conference, UC Irvine's Technology, Law & Society Summer Institute, Hofstra Law's Intellectual Property Colloquium, Yale Law School's Information Society Project, the Freedom of Expression Scholars Conference, and the Mid-Atlantic Junior Faculty Forum. Finally, I am indebted to the student editors of the *Fordham Law Review* for their meticulous and thoughtful editing. This Article reflects the current state of developments in February 2020, when it was finalized for publication. All errors are my own.

Finally, the law of access can promote an urgently needed public debate on algorithmic governance in the public sector.

INTRODUCTION

Government decision-making is increasingly automated. Cities use machine-learning algorithms to track gunshots,[1] determine where to send police on patrol,[2] and fire ineffective teachers.[3] State agencies use algorithms

1. *See* Chris Weller, *There's a Secret Technology in 90 US Cities That Listens for Gunfire 24/7*, BUS. INSIDER (June 27, 2017, 10:59 AM), https://www.businessinsider.com/how-shotspotter-works-microphones-detecting-gunshots-2017-6 [https://perma.cc/F6KX-R25U].

2. *See* Stephen Goldsmith & Chris Bousquet, *The Right Way to Regulate Algorithms*, CITYLAB (Mar. 20, 2018), citylab.com/equity/2018/03/the-right-way-to-regulate-algorithms/555998 [https://perma.cc/WWP4-B8YC].

3. *See generally* Hous. Fed'n of Teachers, Local 2415 v. Hous. Indep. Sch. Dist., 251 F. Supp. 3d 1168 (S.D. Tex. 2017) [hereinafter *HISD*].

to predict criminal behavior,[4] interpret DNA evidence,[5] and allocate Medicaid benefits.[6] Courts decide, using "decision-support" tools, whether a suspect poses a risk,[7] eligibility for pretrial release,[8] and how harsh a sentence to impose.[9] The federal government uses algorithms to put individuals on immigrant and terrorist watchlists,[10] make policy decisions about whether and how to change Social Security,[11] and catch tax evaders.[12]

How are these new technologies changing government decision-making? "Algorithmic governance"[13]—a term this Article uses to refer to the use of automated decision-making methodologies by governments to inform the policymaking and adjudicative process—might make decision-making faster, more objective, and more reliable: in other words, more "efficient."[14] But increasing automation may also make government less participatory and open to public oversight and input.[15]

This Article examines the potential role of the law of access to government proceedings and records in promoting algorithmic transparency and accountability in public sector decision-making.

Courts across the country have already had occasion to consider challenges to automated determinations arising in sectors such as health care, education, welfare, and criminal justice and have repeatedly concluded that due process requires the use of ascertainable public standards that enable those affected to challenge their determinations.[16] In case after case, litigants have

4. *See generally* Andrew Guthrie Ferguson, *Illuminating Black Data Policing*, 15 OHIO ST. J. CRIM. L. 503 (2018).

5. *See generally* Second Letter, United States v. Johnson, No. 15-cr-565 (S.D.N.Y. May 9, 2016), ECF No. 41. The author represented ProPublica in this litigation.

6. *See generally* K.W. *ex rel.* D.W. v. Armstrong, 789 F.3d 962 (9th Cir. 2015); Michael T. v. Bowling, No. 2:15-CV-09655, 2016 WL 4870284, at *2 (S.D.W. Va. Sept. 13, 2016), *modified sub nom.* Michael T. v. Crouch, No. 2:15-CV-09655, 2018 WL 1513295 (S.D.W. Va. Mar. 26, 2018); Colin Lecher, *What Happens When an Algorithm Cuts Your Health Care*, VERGE (Mar. 21, 2018, 9:00 AM), https://www.theverge.com/2018/3/21/17144260/healthcare-medicaid-algorithm-arkansas-cerebral-palsy [https://perma.cc/7RQY-G8YT].

7. *See* Richard Berk & Jordan Hyatt, *Machine Learning Forecasts of Risk to Inform Sentencing Decisions*, 27 FED. SENT'G REP. 222, 222 (2015).

8. *See* PAMELA M. CASEY ET AL., NAT'L CTR. FOR STATE COURTS, OFFENDER RISK & NEEDS ASSESSMENT INSTRUMENTS: A PRIMER FOR COURTS (2014), https://www.ncsc.org/~/media/Microsites/Files/CSI/BJA%20RNA%20Final%20Report_Combined%20Files%208-22-14.ashx [https://perma.cc/7995-V78V].

9. *See* State v. Loomis, 881 N.W.2d 749, 753 (Wis. 2016).

10. *See* Anil Kalhan, *Immigration Policing and Federalism Through the Lens of Technology, Surveillance, and Privacy*, 74 OHIO ST. L.J. 1105, 1136 (2013).

11. *See* Nicholas Diakopoulos, *Accountability in Algorithmic Decision Making*, COMM. ACM, Feb. 2016, at 56, 58–59.

12. *See generally* Paul Merrion, *Nonprofit Think Tank Plays Key Role in IRS Decision-Making*, MLEX U.S. TAX WATCH, Oct. 2018, at 5.

13. *See generally* Robert Brauneis & Ellen P. Goodman, *Algorithmic Transparency for the Smart City*, 20 YALE J.L. & TECH. 103 (2018).

14. *See* Cary Coglianese & David Lehr, *Regulating by Robot: Administrative Decision Making in the Machine-Learning Era*, 105 GEO. L.J. 1147, 1156 (2017).

15. *See generally* John Danaher, *The Threat of Algocracy: Reality, Resistance and Accommodation*, 29 PHIL. & TECH. 245 (2016).

16. *See infra* Part I.

sought—and successfully obtained—disclosure of key information about automated decision-making methodologies in the public sector.[17]

These challenges are best interpreted as efforts to vindicate an important set of transparency interests: the right to know why and how the government reached a particular decision that affects someone.[18] As such, these cases resonate within the broader framework of transparency law, which aims to open government decision-making to public view. Yet efforts to promote algorithmic transparency have largely overlooked the body of law that governs access to government proceedings and records: the Freedom of Information Act[19] (FOIA), its state equivalents, and the First Amendment.[20]

By codifying expectations regarding the government's disclosure of information to the *public*, the law of transparency and access operates both to protect the balance of power between the public and the government and to ensure that key information regarding government decision-making is open to public scrutiny.[21] While these concerns overlap somewhat with individual interests in understanding how the government has reached decisions that affect people, they are also distinct in their operation and effect. Because transparency law protects *public* rights of access to government, its remedies—chiefly, the disclosure of government records—can be sought by those who are unaffected by the particular decisions or policies they wish to expose.[22]

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17. *See infra* Part I.

18. *See* Jerry L. Mashaw, *Administrative Due Process: The Quest for a Dignitary Theory*, 61 B.U. L. REV. 885, 886 (1981); Martha I. Morgan, *The Constitutional Right to Know Why*, 17 HARV. C.R.-C.L. L. REV. 297, 297 (1982); Robert L. Rabin, *Job Security and Due Process: Monitoring Administrative Discretion Through a Reasons Requirement*, 44 U. CHI. L. REV. 60, 62–63 (1976); Martin H. Redish & Lawrence C. Marshall, *Adjudicatory Independence and the Values of Procedural Due Process*, 95 YALE L.J. 455, 485 (1986); Richard B. Saphire, *Specifying Due Process Values: Toward a More Responsive Approach to Procedural Protection*, 127 U. PA. L. REV. 111, 113 (1978).

19. 5 U.S.C. § 552 (2018).

20. *But see* Brauneis & Goodman, *supra* note 13, at 133; Coglianese & Lehr, *supra* note 14, at 22; Paul Schwartz, *Data Processing and Government Administration: The Failure of the American Legal Response to the Computer*, 43 HASTINGS L.J. 1321, 1376 (1991) ("The creation of transparent systems of data processing updates a traditional American belief in open government.").

21. *See, e.g.*, Margaret B. Kwoka, *FOIA, Inc.*, 65 DUKE L.J. 1361, 1364 (2016) (describing how FOIA was intended to benefit newsgathering, "facilitating democratic participation and exposing potential government corruption or malfeasance") [hereinafter Kwoka, *FOIA, Inc.*]; *see also* Richmond Newspapers, Inc. v. Virginia, 448 U.S. 555, 587–88 (1980) (noting that the First Amendment has a "structural role" in protecting republican governance, based on "the antecedent assumption that valuable public debate—as well as other civic behavior—must be informed"); Margaret B. Kwoka, *Deferring to Secrecy*, 54 B.C. L. REV. 185, 202–03 (2013) [hereinafter Kwoka, *Deferring to Secrecy*] (describing how FOIA's imposition of de novo review protects the "democratic process of holding the agency accountable to the public" in the face of agency self-interest).

22. These features are somewhat controversial, in part, because they have permitted commercial requesters to reap substantial profits from gathering and reselling government records and, in part, because the onerous burdens on the administrative state tend to threaten the "capacity and legitimacy of [government] institutions." *See* David E. Pozen, *Transparency's Ideological Drift*, 128 YALE L.J. 100, 156, 159 (2018) (describing this feature of U.S. transparency law as the "transparency entitlement" and noting some of its deleterious

The public-facing structure of transparency law can make several important contributions to algorithmic transparency and accountability. First, it can shift the burden of challenging algorithmic opacity from those who are affected—often poor, underresourced litigants—to the press and the public, opening up new avenues to address opacity.[23] Second, transparency law calls into question the legality of procurement practices that shield third-party vendors from public scrutiny entirely.[24] Third, transparency law can create more enduring prospective obligations for government to disclose its policies and procedures on a proactive basis.[25]

Understanding how transparency law maps onto algorithmic governance sets the stage for future work that addresses the next generation of automation. As the government procures and relies upon newer, more sophisticated decision-making technologies, such as machine learning, it also makes decisions more opaque, harder to explain, and less attributable to specific causes.[26] The greater the decisional power of the technology, the higher the risk that arbitrary or opaque decisions might evade explanation. And this apparent arbitrariness, in turn, has engendered potent critiques of the credibility,[27] fairness,[28] and due process[29] implications of decision-making by algorithms significant for our understanding of how automation might jeopardize individuals' civil rights and liberties.

These features—some might call them bugs[30]—have prompted calls for new mechanisms of transparency and accountability in the age of algorithms.[31] The trouble is that few can agree on how, exactly, society can advance these values. Scholars have touted a range of mechanisms as

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effects); *see also* Kwoka, *FOIA, Inc.*, *supra* note 21, at 1415–16 (pointing out that most of the commercial uses of FOIA are "not within FOIA's bailiwick").

23. *See infra* Part III.A.

24. *See infra* Part IV.A.

25. *See infra* Part IV.C.

26. *See* Jenna Burrell, *How the Machine 'Thinks': Understanding Opacity in Machine Learning Algorithms*, BIG DATA & SOC'Y, Jan.–June 2016, at 1 ("[R]arely does one have any concrete sense of how or why a particular classification has been arrived at from inputs."); Vijay Pande, *Artificial Intelligence's 'Black Box' Is Nothing to Fear*, N.Y. TIMES (Jan. 25, 2018), https://www.nytimes.com/2018/01/25/opinion/artificial-intelligence-black-box.html [https://perma.cc/MRL5-Q94A].

27. *See* Andrea Roth, *Machine Testimony*, 126 YALE L.J. 1972, 2035 (2017).

28. *See* Solon Barocas & Andrew Selbst, *Big Data's Disparate Impact*, 104 CALIF. L. REV. 671, 723 (2016).

29. *See* State v. Loomis, 881 N.W.2d 749, 753–54 (Wis. 2016) (denying the defendant access to a proprietary algorithm used at sentencing); *see also* ALEX CAMPOLO ET AL., AI NOW INST., AI NOW 2017 REPORT (2017), https://ainowinstitute.org/AI_Now_2017_Report.pdf [https://perma.cc/ZSC5-F747]; Danielle K. Citron & Frank Pasquale, *The Scored Society: Due Process for Automated Predictions*, 89 WASH. L. REV. 1, 32 (2014); Rebecca Wexler, *Life, Liberty, and Trade Secrets: Intellectual Property in the Criminal Justice System*, 70 STAN. L. REV. 1343, 1369 (2018).

30. *See* Pande, *supra* note 26 ("[T]he so-called black box of artificial intelligence is more of a feature, not a bug.").

31. *See, e.g.*, *Fairness, Accountability, and Transparency in Machine Learning*, FAT/ML, www.fatml.org [https://perma.cc/F4KB-HF2M] (last visited Feb. 14, 2020) ("[T]here is increasing alarm that the complexity of machine learning may reduce the justification for consequential decisions to 'the algorithm made me do it.'").

promoting algorithmic transparency and accountability.[32] The extensive, and growing, menu of options includes reverse engineering,[33] algorithmic impact statements,[34] "value-centered design,"[35] and audits.[36] Others have concluded that machine learning poses no real threat to transparency at all.[37]

These contributions have in common a key assumption: simply disclosing the internal workings of many algorithmic decision-making tools—often encoded in source code or models—is insufficient to vindicate accountability and transparency interests. First, disclosure is not only ineffective, it is also legally *precluded* because these materials are the proper subject of trade secret protections.[38] Second, simply disclosing information about how an algorithm reaches a decision is insufficient to make that information *meaningful* to the subjects.[39] As a result, these scholars argue, entirely new mechanisms for promoting algorithmic accountability and transparency are required.[40]

But the rush to assess how best to promote accountability and transparency in artificial intelligence and machine learning threatens to overlook critical aspects of algorithmic governance in current use. Even though machine learning has not yet been widely deployed in government decision-making, the turn toward algorithmic governance nonetheless already poses serious

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32. *See, e.g.*, Andrew D. Selbst, *Disparate Impact in Big Data Policing*, 52 GA. L. REV. 109, 168 (2017) (calling for algorithmic impact statements).

33. NICHOLAS DIAKOPOULOS, TOW CTR. FOR DIG. JOUNRALISM, ALGORITHMIC ACCOUNTABILITY REPORTING: ON THE INVESTIGATION OF BLACK BOXES (2013), http://www.nickdiakopoulos.com/wp-content/uploads/2011/07/Algorithmic-Accountability-Reporting_final.pdf [https://perma.cc/C6UY-75LS].

34. *See, e.g.*, Selbst, *supra* note 32, at 168.

35. Cory Knobel & Geoffrey C. Bowker, *Values in Design*, COMM. ACM, July 2011, at 26, 28.

36. *See* Julius, *FairML: Auditing Black-Box Predictive Models*, CLOUDERA FAST FORWARD LABS (Mar. 9, 2017), https://blog.fastforwardlabs.com/2017/03/09/fairml-auditing-black-box-predictive-models.html [https://perma.cc/XKQ4-ABXE]; *see also* Nicholas Diakopoulos et al., *Principles for Accountable Algorithms and a Social Impact Statement for Algorithms*, FAT/ML, www.fatml.org/resources/principles-for-accountable-algorithms [https://perma.cc/935U-Z354] (last visited Feb. 14, 2020).

37. *See generally* Cary Coglianese & David Lehr, *Transparency and Algorithmic Governance*, 71 ADMIN. L. REV. 1 (2019) (contending that algorithmic governance generally can, although is not guaranteed to, comply with the transparency demands articulated within administrative law).

38. *See, e.g.*, Wexler, *supra* note 29, at 1346; *see also* Deven R. Desai & Joshua A. Kroll, *Trust but Verify: A Guide to Algorithms and the Law*, 31 HARV. J.L. & TECH. 1, 9 (2017) (discussing trade secret protections for decision-making processes used by the private sector); Sonia K. Katyal, *Private Accountability in the Age of Artificial Intelligence*, 66 UCLA L. REV. 54, 119 (2019) (same); Andrew D. Selbst & Solon Barocas, *The Intuitive Appeal of Explainable Machines*, 87 FORDHAM L. REV. 1085, 1092 (2018).

39. *See* Desai & Kroll, *supra* note 38, at 10 ("In addition, handing over code often will not enable the political accountability results those in favor of so-called algorithmic transparency desire."); Selbst & Barocas, *supra* note 38, at 1107; Sandra Wachter et al., *Counterfactual Explanations Without Opening the Black Box: Automated Decisions and the GDPR*, 31 HARV. J.L. & TECH. 841, 862–70 (2018); *see also* Burrell, *supra* note 26, at 9.

40. *See generally* Joshua A. Kroll et al., *Accountable Algorithms*, 165 U. PA. L. REV. 633 (2017) (arguing that technological tools can promote algorithmic accountability as well as, and in some cases better than, legal and policy interventions).

obstacles to government transparency and accountability. Those obstacles are attributable, not to the sophistication of decision-making methodologies but to a more basic shift toward privatization and automation in government.[41] Artificial intelligence and machine learning raise serious, and specific, challenges to transparency and accountability, but this Article leaves for another day the project of considering how transparency law should respond.

This Article contributes to ongoing debates about algorithmic accountability and transparency in three ways.[42] First, by cataloging a range of proprietary algorithmic decision-support and decision-making tools relied upon in different civil, criminal, and administrative contexts, it highlights how extensively privatization and outsourcing have affected civil rights and liberties. This impact extends beyond criminal law enforcement to other cutting-edge cases arising in civil contexts that have received scant scholarly attention. Taken as a group, these cases illustrate an important pattern in challenges to algorithmic decision-making: litigants are equally motivated to seek transparency of the government decision-making process as they are to challenge the substance of algorithmic decisions.

Second, this Article rehabilitates *disclosure* as a remedy for algorithmic opacity in the public sector. Algorithmic governance in the public sector heightens the interest in disclosure of key information regarding how automated decision-making functions. Disclosure is the core mechanism of U.S. transparency law, which enshrines values of public access to government decision-making.[43] But disclosure has been given short shrift as a mechanism for algorithmic accountability and transparency.[44]

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41. *See* Rory Van Loo, *Rise of the Digital Regulator*, 66 DUKE L.J. 1267, 1323 (2017) (noting that transparency and disclosure obligations proposed for private enterprise "may be appropriate for governmental commercial algorithms").

42. This Article contributes to a growing body of interdisciplinary scholarship that explores the accountability gap for new technologies of decision-making. *See, e.g.*, DIAKOPOULOS, *supra* note 33; Mike Ananny & Kate Crawford, *Seeing Without Knowing: Limitations of the Transparency Ideal and Its Application to Algorithmic Accountability*, 20 NEW MEDIA & SOC'Y 973 (2018); Barocas & Selbst, *supra* note 28; Burrell, *supra* note 26; Danielle K. Citron, *Technological Due Process*, 85 WASH. U. L. REV. 1249 (2008); Citron & Pasquale, *supra* note 29; Kate Crawford & Jason Schultz, *Big Data and Due Process: Toward a Framework to Redress Predictive Privacy Harms*, 55 B.C. L. REV. 93 (2014); Danaher, *supra* note 15; Paul B. de Laat, *Big Data and Algorithmic Decision-Making: Can Transparency Restore Accountability?*, ACM SIGCAS COMPUTERS & SOC'Y, Sept. 2017, at 39; Katyal, *supra* note 38.

43. *See, e.g.*, Tax Analysts v. U.S. Dep't of Justice, 845 F.2d 1060, 1064 (D.C. Cir. 1988) ("[T]he settled policy of the FOIA is one of 'full agency disclosure . . . .'" (quoting S. REP. NO. 89-813 (1965))), *aff'd*, 492 U.S. 136 (1989); *see also* David E. Pozen, *Freedom of Information Beyond the Freedom of Information Act*, 165 U. PA. L. REV. 1097, 1102–03 (2017) ("The engine of the FOIA system is the request for a government record.").

44. This Article relates to a growing body of work that studies how the relationship between government and technology companies affects accountability and transparency. *See, e.g.*, Brauneis & Goodman, *supra* note 13; Catherine Crump, *Surveillance Policy Making by Procurement*, 91 WASH. L. REV. 1595 (2016); David S. Levine, *The People's Trade Secrets*, 18 MICH. TELECOMM. & TECH. L. REV. 61 (2011); *see also* Hannah Bloch-Wehba, *Exposing Secret Searches: A First Amendment Right of Access to Electronic Surveillance Orders*, 93

The primary obstacle to transparency is the pervasive practice of invoking trade secrecy to shield the methodologies of automated decision-making from scrutiny.[45] Without resources to develop automated decision-making tools in-house, governments have often turned to decision-support systems purchased from the private sector. These systems frequently come with license agreements, memoranda of understanding, or other documentation evincing claims that the contents are trade secrets.[46]

Viewed from the perspective of transparency law, the invocation of commercial confidentiality and trade secrecy to shield government decision-making from public view is legally suspect.[47] These provisions cast doubt on the government's ability to agree, through contract, to utilize decision-making mechanisms that are inconsistent with these broad public-serving goals. In practice, this sometimes puts government to a difficult choice: reveal a contractor's trade secret or give up the use of an algorithmic tool altogether.[48] Governments should implement transparency values throughout their contracting and procurement processes to ensure that proprietary decision-support tools are consistent with these aims.

Finally, this Article reframes the debate about algorithmic transparency from affected individuals to the affected *public*.[49] Existing scholarship has often considered whether trade secrecy interests should yield to the interests of individuals who are affected by algorithmic decision-making—namely, individuals with a sufficient liberty or property interest at stake.[50] In the criminal justice context, scholars and advocates have embraced the use of protective orders to ensure that defendants have access to the algorithms that confer risk scores or analyze DNA or breathalyzer evidence—without jeopardizing trade secrets.[51]

These compromises between the private vendors' commercial interests and the liberty interests of those affected by algorithmic governance overlook the public's separate and independent interest in oversight and monitoring of government decision-making. In the criminal context, the constitutional

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WASH. L. REV. 145 (2018); Kristen Eichensehr, *Public-Private Cybersecurity*, 95 TEX. L. REV. 467 (2017).

45. Katyal, *supra* note 38, at 60 ("In the context of artificial intelligence, we see a world where, at times, intellectual property principles prevent civil rights from adequately addressing the challenges of technology, thus stagnating a new generation of civil rights altogether."); *see also* Coglianese & Lehr, *supra* note 37, at 33 (citing *Loomis* as support for the proposition that transparency principles do not compel disclosure of source code).

46. Brauneis & Goodman, *supra* note 13, at 138–39.

47. *See, e.g.*, DIAKOPOULOS, *supra* note 33.

48. *See* discussion *infra* Part I.B.

49. *See, e.g.*, Elizabeth E. Joh, *The Undue Influence of Surveillance Technology Companies on Policing*, 92 N.Y.U. L. REV. ONLINE 101, 119 (2017); Natalie Ram, *Innovating Criminal Justice*, 112 NW. U. L. REV. 659, 686 (2018); David G. Robinson, *The Challenges of Prediction: Lessons from Criminal Justice*, 14 I/S: J.L. & POL'Y FOR INFO. SOC'Y 151, 167 (2018).

50. *See, e.g.*, Citron, *supra* note 42, at 1254–55; Roth, *supra* note 27, at 2028; Wexler, *supra* note 29, at 1349.

51. *See, e.g.*, Wexler, *supra* note 29, at 1353 ("[C]ourts may issue protective orders to limit the use and distribution of trade secrets beyond the needs of the proceeding.").

right of access to government proceedings and records casts doubt on whether prosecutors and courts can selectively disclose proprietary algorithms to affected individuals while shielding them from the public.[52] More broadly, selective disclosure tends to ignore the First Amendment's "structural" role for the press and public in monitoring government proceedings.[53]

The Article proceeds in four parts. Part I traces the emerging use of, and challenges to, proprietary, automated decision systems in health care, criminal justice, and education. Part II unpacks how these challenges both assert the individual due process rights of litigants and also invoke the larger public interest in support of enhanced transparency. Part III explores the procedural and substantive conflicts between proprietary decision-making on the one hand and government transparency obligations under the First Amendment and FOIA on the other. Part IV briefly sketches some remedial measures that governments might take in order to alleviate concerns about the accountability and transparency of algorithmic governance.

I. THE RISE OF PUBLIC SECTOR ALGORITHMS

It is hardly groundbreaking to observe that algorithms are increasingly prevalent in the public sector. New technologies are supposed to make it easier for humans to make difficult decisions—and where is decision-making more difficult, or more important, than in government? The kinds of decisions that the public sector must make are high stakes: whether an individual who is arrested for murder, but claims he acted in self-defense, should be released from detention or stay in jail;[54] whether a person who is profoundly disabled and requires home care in order to avoid being institutionalized should receive $70,000 or $140,000 in Medicaid waiver benefits;[55] whether a public school teacher whose students perform worse than their peers on a statewide test should be laid off.[56]

These scenarios are not simply hypotheticals. They represent flash points between emerging methods of algorithmic decision-making and the rights of individuals to understand and challenge those decisions. This Part surveys these conflicts, observing that increasing automation[57] and privatization[58] of

52. Vera Eidelman, *The First Amendment Case for Public Access to Secret Algorithms Used in Criminal Trials*, 34 GA. ST. U. L. REV. 915, 938 (2018).

53. Richmond Newspapers, Inc. v. Virginia, 448 U.S. 555, 587–88 (1980).

54. State v. Sanders, No. A-4350-16T6, 2017 WL 5495101, at *1 (N.J. Super. Ct. App. Div. Nov. 16, 2017).

55. Michael T. v. Bowling, No. 2:15-CV-09655, 2016 WL 4870284, at *2 (S.D.W. Va. Sept. 13, 2016), *modified sub nom.* Michael T. v. Crouch, No. 2:15-CV-09655, 2018 WL 1513295 (S.D.W. Va. Mar. 26, 2018).

56. *See HISD*, 251 F. Supp. 3d 1168, 1171 (S.D. Tex. 2017).

57. Citron, *supra* note 42, at 1252.

58. *See, e.g.*, Jody Freeman, *Private Parties, Public Functions and the New Administrative Law*, 52 ADMIN. L. REV. 813, 822 (2000) (distinguishing "contracting out" from privatization); Daniel Guttman, *Public Purpose and Private Service: The Twentieth Century Culture of Contracting Out and the Evolving Law of Diffused Sovereignty*, 52 ADMIN. L. REV. 859 (2000); Gillian E. Metzger, *Privatization as Delegation*, 103 COLUM. L. REV.

decision-making are at the root of new challenges to algorithmic determinations.

A note about methodology: these cases and contexts were chosen because they keenly present the clash between vendors that provide algorithmic decision-making tools, governments that deploy such tools, private individuals who wish to challenge these outcomes, and the general public. Although the case law remains relatively scant, it was surprising to see the number of reported decisions that illustrate these structural dynamics prevalent in challenges to algorithmic opacity. Nonetheless, this account is not exhaustive, and other cases likely exist that illustrate these patterns.

Although this dynamic has garnered particular attention in the context of the criminal justice system,[59] the proprietary nature of many algorithmic governance tools poses significant obstacles to individuals who seek to challenge algorithmic determinations in a variety of contexts.[60] The precise substance of these disputes matters less than the overarching pattern: these cases frequently present a clash of interests between government's increasing reliance on proprietary tools, procured from private contractors or vendors, and transparency requirements.

The clash between transparency and proprietary interests is particularly pronounced when individuals seek to challenge the outcomes of adjudications—whether judicial or administrative—that affect their civil rights and liberties. Notably, however, the new challenges to algorithmic governance do not rise and fall on the *substance* of an algorithmic decision. Rather, the most successful challenges to algorithmic decision-making reflect demands for more information regarding the ways in which government is reaching its decisions: in other words, demands for transparency and access to information about the process.

A. Medicaid

Challenges to proprietary decision-making in the context of Medicaid are illustrative. For years, lower courts have been dealing with procedural due process claims as state Medicaid agencies privatized their decision-making

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1367 (2003); Martha Minow, *Public and Private Partnerships: Accounting for the New Religion*, 116 HARV. L. REV. 1229 (2003); Paul Starr, *The Meaning of Privatization*, 6 YALE L. & POL'Y REV. 6 (1988); *see also* Rory Van Loo, *The Corporation as Courthouse*, 33 YALE J. ON REG. 547, 590 (2016).

59. *See, e.g.*, Kiel Brennan-Marquez, *"Plausible Cause": Explanatory Standards in the Age of Powerful Machines*, 70 VAND. L. REV. 1249 (2017); Jessica Gabel Cino, *Deploying the Secret Police: The Use of Algorithms in the Criminal Justice System*, 34 GA. ST. U. L. REV. 1073 (2018); Aziz Huq, *Racial Equity in Algorithmic Criminal Justice*, 68 DUKE L.J. 1043 (2019); Sandra G. Mayson, *Bias In, Bias Out*, 128 YALE L.J. 2218 (2019); Ram, *supra* note 49; Roth, *supra* note 27; Ric Simmons, *Big Data, Machine Judges, and the Legitimacy of the Criminal Justice System*, 52 U.C. DAVIS L. REV. 1067 (2018); Sonja Starr, *Evidence-Based Sentencing and the Scientific Rationalization of Discrimination*, 66 STAN. L. REV. 803 (2014); Wexler, *supra* note 29.

60. *See, e.g.*, Brauneis & Goodman, *supra* note 13; Coglianese & Lehr, *supra* note 14; Katyal, *supra* note 38; Selbst & Barocas, *supra* note 38.

and began to use algorithmic methods to reduce recipients' benefits.[61] Examining these cases makes clear that the shift toward algorithmic governance goes hand-in-hand with other measures that are intended to cut costs and have the (perhaps unintended) secondary effect of reducing accountability and transparency as well. Agencies often rely on the "objectivity" or "efficiency" of their data-driven decision-making procedures to justify cost-cutting measures, such as terminating employees or cutting Medicaid benefits.[62] But as agencies turn toward more "objective" decision-making procedures, they often rely on private contractors who use proprietary, closed-source methods to make decisions about these constitutional rights.[63]

The privatization and automation of decision-making regarding Medicaid benefits present clear tensions with principles of procedural due process. When individuals receive Medicaid or other public assistance benefits, those benefits are "treated as a form of 'property.'"[64] Consequently, Medicaid benefits cannot be reduced or terminated without satisfying certain safeguards set out in the Medicaid Act[65] and the Constitution's procedural due process guarantees.[66]

These statutory and constitutional protections require the government to explain why and how it decided to terminate or reduce benefits. Under federal Medicaid regulations, notices of terminations or reductions in benefits are required to contain "a clear statement of the specific reasons supporting the intended action."[67] Moreover, under the Medicaid Act, individuals must receive the opportunity for a "fair hearing" to challenge the denial of benefits.[68] Any "termination, suspension, or reduction of" benefits

61. This move is perhaps best understood as a form of "bureaucratic disentitlement." Michael Lipsky, *Bureaucratic Disentitlement in Social Welfare Programs*, 58 SOC. SERV. REV. 3, 3 (1984) (defining "bureaucratic disentitlement" as a mode of "retrenchment" in which "obligations to social welfare beneficiaries are reduced and circumscribed through largely obscure 'bureaucratic' actions and inactions of public authorities"); *see also* VIRGINIA EUBANKS, AUTOMATING INEQUALITY 49 (1st ed. 2018) (describing how Indiana privatized and automated its welfare systems in order to cut costs); Vicki Lens, *Bureaucratic Disentitlement After Welfare Reform: Are Fair Hearings the Cure?*, 12 GEO. J. ON POVERTY L. & POL'Y 13, 13 (2005) ("One of the few avenues for challenging bureaucratic disentitlement is the fair hearing system. However, little is known about how the fair hearing system is faring under welfare reform.").

62. MEREDITH WHITTAKER ET AL., AI NOW INST., AI NOW REPORT 2018, at 18 (2018), https://ainowinstitute.org/AI_Now_2018_Report.pdf [https://perma.cc/E9CA-SYC8] ("Often adopted under the theory that they will improve government efficiency or cost-savings, [automated decision systems] seek to aid or replace various decision-making processes and policy determinations.").

63. *Id.*

64. Atkins v. Parker, 472 U.S. 115, 128 (1985).

65. Social Security Amendments of 1965, Pub. L. No. 89-97, 79 Stat. 343 (codified as amended in scattered sections of 42 U.S.C.).

66. *See* Lewis v. Rendell, 501 F. Supp. 2d 671, 692 (E.D. Pa. 2007) (finding it "well established" that Medicaid recipients have a property interest in their benefits and collecting cases); *see also* 42 U.S.C. § 1396(a)(3) (2018) (requiring a fair hearing under the Medicaid Act).

67. 42 C.F.R. § 431.210(b) (2019).

68. 42 U.S.C. § 1396(a)(3).

or eligibility triggers the statutory requirement for a hearing.[69] In a separate provision of the Act, Congress also required state agencies to base Medicaid waiver budgets on a "methodology that uses valid, reliable cost data [which] is open to public inspection, and includes a calculation of the expected cost of such services."[70] Likewise, procedural due process requires agencies to employ "ascertainable standards" in decision-making.[71]

These protections remain vital to prevent the wrongful termination of benefits, even as states have increasingly turned toward the private sector to provide various Medicaid services. A 2006 Government Accountability Office report investigating the protection of personal health information found that 96 percent of state Medicaid agencies used vendors to perform various administrative services, including enrollment and benefits management.[72] As states have turned to managed care organizations to administer benefits, private companies have become the primary providers of public Medicaid benefits in many states.[73]

In turn, vendors have adopted a range of new algorithmic tools to help make the management of Medicaid more efficient.[74] Yet new mechanisms for administering Medicaid have created tensions with constitutional and statutory demands of openness. In 2015, a group of West Virginians with severe intellectual and developmental disabilities brought suit against the state's Department of Health and Human Resources, challenging the state's reliance on a proprietary algorithm to reduce critical Medicaid benefits.[75] The plaintiffs had received Medicaid waiver benefits for decades under the state's home and community-based care program, which supported the

69. 42 C.F.R. §§ 431.201, 431.206(c).

70. 42 U.S.C. § 1396n(j)(5)(D).

71. Lightfoot v. District of Columbia, 448 F.3d 392, 400 (D.C. Cir. 2006); Holmes v. N.Y.C. Hous. Auth., 398 F.2d 262, 265 (2d Cir. 1968); Hornsby v. Allen, 326 F.2d 605, 612 (5th Cir. 1964).

72. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-06-676, DOMESTIC AND OFFSHORE OUTSOURCING OF PERSONAL INFORMATION IN MEDICARE, MEDICAID, AND TRICARE 9 (2006), https://www.gao.gov/new.items/d06676.pdf [https://perma.cc/VUL9-C9HQ].

73. *See* Isaac D. Buck, *Managing Medicaid*, 11 ST. LOUIS U. J. HEALTH L. & POL'Y 107, 111–12 (2017) (summarizing the status quo of Medicaid managed care); Vernon K. Smith et al., *Medicaid Reforms to Expand Coverage, Control Costs and Improve Care: Results from a 50-State Medicaid Budget Survey for State Fiscal Years 2015 and 2016*, KAISER FAM. FOUND. (Oct. 15, 2015), https://www.kff.org/report-section/medicaid-reforms-to-expand-coverage-control-costs-and-improve-care-managed-care-reforms [https://perma.cc/TJ9X-T7PM] ("Managed care is now the predominant delivery system for Medicaid in most states.").

74. EUBANKS, *supra* note 61, at 52–53 (describing the results of Indiana's decision to privatize and automate substantial aspects of its administration of benefits); *see also* Dave Stafford, *Update: IBM to Appeal $78M Breach of Contract Award to State*, IND. LAW. (Aug. 7, 2017), https://www.theindianalawyer.com/articles/44441-update-ibm-to-appeal-78m-breach-of-contract-award-to-state [https://perma.cc/TY38-GG9V] (summarizing litigation that ensued after Indiana terminated IBM's contract).

75. First Amended Complaint for Injunctive & Declaratory Relief, Michael T. v. Bowling, No. 2:15-CV-09655, 2016 WL 4870284 (S.D.W. Va. Sept. 13, 2016), ECF No. 14 [hereinafter First Amended Complaint].

provision of key services that enabled them to live at home or in the community instead of being institutionalized.[76]

These benefits were administered by a "waiver administrator," APS Healthcare Inc., a private company tasked with allocating waiver benefits and generating budgets for the benefits and care for which the recipients were eligible.[77] Under its contract, APS bore responsibility for annual assessments to measure recipients' "abilities and needs," to ensure that recipients of waiver funds were eligible to receive funds and to come up with a budget allocating benefits to each recipient.[78] It did so by gathering data through interviews and "standard assessment tools" and then applying a proprietary algorithm that generated a budget to cover authorized waiver benefits.[79]

The problem was that each year, the algorithm spat out a budget that appeared totally unrelated to the actual cost of providing the care which the plaintiffs required.[80] APS sent letters to each recipient "notifying him or her of the budget amount without explanation as to how that number was determined."[81] In many cases, the algorithm-generated budget was slashed by tens of thousands of dollars from the year before. But the plaintiffs' conditions were stable; most of them had not improved in functionality or ability since they were teenagers, suggesting that, year over year, they would require roughly the same benefits and hours of services.[82]

Nonetheless, the plaintiffs had little success in appealing to human decision makers to reverse the algorithm's senseless, arbitrary, and unexplained reductions in benefits. In boilerplate letters, APS contended that it could not exceed the "algorithm-generated budget."[83] The plaintiffs had no further success at the "fair hearings" required by the Medicaid Act. Both the contractor and administrative judges were highly deferential to the algorithmic decision-making process, refusing to override—or even investigate—the algorithm's conclusions.[84]

The results were catastrophic. One plaintiff, Tara R., a twenty-seven-year-old woman who has "cerebral palsy, a severe intellectual disability, and limited hand functioning," functioned at an "age equivalent of nine months."[85] She lived at home with her father and her disabled stepmother until 2014 when her benefits were cut from about $130,000 to about $72,000, making it impossible to keep her in her family home. When the benefits were

76. *See id.* at 1–2.

77. *Id.* at 2.

78. Michael T. v. Bowling, No. 2:15-CV-09655, 2016 WL 4870284, at *2 (S.D.W. Va. Sept. 13, 2016), *modified sub nom.* Michael T. v. Crouch, No. 2:15-CV-09655, 2018 WL 1513295 (S.D.W. Va. Mar. 26, 2018).

79. *Id.*

80. First Amended Complaint, *supra* note 75, at 11, 14, 19, 25.

81. Michael T. v. Crouch, No. 2:15-CV-09655, 2018 WL 1513295, at *2 (S.D.W. Va. Mar. 26, 2018).

82. First Amended Complaint, *supra* note 75, at 10, 13–14, 18, 24.

83. *Id.* at 12, 15–16, 20, 21.

84. *Id.* Exhibits 3–4, at 12–24 (rendering decisions in "fair hearings" that sought to challenge the budgets).

85. *Id.* at 29.

slashed, Tara was moved to an emergency care facility and then to a group home, where she became "lethargic" and "unwilling to engage with others."[86] Due to these changes, the plaintiffs alleged, Tara was at "serious risk of being institutionalized."[87]

The court rightly rejected this framework, agreeing with the plaintiffs that the APS algorithm could not satisfy the Constitution's procedural due process requirements.[88] Noting that the government had provided "no information as to what factors are incorporated into the APS Algorithm, how each factor is weighted, or the overarching methodology APS utilizes," the court faulted APS for failing to employ "ascertainable standards" in making their determinations.[89] Moreover, APS had failed to even include "any individualized rationale" for the budgets allocated to the plaintiffs, making it impossible for plaintiffs to "meaningfully challenge" the budgets.[90] Concerned that the "lack of transparency" in the algorithm rendered the determinations "potentially rudderless," the district court concluded that the APS decision-making process created an "unacceptable risk of arbitrary and 'erroneous deprivation[s].'"[91]

But these problems were not irresolvable. While the court enjoined the department from continuing to use the APS algorithm, it reasoned that requiring the state to develop a decision-making methodology that actually used ascertainable standards would not impose an undue "fiscal or administrative" burden.[92] In response, West Virginia developed a new system that replaced the proprietary APS algorithm with "matrices employing a number of clearly identified variables based on a combination of a member's living situation and answers to specific questions during the member's annual assessment."[93] The state promised that the matrix would be "publicly available" and that recipients would be able to challenge both the accuracy of the static factors that constituted inputs into the matrix and the application of the matrix itself.[94] Concluding that the new system sufficiently remedied the due process flaws in the APS algorithm, the court lifted the injunction.[95]

Secretive determinations about benefit eligibility have widespread implications for a range of other interests, including those of other beneficiaries, possible future beneficiaries, their attorneys and social

86. *Id.* at 32–33.

87. *Id.* at 34.

88. Michael T. v. Bowling, No. 2:15-CV-09655, 2016 WL 4870284, at *10 (S.D.W. Va. Sept. 13, 2016), *modified sub nom.* Michael T. v. Crouch, No. 2:15-CV-09655, 2018 WL 1513295 (S.D.W. Va. Mar. 26, 2018).

89. *Id.*

90. *Id.*

91. *Id.* at *11 (alteration in original) (quoting Town of Castle Rock v. Gonzales, 545 U.S. 748, 792 (2005) (Stevens, J., dissenting)).

92. *Id.*

93. Michael T. v. Crouch, No. 2:15-CV-09655, 2018 WL 1513295, at *6 (S.D.W. Va. Mar. 26, 2018).

94. *Id.* at *10.

95. *Id.* at *1.

workers, and even state and federal taxpayers. But West Virginia is hardly alone in resisting disclosure of these decision-making methods. A similar case arising in Idaho makes plain the clash between privatized and automated governance on the one hand and due process guarantees on the other.[96] Like the West Virginia plaintiffs, the Idaho plaintiffs challenged the state's use of a proprietary, secret methodology to determine their individual budgets for home and community-based waiver benefits.[97] The state offered a compromise: it would disclose the methodology to the plaintiffs, but only if they assented to a confidentiality agreement that provided that the "details of the budget-setting methodology . . . may not be discussed or revealed to anyone, in any manner, except for purposes of administrative appeal and judicial review."[98]

Idaho's position that its methodology was a "trade secret" ran headlong into its statutory obligation to use a methodology that was "open to public inspection."[99] The parties—and the court—ultimately rejected this attempt to shield the methodology from public disclosure.[100] Instead, after some back-and-forth, the parties stipulated to a preliminary injunction that the agency would make the budget-calculating tool, as well as a range of supporting documents necessary to understand the tool, available to participants in the waiver program upon request.[101] In addition, the department promised to make most of the same materials available to members of the public under Idaho public records laws.[102]

Though Idaho's attempt at a compromise ultimately failed, its invocation of trade secrecy exemplifies a troubling trend in approaches to algorithmic accountability. Idaho's offer to make the information available to plaintiffs, subject to a gag order that prevented them from discussing the methodology, typifies what I call "atomized disclosure"—an approach that seeks to solve due process problems by disclosing information to the affected parties, but only on the condition that they not further disclose it. For the reasons discussed in Part IV, atomized disclosure is highly problematic: it creates serious First Amendment concerns, public policy issues, and inefficiencies.

B. Education

Proprietary algorithmic governance has invited due process challenges in other sectors as well. As school systems have attempted to become more

96. *See generally* K.W. *ex rel.* D.W. v. Armstrong, 789 F.3d 962 (9th Cir. 2015).

97. *See generally* Brief in Support of Plaintiffs' Motion for Temporary Restraining Order & Preliminary Injunction, K.W. *ex rel.* D.W. v. Armstrong, No. 1:12-CV-22-BLW (D. Idaho Jan. 19, 2012), ECF No. 4-1 [hereinafter Plaintiffs' Brief].

98. Declaration of Katherine Takasugi at 7, K.W. *ex rel.* D.W., No. 1:12-CV-22-BLW (D. Idaho Jan. 30, 2012), ECF No. 25-1.

99. Plaintiffs' Brief at 11, *supra* note 97 (requiring budgets to be based upon "a methodology that uses valid, reliable cost data, is open to public inspection, and includes a calculation of the expected cost of such services").

100. Preliminary Injunction at 2, K.W. *ex rel.* D.W., No. 1:12-CV-22-BLW (D. Idaho Mar. 12, 2012), ECF No. 41.

101. *Id.*

102. *Id.* at 5.

accountable, they have turned toward data-driven tools to measure educational outcomes and improve educational effectiveness.[103] These tools have altered educational practices at all levels of the school system, transforming how teachers engage students in the classroom,[104] how states rate school performance,[105] and how districts measure progress.[106] As in the context of Medicaid privatization, the mechanisms of data-driven education reform are also often privately developed, further entrenching private power in classroom teaching, assessment, and data collection itself.[107] These new practices are also occurring within the political context of a push for "free-market" reforms that map the practices of for-profit businesses onto public institutions.[108]

"Value-added assessment" reflects this push toward data-driven education policy. Value-added assessments, or "value-added measures," assess teacher quality by examining and tracking student test scores in order to measure the effect that teachers have on student performance over time.[109] Value-added

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103. *See, e.g.*, DARRELL M. WEST, BROOKINGS, BIG DATA FOR EDUCATION: DATA MINING, DATA ANALYTICS, AND WEB DASHBOARDS 1, 9 (2012), https://www.brookings.edu/wp-content/uploads/2016/06/04-education-technology-west.pdf [https://perma.cc/L7HK-UM79] (describing data-driven reforms as facilitating "the overall accountability" of school operations); John West, *Data, Democracy and School Accountability: Controversy over School Evaluation in the Case of DeVasco High School*, BIG DATA & SOC'Y, Jan.–June 2017, at 1, 2 (describing how a "hopeful theory of data-driven systems of accountability and political legitimacy was embedded in a nation-wide policy-making revolution in public education that began in 2002 with the passage of the federal No Child Left Behind legislation"); *see also Race to the Top Fund*, U.S. DEP'T EDUC. (June 6, 2016), https://www2.ed.gov/programs/racetothetop/index.html [https://perma.cc/KZD6-JWS5] (encouraging states to "[b]uild[] data systems that measure student growth and success, and inform teachers and principals about how they can improve instruction").

104. *See generally* Elana Zeide, *The Structural Consequences of Big Data-Driven Education*, 5 BIG DATA 164 (2017); Benjamin Herold, *The Future of Big Data and Analytics in K–12 Education*, EDUC. WK. (Jan. 11, 2016), https://www.edweek.org/ew/articles/2016/01/13/the-future-of-big-data-and-analytics.html [https://perma.cc/NXK5-PNX2].

105. Alyson Klein, *How Are States Measuring Student Growth Under ESSA?*, EDUC. WK. (Jan. 23, 2019), https://blogs.edweek.org/edweek/campaign-k-12/2019/01/essa-growth-data-state-data-quality-campaign.html [https://perma.cc/S4KR-6EXM].

106. For a discussion of *HISD*, see *infra* Part I.B.

107. Zeide, *supra* note 104, at 168 ("By relocating the site of pedagogical functions, data-driven education technologies make it more difficult for students, parents, and communities to exercise agency and demand accountability."); *see also* DIANE RAVITCH, THE DEATH AND LIFE OF THE GREAT AMERICAN SCHOOL SYSTEM 199–200 (2010) (describing how private philanthropic foundations "came to exercise vast influence over American education because of their strategic investments in school reform"); Jill P. Koyama, *Generating, Comparing, Manipulating, Categorizing, Reporting, and Sometimes Fabricating Data to Comply with No Child Left Behind Mandates*, 26 J. EDUC. POL'Y 701, 702 (2011) ("[T]he federal government's current intervention into public education has become inextricably bound to market-based 'reform' and privatization.").

108. RAVITCH, *supra* note 107, at 177–78 ("These free-market reformers advocated testing, accountability, merit pay, and charter schools, and most were notably hostile to unions. The unions objected to the reformers' efforts to judge teachers solely by their students' test scores, and the reformers sought to break the powers of the unions.").

109. *See generally* Chris Thorn & Douglas N. Harris, *The Accidental Revolution: Teacher Accountability, Value-Added, and the Shifting Balance of Power in the American School System*, *in* THE INFRASTRUCTURE OF ACCOUNTABILITY: DATA USE AND THE TRANSFORMATION OF AMERICAN EDUCATION 57 (Dorothea Anagnostopoulos et al. eds., 2013).

assessments are used beyond classroom teaching as well: they can also shed light on the soundness of teacher education itself.[110]

Like privatization in health care, value-added assessments also purport to be a more "objective" way to cut costs in a financially precarious environment. Budget shortfalls in school districts across America have prompted some districts to lay off teachers.[111] Vividly invoking the language of private enterprise, a 2001 report supportive of value-added measures compared educational systems to other businesses, writing, "[M]anagers in most industries would attempt to target layoffs so as to cause as little damage as possible to productivity—less productive workers would be dismissed or furloughed before more productive workers."[112]

Teachers' unions have been at the forefront of efforts to resist these transformations and have fought against district efforts to cut costs by terminating teachers who do not measure up in "value-added" terms. A recent case from Houston, Texas—one of the largest school districts in the country[113]—illustrates a successful union-led effort to end the district's reliance on "privately developed algorithms" to determine whether public school teachers were "ineffective" and should be terminated.[114] Just as in the Medicaid cases, the case concerned the outsourcing of government services to a private company that employed proprietary algorithms to make critical decisions that implicated due process rights.[115]

The Houston Independent School District (HISD) had contracted with SAS, a private company that developed a "value-added statistical model" known as the Educational Value-Added Assessment System (EVAAS), to aid in evaluating teacher effectiveness.[116] Teachers who have tenure, or who are employed under "continuing contracts," have a "property interest in continued employment."[117] But HISD made it a goal to "exit" its

110. *See generally* Marilyn Cochran-Smith, *Assessing Assessment in Teacher Education*, 54 J. TEACHER EDUC. 187 (2003).

111. *See, e.g.*, F. Davenport, *HISD Announces Layoffs Due to $115 Million Budget Shortfall*, CW39 HOUS. (Apr. 27, 2018), https://cw39.com/2018/04/27/hisd-announces-layoffs-due-to-budget-shortfall [https://perma.cc/D9VX-5MYD]; Linda Greenstein, *Budget Shortfall Leads to 52 Methuen Teacher Layoffs*, BOS. GLOBE (June 7, 2018), https://www.bostonglobe.com/metro/regionals/north/2018/06/07/budget-shortfall-leads-methuen-teacher-layoffs/N5urFDIHPEP20ufPqtfAFM/story.html [https://perma.cc/8PC8-W4KR]; Eric Weddle, *Indianapolis Public Schools to Cut $22M from Budget, Teacher Layoffs Possible*, WFYI (Apr. 24, 2018), https://www.wfyi.org/news/articles/indianapolis-public-schools-to-cut-22m-from-budget [https://perma.cc/7JKU-XCGT].

112. STEVEN GLAZERMAN ET AL., BROOKINGS, EVALUATING TEACHERS: THE IMPORTANT ROLE OF VALUE-ADDED 1, 9 (2010), https://www.brookings.edu/wp-content/uploads/2016/06/1117_evaluating_teachers.pdf [https://perma.cc/GT7U-YYV3].

113. *Table 215.30. Enrollment, Poverty, and Federal Funds for the 120 Largest School Districts, by Enrollment Size in 2015: Selected Years, 2014–15 Through 2017*, NAT'L CTR. FOR EDUC. STAT., https://nces.ed.gov/programs/digest/d17/tables/dt17_215.30.asp [https://perma.cc/Q6FD-MF2P] (last visited Feb. 14, 2020).

114. *HISD*, 251 F. Supp. 3d 1168, 1171 (S.D. Tex. 2017).

115. *See generally id.*

116. *Id.* at 1172.

117. *Id.* at 1173. *Cf.* Trout v. Knox Cty. Bd. of Educ., 163 F. Supp. 3d 492, 507 (E.D. Tenn. 2016) (upholding the use of a proprietary algorithmic teacher evaluation model to deny

"ineffective" teachers and to retain only those who showed sufficient student growth, as measured by the EVAAS.[118]

The new policy resulted in the dismissal of at least twelve teachers on continuing contracts.[119] But because of the proprietary nature of the EVAAS algorithm, the teachers and school district lacked sufficient information to understand how the program functioned.[120] The teachers and the union who challenged the program described it as "complex and opaque."[121] Because SAS treated the software and algorithms as "trade secrets" and refused to divulge them, not even HISD had access to them.[122]

Like the Medicaid cases, the HISD case presented a significant conflict between the plaintiffs' desire to access information about how the EVAAS methodology functioned, the claimed interest in secrecy, and the public interest. In the course of discovery, the parties negotiated a framework through which SAS would disclose certain trade secrets—including the source code, models, and methodologies for the EVAAS—to the plaintiffs' attorneys and experts on an "attorney eyes only" basis.[123] The court entered a protective order that provided, in part, that none of the protected information could be disclosed to anyone outside the scope of the litigation.[124] Shortly after the court entered the protective order, the plaintiffs' expert, Dr. Jesse Rothstein, inspected the source code for EVAAS.[125] He then prepared an expert report which concluded, in part, that teachers could not "meaningfully verify" their EVAAS scores.[126]

The teachers' union posted a litigation update on its website referring to Dr. Rothstein's report.[127] SAS promptly filed a motion for contempt and for sanctions, complaining that the blog post—which concededly contained none of the company's trade secrets or other proprietary information—violated the protective order because it could only have been written based on Dr. Rothstein's "observations [and]/or conclusions" of EVAAS.[128] In SAS's view, the protective order meant to "prevent Plaintiffs and all of Plaintiffs'

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bonuses because "an employee performance evaluation is not a sufficient property interest to invoke procedural due process protections").

118. *HISD*, 251 F. Supp. 3d at 1174–75.

119. *Id.* at 1175.

120. *Id.* at 1176 (finding that teachers lack access to "the computer algorithms and data necessary to verify the accuracy of their scores").

121. Plaintiffs' First Amended Complaint at 14–15, *HISD*, 251 F. Supp. 3d 1168 (No. 4:14-cv-01189), ECF No. 23.

122. *HISD*, 251 F. Supp. 3d at 1176.

123. *See generally* Protective Order over SAS Institute Inc. Information, *HISD*, 251 F. Supp. 3d 1168 (No. 4:14-cv-01189), ECF No. 47-1.

124. *Id.*

125. Order at 3, *HISD*, 251 F. Supp. 3d 1168 (No. 4:14-cv-01189), ECF No. 59.

126. *Id.*

127. *See generally* Exhibit C, *HISD*, 251 F. Supp. 3d 1168 (No. 4:14-cv-01189), ECF No. 54-3.

128. SAS Institute Inc.'s Response to Plaintiffs' Motion for Interpretation of Protective Order and Motion for Contempt at 5, *HISD*, 251 F. Supp. 3d 1168 (No. 4:14-cv-01189), ECF No. 54 (alteration in original).

experts from *continuing any public discourse against EVAAS.*"[129] The court rejected SAS's "overly broad interpretation," finding that, if adopted, it would "inhibit legitimate discussion about the lawsuit" among union members and among the general public.[130]

The court was equally suspicious of SAS's secrecy claims on the merits and agreed that relying on a secret algorithm, the outcome of which the plaintiffs could not challenge, raised serious procedural due process concerns.[131] Most significantly, the methodology could not establish the reason for a teacher's dismissal "in sufficient detail so as to enable him to show any error that may exist."[132] Those concerns were not remediated by HISD's effort to make available general information about the EVAAS methodology.[133] As in the West Virginia case, the court agreed with the plaintiffs that the use of a secret, proprietary methodology would make it impossible for the affected party to raise a meaningful challenge at a hearing.

This did not mean that the court would require SAS to disclose its trade secrets—the court recognized that the plaintiffs could not constitutionally "put SAS out of business."[134] But if the methodology was unconstitutional, the policy likely had to be overturned. A few months after the court denied the school district's motion for summary judgment, the district settled with the union, abandoning EVAAS and paying the union's attorney's fees.[135]

C. Criminal Law Enforcement

1. Policing

Proprietary algorithmic governance is widespread in policing.[136] Consider the example of the gunshot detection company ShotSpotter: the service, which is employed by over ninety jurisdictions across the country, uses sensors to discern the sound of gunfire and triangulate its location, pushing a notification to emergency services.[137] Cities subscribe to ShotSpotter's services; the company installs the sensors, and the city receives the notifications from the company's software.[138] But ShotSpotter has often taken the view that the data it generates about where gunshots occur is a

129. *Id.* at 6 (emphasis added).
130. Order, *supra* note 125, at 6.
131. *HISD*, 251 F. Supp. 3d 1168, 1180 (S.D. Tex. 2017).
132. *Id.* at 1176.
133. *Id.* at 1178.
134. *Id.* at 1179.
135. Shelby Webb & John D. Harden, *Houston ISD Settles with Union over Controversial Teacher Evaluations*, HOUS. CHRON. (Oct. 12, 2017), https://www.chron.com/news/education/article/Houston-ISD-settles-with-union-over-teacher-12267893.php [https://perma.cc/QS98-NCEK].
136. *See* Jonathan Manes, *Secrecy & Evasion in Police Surveillance Technology*, 34 BERKELEY TECH. L.J. 503 (2019). *See generally* Ram, *supra* note 49.
137. *ShotSpotter Technology*, SHOTSPOTTER, https://www.shotspotter.com/technology [https://perma.cc/2W3F-ASNW] (last visited Feb. 14, 2020).
138. *Id.*

proprietary trade secret.[139] In one letter, *Forbes* reported, ShotSpotter's CEO emphasized the company's position that its data "is not crime data"[140] at all.

When journalists and researchers began requesting the data from police, ShotSpotter sent out a "nationwide memo" urging cities not to disclose it.[141] ShotSpotter—and some municipalities—took the position that, pursuant to contract, the data was not a matter of public record.[142] As a result, researchers were limited to analyzing data from the handful of jurisdictions that released it—over ShotSpotter's objections—or purchased it directly from ShotSpotter.[143]

2. Bail

Proprietary decision-making is also of increasing relevance in criminal prosecutions. Algorithmic governance is the topic of significant interest in the context of pretrial release determinations, partially prompted by a nationwide reckoning with the injustice of cash bail. Over the last several years, a surge in activism by community bail funds, lawsuits challenging the constitutionality of money bail,[144] and legislative reconsideration of money bail[145] have substantially shifted the conversation about pretrial detention. In one report, a California working group on pretrial detention reform pointedly

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139. Jennifer L. Doleac, Opinion, *To Reduce Gun Violence, Empower Citizens to Make Their Communities Safer*, BROOKINGS (Feb. 4, 2016), https://www.brookings.edu/opinions/to-reduce-gun-violence-empower-citizens-to-make-their-communities-safer [https://perma.cc/UUA4-E3ZH].

140. Matt Drange, *We're Spending Millions on This High-Tech System Designed to Reduce Gun Violence. Is It Making a Difference?*, FORBES (Nov. 17, 2016), https://www.forbes.com/sites/mattdrange/2016/11/17/shotspotter-struggles-to-prove-impact-as-silicon-valley-answer-to-gun-violence [https://perma.cc/8ZJN-A398].

141. Brauneis & Goodman, *supra* note 13, at 155 n.197.

142. Jason Tashea, *Should the Public Have Access to Data Police Acquire Through Private Companies?*, A.B.A. J. (Dec. 1, 2016), www.abajournal.com/magazine/article/public_access_police_data_private_company [https://perma.cc/5DJ5-BQ7E] ("[B]usiness and political interests are curtailing the public's access to the data, which could be used to improve public safety, police accountability and citizens' understanding of the nature of crime in their communities.").

143. *See* Jillian B. Carr & Jennifer L. Doleac, *The Geography, Incidence, and Underreporting of Gun Violence: New Evidence Using ShotSpotter Data*, BROOKINGS (Apr. 27, 2016), https://www.brookings.edu/wp-content/uploads/2016/07/Carr_Doleac_gunfire_underreporting.pdf [https://perma.cc/9PDA-AA54] ("[D]ata are freely-available to researchers for only a small subset of ShotSpotter cities . . . . (Note that ShotSpotter is open to selling the data to researchers.)").

144. *See, e.g.*, ODonnell v. Harris County, 892 F.3d 147 (5th Cir. 2018); *In re* Humphrey, 228 Cal. Rptr. 3d 513 (Ct. App. 2018).

145. *See, e.g.*, N.J. Stat. Ann. § 2A:162-15 to 2A:162-26 (West 2020); California Money Bail Reform Act, S. 10, 2017–2018 Leg., Reg. Sess. (Cal. 2018) (enacted); *see also* James Brooks, *Goodbye Bail: Alaska Switches to New System of Criminal Justice*, JUNEAU EMPIRE (Dec. 20, 2017), https://www.juneauempire.com/news/goodbye-bail-alaska-switches-to-new-system-of-criminal-justice [https://perma.cc/G7LA-FTDQ]; Tom MacDonald, *Philadelphia Moving Closer to Ending Cash Bail*, WHYY (Oct. 11, 2018), https://whyy.org/articles/philadelphia-moving-closer-to-ending-cash-bail/ [https://perma.cc/SU5K-Z4GM].

reminded its readers, "The United States is one of only two countries that allow for-profit bail bonding; the other is the Philippines."[146]

The move toward algorithmic governance builds on a long history of quantitative, actuarial measures to assess the risk that specific criminal defendants might pose to society.[147] These "actuarial risk assessment instruments" (ARAIs) have also been deployed in the context of pretrial release decisions, sentencing, parole, and determinations of sexually violent predator status, to name a few.[148] Contemporary ARAIs hold substantial promise to reduce overincarceration by making more accurate decisions about who poses a potential risk to society.[149] This need is particularly pronounced in the contexts of pretrial release and bail: many pretrial detainees are at low risk of committing violent offenses if they are released.[150] Detaining individuals simply because they cannot afford to pay bail is unjust, unconstitutional,[151] and expensive.[152]

In light of these realizations, cities, counties, and states are adopting new decision-making tools—building on the older generation of ARAIs—to help

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146. PRETRIAL DET. REFORM WORKGROUP, PRETRIAL DETENTION REFORM: RECOMMENDATIONS TO THE CHIEF JUSTICE 1, 33 (2017), https://www.courts.ca.gov/documents/PDRReport-20171023.pdf [https://perma.cc/YWL7-D9KJ].

147. *See* BERNARD HARCOURT, AGAINST PREDICTION: PROFILING, POLICING, AND PUNISHING IN AN ACTUARIAL AGE 40–45 (2007) (describing the turn-of-the-century emergence of actuarial prediction).

148. *See, e.g.*, Ben Green & Yiling Chen, *Disparate Interactions: An Algorithm-in-the-Loop Analysis of Fairness in Risk Assessments*, FAT* '19 PROC. CONF. ON FAIRNESS, ACCOUNTABILITY & TRANSPARENCY, Jan. 2019, at 90 (describing the use of risk assessment in criminal justice settings); Douglas Mossman et al., *Risky Business Versus Overt Acts: What Relevance Do 'Actuarial', Probabilistic Risk Assessments Have for Judicial Decisions on Involuntary Psychiatric Hospitalization?*, 11 HOUS. J. HEALTH L. & POL'Y 365, 399 (2011) (describing use of ARAIs in predicting whether "sexually violent predators" are likely to reoffend).

149. *See Risk Assessment*, CTR. FOR CT. INNOVATION, https://www.courtinnovation.org/areas-of-focus/risk-assessment [https://perma.cc/22WC-TG8N] (last visited Feb. 14, 2020) (describing how risk assessment might divert individuals from jails). *But see* Megan Stevenson, *Assessing Risk Assessment in Action*, 103 MINN. L. REV. 303, 341 (2018) (noting a "sore lack of research" on the success of risk assessment in actually achieving its stated goals).

150. Anne Milgram et al., *Pretrial Risk Assessment: Improving Public Safety and Fairness in Pretrial Decisionmaking*, 27 FED. SENT'G REP. 216, 217 (2015) ("In light of the resource constraints that many justice systems face, it is crucial that jail be used on the highest-risk individuals, rather than the lower-risk, nonviolent defendants who are often there under our current system.").

151. *See generally* ODonnell v. Harris County, 892 F.3d 147 (5th Cir. 2018).

152. *See, e.g.*, PATRICK LIU ET AL., THE HAMILTON PROJECT, THE ECONOMICS OF BAIL AND PRETRIAL DETENTION 3 (2018), https://www.hamiltonproject.org/assets/files/BailFineReform_EA_121818_6PM.pdf [https://perma.cc/KS58-S2Y2] ("Detention is also costly to society, which bears the direct burden of incarcerating additional people along with the costs incurred by families, communities, and the labor market."); *see also* NATHAN FENNELL & MEREDITH PRESCOTT, RISK, NOT RESOURCES: IMPROVING THE PRETRIAL RELEASE PROCESS IN TEXAS 1 (2016), https://lbj.utexas.edu/sites/default/files/file/Risk,%20Not%20Resources-%20Improving%20the%20Pretrial%20Release%20Process%20in%20Texas--FINAL.pdf [https://perma.cc/2E6F-CBRC] ("Texas county jails currently detain 40,300 inmates who are awaiting trial, representing over 62% of the entire jail population of the state.").

determine whether a pretrial detainee actually poses a risk to public safety if released.[153] The new generation of risk assessment tools has been heralded as providing an "unbiased, objective evaluation of the risks that defendants pose to society."[154] This focus on objectivity comes as no surprise: social scientists have long argued that actuarial risk assessment is both more objective and more accurate than human decision-making.[155] Indeed, actuarial assessments may well be more accurate than "clinical" judgment, which relies on the "professional judgment of the reviewer" to determine potential future risk.[156] Clinical judgment is "crude and subjective"[157] and prone to human error.[158]

But state legislatures and court systems that adopt new risk assessment tools frequently procure them from foundations or the private sector, raising questions about transparency. The Arnold Foundation, for example, provides its "Public Safety Assessment" free of charge to jurisdictions that adopt it—but it compels them to enter into a memorandum of understanding (MOU) that stipulates that they will not treat the tool like an ordinary public record for purposes of freedom of information laws.[159] Unlike ShotSpotter, the Arnold Foundation's MOU expressly indicates that the foundation has no property interest in the data "provided by" these jurisdictions.[160] But the MOU also provides that the foundation retains "all right, title and interest (including patents, copyrights, trade secrets and trademarks) in and to the Tool."[161]

3. Evidence

Evidence generated using proprietary methods also occupies a central role at trial.[162] Take, for example, the common use of breathalyzer evidence to demonstrate that a DUI defendant was, indeed, under the influence. Several companies manufacture breathalyzers, or "breath test machines," including

153. Mayson, *supra* note 59, at 2222 (describing algorithmic risk assessment as the "linchpin of the bail-reform movement").

154. Milgram et al., *supra* note 150, at 219.

155. *Id.* at 220.

156. James Byrne & April Pattavina, *Next Generation Assessment Technology: The Potential and Pitfalls of Integrating Individual and Community Risk Assessment*, 64 PROB. J. 242, 243 (2017).

157. *Id.*

158. One social science paper demonstrates the dismissive attitude of many toward clinical judgment, concluding that clinical risk assessments "are often wildly inaccurate and their rationale opaque." Berk & Hyatt, *supra* note 7, at 222.

159. *See* Brauneis & Goodman, *supra* note 13; *Algorithmic Control: Automated Decisionmaking in America's Cities*, MUCKROCK, https://www.muckrock.com/project/uncovering-algorithms-84 [https://perma.cc/263Z-HTL9] (last visited Feb. 14, 2020).

160. *See, e.g.*, No-Cost Memorandum of Understanding Between Laura and John Arnold Foundation and County of Santa Clara, Cal. (June 19, 2018) (on file with author).

161. *Id.*

162. *See, e.g.*, Ram, *supra* note 49; Roth, *supra* note 27; Wexler, *supra* note 29; *see also* Aurora J. Wilson, *Discovery of Breathalyzer Source Code in DUI Prosecutions*, 7 WASH. J.L. TECH. & ARTS 121 (2011).

Dräger[163] (which makes the AlcoTest 9510) and Intoxilyzer.[164] Defendants in dozens of state courts have sought discovery of the source code of these tools, arguing that expert analysis of the source code is essential to be able to confront the evidence against them.[165] But many courts have concluded that the prosecution does not "possess" the source code because it is owned by the private vendor.[166]

When the vendors *have* disclosed the source code, it is frequently subject to an expansive protective order. For instance, Dräger has disclosed source code in multiple criminal proceedings, pursuant to a protective order.[167] But when two defense experts who had examined the code presented a report describing its flaws at an annual convention of DUI lawyers in 2017, the company sent them a cease-and-desist letter, contending that the allegations were defamatory and violated the order—despite the fact that the report did not contain any of the source code itself.[168] The experts ultimately settled with Dräger, although some defense attorneys believed the company was interpreting its protective order too broadly.[169]

Defendants' experiences with DNA evidence are equally instructive. Courts in numerous jurisdictions have admitted DNA analyses generated by proprietary software, without disclosing the source code to the defendants.[170] In New York City, for example, the city's crime lab—the Office of the Chief Medical Examiner (OCME)—developed its own probabilistic genotyping tool, the Forensic Statistical Tool (FST).[171] The FST worked by generating a "likelihood ratio" to estimate the probability that a given contributor's DNA was present in a mixed sample.[172]

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163. *Breath Alcohol and Drug Testing*, DRÄGER, https://www.draeger.com/en-us_us/Applications/Productselector/Breath-Alcohol-and-Drug-Testing [https://perma.cc/8QSP-EYAF] (last visited Feb. 14, 2020).

164. *See generally* CMI INTOXILYZER, https://www.alcoholtest.com/ [https://perma.cc/PME5-V4D6] (last visited Feb. 14, 2020).

165. *See, e.g.*, State v. Underdahl, 767 N.W.2d 677 (Minn. 2009); *see also* Wilson, *supra* note 162, at 123 n.3 (collecting cases).

166. Wilson, *supra* note 162, at 123.

167. *See* Zack Whittaker, *Researchers Say a Breathalyzer Has Flaws, Casting Doubt on Countless Convictions*, ZDNET (May 10, 2018), https://www.zdnet.com/article/draeger-Breathalyzer-breath-test-convictions/ [https://perma.cc/K9KK-MERQ].

168. *Id.* ("Draeger sent the researchers a cease and desist letter claiming defamation and alleging the two violated a protective order, designed to protect the source code from leaking.").

169. *Id.*

170. *See, e.g.*, People v. Superior Court, B258569, 2015 WL 139069, at *4 (Cal. Ct. App. Jan. 9, 2015); People v. Rodriguez, 59 N.Y.S.3d 337 (App. Div. 2017); People v. Carter, No. 2573/14, 2016 WL 239708 (N.Y. Sup. Ct. Jan. 12, 2016); People v. Belle, No. 3955/13, 2015 WL 2131497 (N.Y. Sup. Ct. Apr. 29, 2015).

171. Lauren Kirchner, *Thousands of Criminal Cases in New York Relied on Disputed DNA Testing Techniques*, PROPUBLICA (Sept. 4, 2017), https://www.propublica.org/article/thousands-of-criminal-cases-in-new-york-relied-on-disputed-dna-testing-techniques [https://perma.cc/SN2A-DKY3].

172. *See generally* CATHERINE LEAHY SCOTT, STATE OF N.Y. OFFICE OF THE INSPECTOR GEN., INVESTIGATION INTO THE NEW YORK CITY OFFICE OF CHIEF MEDICAL EXAMINER: DEPARTMENT OF FORENSIC BIOLOGY (2013), https://ig.ny.gov/sites/g/files/oee571/files/2016-12/OCMEFinalReport.pdf [https://perma.cc/Q22W-4XAB].

Despite the OCME's extensive use of the FST, the office never disclosed the source code to a single defendant until Kevin Johnson was prosecuted in federal court.[173] Johnson was arrested in 2015 after an apartment search turned up two guns. OCME used the FST to analyze the samples of DNA obtained from the guns, concluding that it was 156 times more likely than not that one of the guns contained Johnson's DNA. When Johnson requested access to the FST source code for expert analysis and review, the government refused to comply, arguing that the FST was "proprietary and copyrighted."[174] After a discovery battle, the court concluded that the source code had to be turned over to the defense expert,[175] who reviewed the code and concluded that its accuracy should be "seriously questioned."[176]

Despite the significance of the expert's conclusions—which cast doubt on the thousands of cases in which FST evidence had been used—his report remained under wraps. In order to facilitate discovery, the parties agreed to a protective order under which the source code was designated as "Highly Confidential Material."[177] Accordingly, the report was filed on the docket, but many of its findings remained inaccessible until a nonprofit news outlet, ProPublica, filed a motion to intervene, vacate the protective order, and unseal the source code.[178] After ProPublica intervened, the city dropped its claim that the code was proprietary and released it to the reporter, who published it, prompting a public discussion.[179]

4. Sentencing

Sentencing proceedings are also being transformed by algorithmic governance. In a now-infamous case, a defendant raised a due process challenge to the use at sentencing of a proprietary algorithmic risk assessment tool called the Correctional Offender Management Profiling for Alternative Sanctions (COMPAS).[180] COMPAS, which was developed by the

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173. Kirchner, *supra* note 171 (writing that the OCME estimated it had used the tool in over 1300 cases).

174. Letter, United States v. Johnson, No. 15-cr-565 (S.D.N.Y. May 3, 2016), ECF No. 37.

175. Order, United States v. Johnson, No. 15-cr-565 (S.D.N.Y. Jul. 6, 2016), ECF No. 67.

176. Exhibit C at 22, United States v. Johnson, No. 15-cr-565 (S.D.N.Y. Jan. 10, 2017), ECF No. 99-5.

177. Protective Order Regarding the Confidentiality of the Forensic Statistical Tool Source Code and Related Documents, United States v. Johnson, No. 15-cr-565 (S.D.N.Y. Jul. 18, 2016), ECF No. 69.

178. Memorandum in Support of Application by ProPublica for Leave to Intervene, Lift the Protective Order & Unseal Judicial Records, United States v. Johnson, No. 15-cr-565 (S.D.N.Y. Sept. 25, 2017), ECF No. 139 [hereinafter ProPublica Memorandum].

179. Lauren Kirchner, *Federal Judge Unseals New York Crime Lab's Software for Analyzing DNA Evidence*, PROPUBLICA (Oct. 20, 2017), https://www.propublica.org/article/federal-judge-unseals-new-york-crime-labs-software-for-analyzing-dna-evidence [https://perma.cc/GD4L-GEA5]. *See generally The Source Code, Acquired by ProPublica, for New York City's Forensic Statistical Tool*, GITHUB, https://github.com/propublica/nyc-dna-software [https://perma.cc/6E4P-XQRR] (last visited Feb. 14, 2020); *The Source Code for NYC's Forensic DNA Statistical Analysis Tool*, Y COMBINATOR (Oct. 20, 2017), https://news.ycombinator.com/item?id=15518364 [https://perma.cc/95FN-QVMW].

180. *See generally* State v. Loomis, 881 N.W.2d 749 (Wis. 2016).

Northpointe Institute for Public Management, is an actuarial risk assessment tool.[181] COMPAS weighs a number of factors, such as criminal history, education, employment, age, and substance abuse history and generates "risk scores" intended to predict the likelihood of pretrial recidivism, general recidivism, and violent recidivism.[182]

Eric Loomis challenged the use of COMPAS at his sentencing on due process grounds, analogizing the instrument to a presentence investigation report that must be disclosed to the defendant.[183] But Northpointe "consider[ed] COMPAS a proprietary instrument and a trade secret" and contended that its source code could not be disclosed.[184] Without access to information about how the COMPAS tool functions, Loomis argued, its accuracy was questionable.[185]

The court took a middle road. Loomis had an "opportunity to verify" that the inputs into COMPAS—answers to questions about his criminal history, for example—were accurate.[186] But several studies had suggested that the tool was biased and potentially inaccurate.[187] The court held that, because of these ambiguities about the tool's accuracy, the sentencing court must be notified regarding both the proprietary nature of the tool and its potential inaccuracies.[188] One judge wrote in a separate concurrence to clarify, however, that even taking these limitations into account, it would be impermissible for the court to "rely" on COMPAS at sentencing; at most, COMPAS scores could be only "one of many factors" considered.[189]

Even the most avid supporters of risk assessment are skeptical of the use of proprietary methods for these purposes; they are concerned that vendors may not disclose important information or that the profit motive might lead them to overstate the value of their contributions.[190] These concerns about transparency are coupled with additional substantive questions about how the tools actually function: for instance, do algorithmic decision-making mechanisms consider race or gender in ways that might violate the Constitution or principles of due process? Do evidence-generating tools like

181. Ashley M. Pierson, Validation of the Correctional Offender Management and Profiling Alternative Sanctions (COMPAS) 3 (July 12, 2018) (unpublished Ph.D. dissertation, Fordham University) (on file with author).

182. *Id.* at 34 fig.1.

183. *Loomis*, 881 N.W.2d at 761.

184. *Id.*

185. *Id.* at 762.

186. *Id.* at 761.

187. *Id.* at 761–64.

188. *Id.* at 764 ("Providing information to sentencing courts on the limitations and cautions attendant with the use of COMPAS risk assessments will enable courts to better assess the accuracy of the assessment and the appropriate weight to be given to the risk score.").

189. *Id.* at 774 (Roggensack, J., concurring).

190. RICHARD BERK, CRIMINAL JUSTICE FORECASTS OF RISK: A MACHINE LEARNING APPROACH 105 (2012) ("Proprietary software may be purchased easily enough, but important details may be inadequately disclosed, and performance claims may turn out to be unsubstantiated; there is usually no equivalent of peer review. It can also be difficult to alter the software, or require that changes be made by the purveyor, once the project has begun.").

breathalyzers malfunction under certain conditions?[191] And if so, how will defendants—or the public—know?

II. ALGORITHMIC OPACITY AND THE PUBLIC INTEREST

In 2002, Martha Minow wrote that what "American schools, prisons, welfare agencies, and social service programs have in common" is that they are the subject of expanding experiments in privatization.[192] Seventeen years later, these seemingly disparate contexts are united not only as sites of privatization but also as experiments in automation and algorithmic governance. In important respects, these cases reflect the many ways in which outsourcing decision-making to the private sector can pose challenges to existing transparency and accountability mechanisms.[193] Partnerships between government and the private sector in Medicaid, education, and criminal justice are transforming the way that government makes critical decisions that affect individual rights as well as the broader public.

A. Concealing Government Decision-Making

First, algorithmic governance amplifies some recurring problems for procedural due process, with widespread effects. Bureaucracy and red tape all but ensure that the reasons and procedures for government decisions are difficult to access even when humans, not machines, are in control.[194] But by automating decision-making and resisting disclosure of its methods, algorithmic governance poses more entrenched obstacles to litigants' abilities to "meaningfully challenge" determinations, limiting the types of information that the government could disclose to affected citizens.[195] Thus, when government defendants assert that their decision-making methodologies cannot be disclosed because of trade secret concerns, they in turn attempt to minimize the importance of the methodology—or emphasize its objectivity—in understanding how the government reached the contested decision.

In all these cases, by contrast, the courts recognized that due process requires litigants to have access to *some* information about the decision-making process. But what information specifically? The courts lack a benchmark for understanding what kinds of information litigants actually require to make the possibility of a "meaningful challenge" a reality. This

191. Whittaker, *supra* note 167.

192. Minow, *supra* note 58, at 1229.

193. *Cf.* Gillian E. Metzger, *Private Delegations, Due Process, and the Duty to Supervise*, *in* GOVERNMENT BY CONTRACT: OUTSOURCING AND AMERICAN DEMOCRACY 291, 299 (Jody Freeman & Martha Minow eds., 2009) (observing that, "with expanding privatization, private entities increasingly are undertaking adjudications on behalf of the government").

194. *Cf.* Lens, *supra* note 61, at 16–19 (describing how both the "social work" and the "legal" models of determining eligibility for welfare benefits resulted in arbitrary and discriminatory denials of aid).

195. Michael T. v. Bowling, No. 2:15-CV-09655, 2016 WL 4870284, at *10 (S.D.W. Va. Sept. 13, 2016), *modified sub nom.* Michael T. v. Crouch, No. 2:15-CV-09655, 2018 WL 1513295 (S.D.W. Va. Mar. 26, 2018).

determination may depend partially on the design and intended use of an algorithmic governance method.[196] But some crosscutting questions have yet to be resolved, including whether individuals should have access to information about how the methodology functions or only to the *data* that constitutes an input into the system.

Accordingly, some courts have suggested that access to the "static factors" inputted into an automated system is sufficient to vindicate due process rights. Thus, in *State v. Loomis*,[197] the Wisconsin Supreme Court upheld the use of COMPAS in part because the defendant had access to questions and answers regarding "static factors" such as his criminal history.[198] But other courts have required more, recognizing that access to additional information about the decision-making *process* was critical to understanding how the government reached the *outcomes* that the plaintiffs wished to challenge.[199] And in *Houston Federation of Teachers, Local 2145 v. Houston Independent School District*[200] (*HISD*), the court seemed to follow this more demanding approach, reasoning that access to general information about the EVAAS methodology was insufficient to alleviate due process concerns.[201]

In short, these decisions are uniform in holding that the law requires the disclosure of information necessary to understand whether an automated decision is *accurate* but differ in their determinations of what that information is. In a sense, this observation comports with the courts' general embrace of "flexible" procedures that can accommodate different substantive contexts.[202]

But if technology and privatization are altering decision-making methodologies in ways that cut across sectors, perhaps a more coherent and affirmative approach is needed to determine what kinds of information about algorithmic systems ought to be disclosed.[203] Litigation that is fact-specific, occurs on a case-by-case basis and ultimately advances the interests of (and strikes compromises among) private parties may not be the most efficient, or effective, strategy for advancing algorithmic accountability. The "flexibility" of the due process inquiry, in other words, may undermine

196. *See, e.g.*, Brauneis & Goodman, *supra* note 13, at 120–22 (describing the importance of understanding the risk of false positives and negatives, particularly in criminal justice contexts).

197. 881 N.W.2d 749 (Wis. 2016).

198. *Id.* at 761.

199. Thus, in *Michael T. v. Crouch*, the revised approach to determining eligibility for Medicaid waiver benefits allowed beneficiaries to challenge not only the accuracy of the inputs but also the application of the decision-making methodology itself. *See generally* No. 2:15-CV-09655, 2018 WL 1513295 (S.D.W. Va. Mar. 26, 2018).

200. 251 F. Supp. 3d 1168 (S.D. Tex. 2017).

201. *Id.* at 1178.

202. O'Bannon v. Town Court Nursing Ctr., 447 U.S. 773, 806 (1980).

203. *See, e.g.*, Brauneis & Goodman, *supra* note 13, at 166 ("Governments should consciously generate—or demand that their vendors generate—records that will further public understanding of algorithmic processes.").

efforts to shed light on the extent to which decision-making across agencies is shifting from public toward private governance.[204]

B. The Role of Human Judgment

These cases also raise significant questions about the role of deference and human judgment in considering—and potentially reversing—algorithmic decisions. Courts appear more skeptical of algorithmic determinations when proprietary tools are accepted and relied upon as the primary or exclusive factor in decision-making.[205] By contrast, courts appear more likely to bless proprietary algorithmic governance where an algorithmic determination is only one of many factors to be considered.[206]

The relationship between human discretion and technological tools is of central concern because reliance on technology might change the ways in which decision makers give reasons for their decisions as well as the outcomes themselves.[207] As Danielle Citron has demonstrated, "automation bias" suggests that "workers will likely adopt a computer's suggested eligibility determinations and benefit calculations."[208] These cases tend to support Citron's observation, confirming that "fair hearings" are less than fair when hearing officers defer unthinkingly to algorithmic determinations. As the *HISD* court wrote, it "beggars belief that any HISD hearing officer would (or could) freely disregard the very score used by HISD to identify 'ineffective' teachers."[209] Likewise, the court in *Michael T. v. Crouch*[210] found that, despite West Virginia's "stated policy" to increase benefits beyond the budget allocated by the APS algorithm, it had "eschew[ed] this policy in favor of affirming" the outcome of the algorithmic determination.[211]

Nonetheless, some studies show more complex interactions between human decision makers and algorithmic determinations. For instance,

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204. *See, e.g.*, Laura A. Dickinson, *Privatization and Accountability*, 7 ANN. REV. L. & SOC. SCI. 101 (2011); Jody Freeman, *The Private Role in Public Governance*, 75 N.Y.U. L. REV. 543, 576 (2000) ("[M]any scholars have argued that, in certain contexts, private actors ought to submit to oversight by agencies, courts, and the legislature, and to be constrained by the Constitution in the same manner as traditional public agencies are."); Margaret H. Lemos, *Privatizing Public Litigation*, 104 GEO. L.J. 515 (2016) (describing public sector reliance on private attorneys); Metzger, *supra* note 58 (analyzing the extent of privatization in nondelegation terms).

205. *See, e.g.*, State v. Loomis, 881 N.W.2d 749, 769–71 (Wis. 2016) (upholding the use of proprietary risk assessment because the state's practices did not give the risk scores "undue weight").

206. *See, e.g.*, *id.* at 772–74 (Roggensack, J., concurring) (supporting the use of algorithmic determinations in contexts in which decision makers are already required to weigh multiple factors).

207. *See* Emily Berman, *A Government of Laws and Not of Machines*, 98 B.U. L. REV. 1277, 1338 (2018) (arguing that machine learning ought to be deployed in "high-discretion" environments).

208. Citron, *supra* note 42, at 1272.

209. *HISD*, 251 F. Supp. 3d 1168, 1180 (S.D. Tex. 2017).

210. No. 2:15-CV-09655, 2018 WL 1513295 (S.D.W. Va. Mar. 26, 2018).

211. *Id.* at *3.

algorithmic decisions on "human tasks" such as hiring are perceived as less "fair" and less "trustworthy" than human judgment, suggesting that some decision makers might ignore or discount them.[212] One study of judicial attitudes toward risk assessment in sentencing found that a minority of judges believed risk assessment to be more accurate than human judgment.[213] In a recent study of pretrial risk assessment in Kentucky, Megan Stevenson found that the use of an actuarial risk assessment tool did not markedly increase efficiency.[214] One potential reason, she found, was that "judicial discretion was used not to correct the risk assessment when it erred, but to override the risk assessment when it was correct."[215] As one scholar recently predicted with regard to criminal law enforcement, negative media coverage might also lead to more public resistance to algorithmic outcomes "since the general public will inevitably see the failures of predictive algorithms along with their successes."[216]

These factors complicate, rather than clarify, the role of decision-maker discretion. They make it more difficult to attribute an outcome to a specific decision maker or process and to understand the basis of government decisions. One potential result is that the advent of algorithmic decision-making—while promising enhanced objectivity and efficiency—actually introduces *more*, not less, uncertainty into the logic of governing. This uncertainty is material not only to the individuals who seek to understand why they have been denied important rights and benefits but also to the public as a whole.

C. Process and Results

Perhaps the greatest question raised by these challenges to algorithmic governance concerns the relationship between process and outcomes.[217] Numerous scholars have raised pressing concerns that algorithmic

212. *See* Min Kyung Lee, *Understanding Perception of Algorithmic Decisions: Fairness, Trust, and Emotion in Response to Algorithmic Management*, BIG DATA & SOC'Y, Jan.–June 2018, at 8, 14; *see also* Mary T. Dzindolet et al., *The Role of Trust in Automation Reliance*, 58 INT'L J. HUM.-COMPUTER STUD. 697, 697–718 (2003). In one recent study of public sector users of machine learning technologies outside the United States, some respondents suggested that a lack of transparency in machine learning could hamper adoption, use, or trust in the system. Michael Veale, Max Van Kleek & Reuben Binns, *Fairness and Accountability Design Needs for Algorithmic Support in High-Stakes Public Sector Decision-Making*, CHI '18: PROC. 2018 CHI CONF. HUM. FACTORS COMPUTING SYSTEMS, Apr. 2018, at 1.

213. *See generally* Jordan M. Hyatt & Steven L. Chanenson, *The Use of Risk Assessment at Sentencing: Implications for Research and Policy* (Villanova Pub. Law & Legal Theory, Working Paper No. 2017-1040, 2017), https://ssrn.com/abstract=2961288 [https://perma.cc/2994-PWKZ].

214. *See generally* Stevenson, *supra* note 149.

215. *Id.* at 369.

216. Simmons, *supra* note 59, at 1093.

217. *See generally* Robert S. Summers, *Evaluating and Improving Legal Processes—A Plea for 'Process Values,'* 60 CORNELL L. REV. 1 (1974) (defending "process values").

governance—in the private as well as the public sector—can lead to faulty, discriminatory, or biased outcomes.[218]

Notably, however, these successful challenges to proprietary algorithmic governance in the public sector have not concerned bias or unfairness in the outcomes of automated processes but rather interests in a fair process. In several cases, these courts explicitly refused to consider whether an algorithm itself was "systematically biased."[219] Rather, to the extent that litigants have been successful in efforts to curb algorithmic decision-making, these successes are not about degrees of bias or fairness embedded within a tool. They reflect interests in the kinds of transparency and access that due process requires. Of course, transparency is also a prerequisite for understanding whether algorithmic governance indeed offends substantive rights.

But transparency is as important for reasons of process as for substance. In fact, these cases may be better viewed through the lens of procedural values such as transparency, participation, and democratic accountability than through the lens of discrimination or bias. This is not just because the resolution of these cases rises or falls on judgments about the quality and kind of information required to be disclosed to affected parties but rather that the cases can be seen as advancing procedural justice.[220] As scholars of procedural justice acknowledge, the substantive fairness of government decision-making matters as much as the *appearance* of fairness in promoting public trust and legitimacy.[221]

As governments adopt automated decision-making systems, they ought to consider not only the substance of those decisions but also how those transformations in governance affect public control, trust, and democratic oversight. This observation comports with the general understanding that governmental processes ought to be transparent, comprehensible, and predictable.[222] The interests in "predictability, transparency, and rationality"

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218. *See, e.g.*, Rachel Courtland, *Bias Detectives: The Researchers Striving to Make Algorithms Fair*, NATURE (June 20, 2018), https://www.nature.com/articles/d41586-018-05469-3 [https://perma.cc/AW8W-RW3H]; *see also* Barocas & Selbst, *supra* note 28; Citron, *supra* note 42; Citron & Pasquale, *supra* note 29; Huq, *supra* note 59; Katyal, *supra* note 38; Mayson, *supra* note 59; Starr, *supra* note 59.

219. *HISD*, 251 F. Supp. 3d 1168, 1180 (S.D. Tex. 2017) (dismissing the plaintiffs' substantive due process argument that EVAAS was not "rational" because it was "systematically biased"); *see also* State v. Loomis, 881 N.W.2d 749, 764 (Wis. 2016) (endorsing "cautions" on the use of risk assessment without explicitly finding that the tools encoded bias).

220. *See generally* Tom R. Tyler, *What Is Procedural Justice?: Criteria Used by Citizens to Assess the Fairness of Legal Procedures*, 22 LAW & SOC'Y REV. 103 (1988).

221. Tracey L. Meares & Tom R. Tyler, *Justice Sotomayor and the Jurisprudence of Procedural Justice*, 123 YALE L.J. FORUM 525, 535 (2014) ("Many judges devote their attention to being fair, i.e., to correctly applying the law to the facts of each case, but do not think about how they can communicate that they are being fair to the parties in the case or to the public more generally.").

222. *See* Mashaw, *supra* note 18; Redish & Marshall, *supra* note 18; Saphire, *supra* note 18, at 116 ("A purely piecemeal, incremental definition of fairness would be at odds with the view that fairness can or should have some guiding influence on the way in which persons or institutions should be expected to act.").

are not only essential for vindicating individuals' interest in understanding the legal rules that bind them but also for informing society about the laws that exist and how they are applied.[223]

III. ACCESS LAW FOR AN OPAQUE AGE

Challenges to algorithmic decision-making teach a valuable lesson: knowledge is power. In efforts to confront algorithmic decision-making, the first step is nearly always an arduous journey to shed light on why, and how, the decision was reached in the first instance. Even within a traditional procedural due process framework, litigants have repeatedly raised issues regarding transparency of government decision-making that affect the public.[224]

New challenges to transparency and accountability also resonate within the broader framework of the law of access to government proceedings and records, which is preoccupied with opening government decision-making to public view. This Article now turns toward the law of access itself to examine how the guarantees of public records statutes and the constitutional right of access to government proceedings might advance efforts to bring algorithmic governance into public view. Critically, neither mechanism provides clear solutions to the challenge of proprietary algorithmic governance. Nonetheless, both sources call into question the adoption of proprietary tools to shield government decision-making from public view.[225]

A. Why Access Law?

These cases raise a conceptual question: when *ought* the methodology of government decision-making be public? This question has deep practical implications. If the processes for government decision-making were already public, litigants would not have to fight tooth and nail to gain access to an explanation of why their benefits were slashed, their employment was terminated, or their release from prison was delayed.

The challenges to algorithmic opacity surveyed in the preceding sections are efforts to facilitate access to information critical to individuals affected by algorithmic governance. In light of these modest successes for the interests of algorithmic justice, what more could the law of access add?

The law of access makes a critical contribution in shifting the burden to force disclosure from those who are directly affected to the general public. To date, most of the challenges to algorithmic opacity have been brought by

223. Redish & Marshall, *supra* note 18, at 485.

224. *See supra* Part I.A (describing the Idaho plaintiffs' rejection of a protective order); *supra* Part I.B (describing the *HISD* protective order).

225. *See, e.g.*, DIAKOPOULOS, *supra* note 33, at 12.

litigants who are typically underresourced: criminal defendants,[226] the poor and disabled,[227] and public servants.[228]

Nowhere is this dynamic more obvious than in the context of Medicaid waiver determinations. Although these cases have received hardly any scholarly attention,[229] they have deep significance for the study of algorithmic governance. The Medicaid cases reflect how algorithmic governance often affects the least privileged, least empowered members of society, who are often represented by overstretched and underresourced legal aid organizations: in this case, the disabled.

Yet implicit in these cases is an acknowledgment that this information also has broader implications for the public's right to know. In *K.W. ex rel. D.W. v. Armstrong*,[230] that claim was made explicit: the decision-making methodology had to be disclosed not only to the plaintiffs but also to any other interested person using the mechanism of Idaho's public records law. The reasons are clear: although there were only a few plaintiffs, the methodology should be available to all beneficiaries and their guardians, regardless of whether they were represented in the case. Moreover, *K.W.* reflects a broader understanding: in all of these cases, even if individual litigants had sufficient information to challenge the individual determinations that affected their rights, the public would still be largely in the dark.

This public interest in understanding how proprietary algorithmic governance works is precisely what is protected by laws requiring public access to government records and proceedings. This interest is independent from that of the litigants. Indeed, in many cases seeking to vindicate the right of access to government proceedings, the public *intervenes* in an ongoing case notwithstanding the opposition of both parties.[231] Under open records

226. *See, e.g.*, Petition for a Writ of Certiorari & Motion for Leave to Proceed in Forma Pauperis, Loomis v. Wisconsin, 137 S. Ct. 2290 (2017) (mem.) (No. 16-6387) (establishing that Loomis was represented by pro bono counsel Michael D. Rosenberg of Community Justice, Inc.).

227. *See, e.g.*, K.W. *ex rel.* D.W. v. Armstrong, 789 F.3d 962 (9th Cir. 2015); Michael T. v. Bowling, No. 2:15-CV-09655, 2016 WL 4870284, at *2 (S.D.W. Va. Sept. 13, 2016), *modified sub nom.* Michael T. v. Crouch, No. 2:15-CV-09655, 2018 WL 1513295 (S.D.W. Va. Mar. 26, 2018); *see also* Dep't of Human Servs. v. Ledgerwood, 530 S.W.3d 336, 345 (Ark. 2017) (holding that the Arkansas Department of Human Services violated the state's Administrative Procedure Act by failing to provide Medicaid waiver recipients with notice of new automated methodology for benefits determinations).

228. *See generally HISD*, 251 F. Supp. 3d 1168 (S.D. Tex. 2017).

229. Only a handful of scholarly sources discuss these cases. *See, e.g.*, Kate Crawford & Jason Schultz, *AI Systems as State Actors*, 119 COLUM. L. REV. 1941, 1948–52 (2019); Mariano-Florentino Cuéllar, *A Common Law for the Age of Artificial Intelligence: Incremental Adjudication, Institutions, and Relational Non-Arbitrariness*, 119 COLUM. L. REV. 1773, 1784 n.31 (2019).

230. 789 F.3d 962 (9th Cir. 2015).

231. *See, e.g.*, United States v. Aref, 533 F.3d 72, 81 (2d Cir. 2008) ("[A] motion to intervene to assert the *public's* First Amendment right of access to criminal proceedings is proper." (emphasis added)); United States v. Soussoudis (*In re* Wash. Post Co.), 807 F.2d 383, 386–87 (4th Cir. 1986) (permitting the *Washington Post* to intervene for purposes of challenging the closure of a sentencing hearing to which defendant had not objected); United

statutes, transparency advocates frequently seek records that implicate individual privacy rights.[232] This public-oriented framework acknowledges that, at times, the public's interests in transparency and openness may contradict the preferences of the parties in litigation.

This disjunction between the interests of private litigants and the public interest has practical roots. Private litigants often lack a reason to push for *public* disclosure of records concerning algorithmic decision-making. Sometimes secrecy redounds to a litigant's benefit by protecting key privacy interests.[233] In the criminal context, pushing for public disclosure might heighten the possibility that others would learn of a criminal proceeding, thus creating more significant collateral consequences by tipping off future employers, landlords, or business associates or by revealing cooperation with law enforcement investigations.[234] In the civil context, pushing for public disclosure also runs counter to statutes that protect individual medical privacy or that shield against disclosure of employment records.[235]

More important, as a normative matter, individual litigants should not have to shoulder the burden of ensuring that algorithmic governance comports with constitutional and statutory requirements vis-à-vis the public. Litigating these issues requires time and money that many litigants do not have.

Nonetheless, asserting the public interest in transparency is not to diminish the importance and the value of individual challenges to opacity. As Frank Michelman has described it in a different context, these two perspectives are neither "mutually exclusive [nor] competitive" but rather give a "binocular view" of algorithmic transparency.[236] As this Article describes below, transparency's legal mechanisms can meaningfully contribute to the project of algorithmic transparency along a parallel track without undermining or jeopardizing the due process arguments presented in the cases surveyed above.

States v. Carpentier, 526 F. Supp. 292, 293 (E.D.N.Y. 1981) (permitting the *New York Times* to intervene and unseal evidence even though the defendant had not moved to unseal).

232. *See generally* U.S. Dep't of Justice v. Reporters Comm. for Freedom of the Press, 489 U.S. 749 (1989).

233. *See* Amanda Conley et al., *Sustaining Privacy and Open Justice in the Transition to Online Court Records: A Multidisciplinary Inquiry*, 71 MD. L. REV. 772, 783–84 (2012) (noting that court dockets create durable, persistent records of individuals' involvement with the criminal justice system).

234. *Id.* at 784; *see also* D. Brock Hornby, *Can Federal Sentencing Remain Transparent?*, JUDICATURE, Spring 2019, at 46 (describing efforts to conceal sentencing memoranda that would reveal a defendant's cooperation with law enforcement).

235. *See, e.g.*, Al Baker & Benjamin Mueller, *Records Leak in Eric Garner Case Renews Debate on Police Discipline*, N.Y. TIMES (Mar. 22, 2017), https://www.nytimes.com/2017/03/22/nyregion/nypd-eric-garner-daniel-pantaleo-disciplinary-records.html [https://perma.cc/RAX8-QDTF] (describing the conflict between confidentiality of police records and the New York open records statute); *see also* State *ex rel.* Cincinnati Enquirer v. Daniels, 844 N.E.2d 1181, 1187 (Ohio 2006) (addressing the conflict between the Health Insurance Portability and Accountability Act and Ohio's public records statute).

236. Frank I. Michelman, *Formal and Associational Aims in Procedural Due Process*, *in* DUE PROCESS: NOMOS XVIII 126, 131 (J. Roland Pennock & John W. Chapman eds., 1977).

B. Transparency's Statute: FOIA

Might FOIA or its state equivalents directly constrain the use of proprietary algorithmic governance? Efforts to leverage the guarantees of open records litigation in support of algorithmic transparency confront several doctrinal hurdles. Although FOIA's requirements are intended to open government decision-making to public view, the law does not, itself, impose obstacles to the use of private decision-making authority.[237] Instead, it creates an administrative process for a member of the public to request government records and confers federal jurisdiction on district courts, which can enjoin agencies from withholding records or order them to produce records which have been "improperly withheld."[238]

But the interests protected by FOIA and its state counterparts—enhancing "public knowledge of Government operations"[239]—suggest some limits on the government's use of proprietary, secret decision-making methods. The extensive body of FOIA case law emphasizes the necessity of understanding both the mechanisms and outcomes of decision-making. Moreover, the broad principles of open government embodied in FOIA suggest that shielding *government* decisions by using proprietary means is inappropriate.

Congress enacted FOIA in response to an administrative state that had become increasingly secretive.[240] The purpose of the statute was to "pierce the veil of administrative secrecy and to open agency action to the light of public scrutiny."[241] The statutory structure reflects its purpose, allowing "any person" to submit a request for agency records and requiring agencies to respond—unless the material falls within one of nine enumerated exemptions.[242] In addition, FOIA requires agencies to *affirmatively* publish several categories of rules, procedures, and statements of policy, either in the Federal Register or in electronic "reading rooms."[243] In contrast to the legacy

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237. *See* Paul R. Verkuil, *Outsourcing and the Duty to Govern*, *in* GOVERNMENT BY CONTRACT: OUTSOURCING AND AMERICAN DEMOCRACY, *supra* note 193, at 310, 316–17 (contending that FOIA's transparency obligations, while not imposing substantive obstacles, would "help condition the President's transfer of civilian policymaking authority to private hands").

238. *See* Kenneth Culp Davis, *The Information Act: A Preliminary Analysis*, 34 U. CHI. L. REV. 761, 767 (1967) ("The court has jurisdiction to enforce; it is not commanded to enforce.").

239. U.S. Dep't of Justice v. Tax Analysts, 492 U.S. 136, 156 (1989) (Blackmun, J., dissenting).

240. *See generally* Kwoka, *Deferring to Secrecy*, *supra* note 21, at 197; *see also* EPA v. Mink, 410 U.S. 73, 79 (1973) (explaining how, prior to FOIA's enactment, section 3 of the Administrative Procedure Act had come to be "looked upon more as a withholding statute than a disclosure statute").

241. Dep't of the Air Force v. Rose, 425 U.S. 352, 361 (1976) (quoting Rose v. Dep't of the Air Force, 495 F.2d 261, 263 (2d Cir. 1974)).

242. 5 U.S.C. § 552(b)(1)–(9) (2018) (enumerating nine exceptions); *see also* Pozen, *supra* note 43, at 1103–04 (describing the statutory scheme).

243. 5 U.S.C. § 552(a)(2); *see also* Citizens for Responsibility & Ethics in Wash. v. U.S. Dep't of Justice, 846 F.3d 1235, 1238 (D.C. Cir. 2017) (describing § 552(a)(2) as the "reading-room provision").

of administrative secrecy, FOIA instead embraced a philosophy of "maximum access."[244]

An initial obstacle to efforts to promote algorithmic transparency concerns FOIA's limitation that it applies only to those records which an agency "controls."[245] To determine whether an agency "controls" a record, courts apply a multifactor test that examines the intent of the creator, the agency's ability to "use and dispose of" the record, and its use and integration of the document within its own system.[246] The "decisive factor" in establishing whether a document is a government record is whether an agency has *used*, *read*, or *relied upon* it, because only if it has done so would disclosure vindicate FOIA's fundamental values by helping the public learn about government decision-making.[247]

FOIA's "control" requirement reflects its goal of shedding light on records that actually reflect government decision-making.[248] This statutory purpose suggests that when agencies adopt and rely upon proprietary materials or software in making decisions, those materials should generally be considered matters of public record—regardless of the licensing or contractual provisions that govern.[249] Indeed, allowing contracts between the government and its vendors to remove the infrastructure of decision-making from public control reflects a formalistic approach that privileges the private sector's economic and political power while virtually eviscerating the purposes of the statutory protections.[250] As Justice William J. Brennan put it in a scathing dissent in 1980, secret governance is equally "destructive of democracy" regardless of the formal contractual means by which it is accomplished.[251]

While courts have rarely had the opportunity to consider FOIA requests for proprietary records that are at the core of the government's decision-making functions, the emergence of algorithmic governance puts this balance to the test. But courts ought to look askance at efforts to hamper public access in ways that would permit the government "to insulate itself from public scrutiny of its operations and regulatory decisions."[252] Where governments

244. Vaughn v. Rosen, 484 F.2d 820, 823 (D.C. Cir. 1973).

245. U.S. Dep't of Justice v. Tax Analysts, 492 U.S. 136, 146 (1989).

246. Burka v. Dep't of Health & Human Servs., 87 F.3d 508, 515 (D.C. Cir. 1996).

247. Judicial Watch, Inc. v. Fed. Hous. Fin. Agency, 646 F.3d 924, 927 (D.C. Cir. 2011) (quoting Consumer Fed'n of Am. v. Dep't of Agric., 455 F.3d 283, 288 (D.C. Cir. 2006)).

248. *See* Dep't of the Air Force v. Rose, 425 U.S. 352, 372 (1976) (describing the "basic purpose of the Freedom of Information Act 'to open agency action to the light of public scrutiny'" (quoting Rose v. Dep't of the Air Force, 495 F.2d 261, 263 (2d Cir. 1974))).

249. *See* Tax Analysts v. U.S. Dep't of Justice, 913 F. Supp. 599, 607 (D.D.C. 1996), *aff'd sub nom.* Tax Analysts v. Dep't of Justice, 107 F.3d 923 (D.C. Cir. 1997).

250. *See* Pozen, *supra* note 43, at 1114 (describing the private sector's "privileged position" under FOIA).

251. Forsham v. Harris, 445 U.S. 169, 190 n.8 (1980) (Brennan, J., dissenting) ("Certainly the agency cannot control the legal consequences simply by the label it attaches to a relationship.").

252. *Tax Analysts*, 913 F. Supp. at 607. In *Tax Analysts*, the district court ruled that JURIS, an electronic legal research database, was not an "agency record" subject to the FOIA. *Id.* West, a legal publisher, had entered into a contract with the Department of Justice through

adopt proprietary decision-making methodologies that impact their "structure, operation, or decision-making procedures," those records ought to become public.[253] In other words, although not every item that the government procures or licenses from the private sector becomes a "public record," those that are at the core of the government's decision-making functions—the transparency of which is the primary interest protected by FOIA—are likely to be covered by the statute's disclosure regime.

1. Exemption 4

Even assuming that the records are controlled by an agency, however, FOIA's exemptions may also impede efforts to obtain access to proprietary decision-making tools. FOIA's "Exemption 4" provides that "trade secrets and commercial or financial information obtained from a person and privileged or confidential" are exempt from disclosure.[254] For example, courts have denied FOIA requests for proprietary videoconferencing software, reasoning that even assuming the records were "agency records," they would be protected under Exemption 4.[255]

Like the control requirement, FOIA's broad exemption for trade secrets and confidential business information was intended to stimulate information sharing with the government, not to shield government decision-making from public scrutiny. The statute's legislative history confirms that the exemption was meant to protect "information which is obtained by the government through questionnaires or other inquiries, but which would customarily not be released to the public by the person from whom it was obtained."[256] Congress anticipated that information such as "business sales statistics, inventories, customer lists, and manufacturing processes" submitted to an agency would be kept confidential.[257]

But Exemption 4's protections extend beyond trade secrets to protect confidential commercial information as well. In an influential 1974 decision, the D.C. Circuit held that, in order to satisfy the requirements of Exemption 4, courts must not only determine whether information is "confidential" but also that "non-disclosure is justified by the legislative purpose which underlies the exemption."[258] Under this approach, Exemption 4 recognizes that information can be withheld if disclosure is likely "(1) to impair the Government's ability to obtain necessary information in the future; or (2) to

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which it licensed the database for internal use, subject to a provision that protected West's "proprietary rights." *Id.* at 603–04. The district court found that the database was not under the department's "control," reasoning that disclosure would not serve the broader values of FOIA. *Id.* at 607.

253. *Id.* at 607; *see also* SDC Dev. Corp. v. Mathews, 542 F.2d 1116, 1119 (9th Cir. 1976).

254. 5 U.S.C. § 552(b)(4) (2018).

255. Gilmore v. U.S. Dep't of Energy, 4 F. Supp. 2d 912, 922 (N.D. Cal. 1998).

256. 111 CONG. REC. 26,823 (1965).

257. *Id.*

258. Nat'l Parks & Conservation Ass'n v. Morton, 498 F.2d 765, 767 (D.C. Cir. 1974).

cause substantial harm to the competitive position of the person from whom the information was obtained."[259]

In June 2019, however, the U.S. Supreme Court found the "substantial competitive harm" requirement "inconsistent with the terms of the statute."[260] Instead, the Court reasoned that, in order to shield commercial or proprietary information from disclosure, FOIA required only that the owner of that information "customarily and actually" treat it as secret and that the government promise to keep the information secret as well.[261] The result is to expand the scope of plausible Exemption 4 claims.[262]

Agencies may be even less likely to comply with FOIA requests when they expect that a vendor or contractor would not want to comply. Agencies normally notify government contractors when information that may be confidential is sought under FOIA.[263] Those who submit confidential information to the government can file a "reverse FOIA" suit seeking to enjoin an agency from releasing that information.[264] As one commentator has observed, "even the threat of a reverse-FOIA action creates an environment where agencies are more likely to work with contractors" to prevent disclosure.[265]

Nonetheless, there is some room for optimism that Exemption 4 might not shield the methodologies of government decision-making from disclosure. First, there is little evidence that Exemption 4 was intended to cover decision-making methodologies employed by the government in making determinations about constitutional rights. Although the federal courts have repeatedly held that even organizations that are delegated fairly extensive authority by the executive branch are not subject to FOIA,[266] that conclusion is questionable where those organizations make determinations about constitutional rights. Although the government does have an interest in ensuring the "continued availability" of information and materials that are

259. *Id.* at 770 (footnote omitted).

260. Food Mktg. Inst. v. Argus Leader Media, 139 S. Ct. 2356, 2361 (2019).

261. *Id.* at 2366.

262. *Id.* at 2368 (Breyer, J., concurring in part and dissenting in part) ("[G]iven the temptation, common across the private and public sectors, to regard as secret all information that need not be disclosed, I fear the majority's reading will deprive the public of information for reasons no better than convenience, skittishness, or bureaucratic inertia."); *see also* Tom Susman & Lisa Rosenberg, *Will Corporations Decide What Information the Public Gets?*, HILL (June 3, 2019, 5:00 PM), https://thehill.com/opinion/civil-rights/446699-will-corporations-decide-what-information-the-public-gets [https://perma.cc/H8HR-J2ZH].

263. 29 C.F.R. § 1610.19 (2019) (requiring predisclosure notification concerning confidential commercial information).

264. Honeywell Tech. Sols., Inc. v. Dep't of the Air Force, 779 F. Supp. 2d 14, 16 (D.D.C. 2011).

265. Nooree Lee, *How Do States Safeguard Contractor Proprietary Information?*, PROCUREMENT L., Summer 2013, at 11, 11.

266. *See, e.g.*, Forsham v. Harris, 445 U.S. 169, 171 (1980) (holding that "written data generated, owned, and possessed by a privately controlled organization receiving federal study grants are not 'agency records'" under FOIA); *see also* Guttman, *supra* note 58.

voluntarily provided to it by the private sector, this does not suggest that the private sector should be able to condition its services on confidentiality.[267]

2. Exemption 5

FOIA's "Exemption 5" may also pose a hurdle to disclosure of proprietary decision-making software. FOIA exempts from disclosure information that is subject to the deliberative process privilege.[268] This exemption is intended to protect the integrity of the formulation of government decisions and policy by shielding them from outside interference and scrutiny.[269] Facts are not exempt; only those materials that would "expose the deliberative process" can be withheld.[270] And because the privilege only protects "predecisional" material, it cannot be asserted after an agency accepts or relies upon it.[271]

No court has upheld a claim that automated decision systems should be considered "deliberative." Indeed, many automated decision systems are likely to contain more unprivileged "facts" than privileged "deliberation."[272] And acceptance of a decision made by an automated tool would extinguish any privilege in any event.[273]

In a 2006 case, the attorney general of Massachusetts sought access to EPA records related to the use of a "proprietary computerized model . . . to prepare forecasts utilized in evaluating the relative costs and benefits of alternative proposed regulatory approaches to pollution control."[274] The court rejected EPA's invocation of the deliberative process exemption, reasoning that the model was essentially an "investigative technique utilized to generate raw data."[275] While the data undoubtedly would reflect, to some extent, the agency's thought process, the court went on, "This is true of any investigation by which an agency seeks facts—knowing what questions are asked or which witnesses are interviewed reveals aspects of what the investigator deemed important or worthy of consideration."[276]

Nonetheless, this reasoning has not stopped government agencies from claiming that the deliberative process exemption shields reasoning that was aided or developed by automated means. In one recent case under Illinois's Freedom of Information Act, a newspaper sought access to records related to

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267. *See* Critical Mass Energy Project v. Nuclear Regulatory Comm'n, 975 F.2d 871, 878 (D.C. Cir. 1992). Some state courts have also explicitly rejected governments' efforts to shield themselves from liability under state open records acts by outsourcing responsibility to private contractors. *See generally* WIREdata, Inc. v. Village of Sussex, 751 N.W.2d 736 (Wis. 2008).

268. 5 U.S.C. § 552(b)(5) (2018).

269. *See* Grand Cent. P'ship, Inc. v. Cuomo, 166 F.3d 473, 482 (2d Cir. 2009).

270. Mead Data Cent., Inc. v. U.S. Dep't of the Air Force, 575 F.2d 932, 934 (D.C. Cir. 1978).

271. Brennan Ctr. for Justice at N.Y. Univ. Sch. of Law v. U.S. Dep't of Justice, 697 F.3d 184, 205 (2d Cir. 2012); Am. Soc'y of Pension Actuaries v. IRS, 746 F. Supp. 188, 190–91 (D.D.C. 1990).

272. *Mead Data Cent.*, 575 F.2d at 935.

273. *Brennan Ctr.*, 697 F.3d at 200.

274. Reilly v. EPA, 429 F. Supp. 2d 335, 338 (D. Mass. 2006).

275. *Id.* at 352–53.

276. *Id.* at 352.

the Cook County Assessor's Office's methodology for valuing property for the purposes of assessing property taxes.[277] The methodology involved using a computerized regression model to compare properties to other similar properties, after which analysts examined the results, made adjustments, and finalized the values. The court rejected the office's invocation of the deliberative process exemption, recognizing that the requested records were "not ones in which opinions are expressed or in which policies or actions are formulated—they are factual."[278]

Although open records laws have gone fairly untested as means to compel the disclosure of proprietary decision-making tools used by government, they call into question the legitimacy of government contracts that require secrecy in decision-making. It is axiomatic that public records laws ought to be "liberally construed" to promote public access to government records.[279] Some state open records laws explicitly prevent the government from entering into contracts that would "impair[] the right of the public" to access public records.[280] Other state courts have simply found that certain secret actions taken by government are inconsistent with state open records laws.[281] As such, public records laws provide critical support for opponents of algorithmic opacity.

C. Transparency's Constitution: The First Amendment

The First Amendment is equally hostile to secret government decision-making.[282] This hostility stems, in part, from a central observation of First Amendment theory that an inextricable link binds together democracy, self-governance, and free expression.[283] The understanding that free expression

277. Chi. Tribune Co. v. Cook Cty. Assessor's Office, 109 N.E.3d 872, 875 (Ill. App. Ct. 2008).

278. *Id.* at 879.

279. *See, e.g.*, Chambers v. Birmingham News Co., 552 So. 2d 854, 856 (Ala. 1989) ("Statutes intended for the public benefit are to be construed in favor of the public."); Quality Towing, Inc. v. City of Myrtle Beach, 547 S.E.2d 862, 864–65 (S.C. 2001); Doe *ex rel.* Roe v. Wash. State Patrol, 374 P.3d 63, 66 (Wash. 2016).

280. CONN. GEN. STAT. § 1-211(b) (2020); *see also* Office of Health Care Access v. Freedom of Info. Comm'n, No. CV030521573S, 2005 WL 1095361, at *8 (Conn. Super. Ct. Apr. 19, 2005) (upholding the decision that the agency violated Connecticut's FOIA by acquiring a new computer system from a contractor that impeded compliance with public records requests).

281. *See, e.g.*, S-P Drug Co. v. Smith, 409 N.Y.S.2d 161, 164–65 (Sup. Ct. 1978) ("The State cannot evade the obligations of the law by agreeing not to disclose the drug price data and documentation, requiring any interested member of the public to purchase that information from a private party at a price.").

282. Heidi Kitrosser, *Supremely Opaque?: Accountability, Transparency, and Presidential Supremacy*, 5 U. ST. THOMAS J.L. & PUB. POL'Y 62, 62 (2010); *see also* Heidi Kitrosser, *Secrecy and Separated Powers: Executive Privilege Revisited*, 92 IOWA L. REV. 489, 494 (2007); David E. Pozen, *Deep Secrecy*, 62 STAN. L. REV. 257, 257 (2010).

283. ALEXANDER MEIKLEJOHN, FREE SPEECH AND ITS RELATION TO SELF-GOVERNMENT 26 (1960); *see also* Robert H. Bork, *Neutral Principles and Some First Amendment Problems*, 47 IND. L.J. 1, 20 (1971) ("Constitutional protection should be accorded only to speech that is explicitly political."); Alexander Meiklejohn, *The First Amendment Is an Absolute*, 1961 SUP. CT. REV. 245, 254.

is "indispensable to the operation of a democratic form of government" is at the heart of several accounts of the "meaning" of the First Amendment.[284] And while many theorists would extend the meaning of the First Amendment much farther, at a minimum, the "political speech" that lies at the core of First Amendment interests would appear to include speech regarding government decision-making.[285] These interests cut against secretive government proceedings that cannot be monitored or scrutinized by the press or public.

Reflecting the prevailing view that information about government decision-making is critical both to democracy and to public debate, the Supreme Court has recognized that the public has a constitutional right of access to government proceedings and records rooted in the First Amendment.[286] In 1978, the Supreme Court explicitly recognized "a general right to inspect and copy public records and documents" under common law.[287] In 1979, the Supreme Court—while holding that the Sixth Amendment did not guarantee a public right of access to criminal trials—indicated that there might be a right of access to criminal trials couched in the First and Fourteenth Amendments.[288] In following years, the Court broadened its interpretation, finding that the public must be able to attend a variety of criminal proceedings—including trials,[289] voir dire,[290] and preliminary hearings.[291]

In its 1980 opinion in *Richmond Newspapers, Inc. v. Virginia*,[292] the Court explicitly linked the right to attend criminal trials to broader First Amendment values, reasoning that, "without the freedom to attend such trials, which people have exercised for centuries, important aspects of freedom of speech and 'of the press could be eviscerated.'"[293] And in his influential concurring opinion, Justice Brennan also emphasized the functional importance of the right of access, identifying open government proceedings as a critical feature of the First Amendment's "structural role . . . in securing and fostering our republican system of self-government."[294]

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284. Lillian R. BeVier, *The First Amendment and Political Speech: An Inquiry into the Substance and Limits of Principle*, 30 STAN. L. REV. 299, 309 (1978); Thomas I. Emerson, *Toward a General Theory of the First Amendment*, 72 YALE L.J. 877, 883 (1963).

285. *See generally* Jack M. Balkin, *Digital Speech and Democratic Culture: A Theory of Freedom of Expression for the Information Society*, 79 N.Y.U. L. REV. 1 (2004); Kenneth L. Karst, *Equality as a Central Principle in the First Amendment*, 43 U. CHI. L. REV. 20 (1975); Martin H. Redish, *The Value of Free Speech*, 130 U. PA. L. REV. 591 (1982).

286. *See* Bloch-Wehba, *supra* note 44, at 153–58 (canvassing the right of access case law).

287. Nixon v. Warner Commc'ns, Inc., 435 U.S. 589, 597 (1978).

288. Gannett Co. v. DePasquale, 443 U.S. 368, 391–92 (1979).

289. *See, e.g.*, Richmond Newspapers, Inc. v. Virginia, 448 U.S. 555 (1980).

290. *See, e.g.*, Press-Enter. Co. v. Superior Court (*Press-Enterprise I*), 464 U.S. 501 (1984).

291. *See, e.g.*, Press-Enter. Co. v. Superior Court (*Press-Enterprise II*), 478 U.S. 1, 2 (1986).

292. 448 U.S. 555 (1980).

293. *Id.* at 580 (quoting Branzburg v. Hayes, 408 U.S. 665, 681 (1972)).

294. *Id.* at 587 (Brennan, J., concurring).

The First Amendment right of access to government proceedings requires that preliminary criminal hearings be held in open court.[295] *Press-Enterprise Co. v. Superior Court*[296] (*Press-Enterprise II*) set forth a two-pronged test for determining whether the public must have access to a given proceeding and held that a court considering an access claim must assess both "whether public access plays a significant positive role in the functioning of the particular process in question" and "whether the place and process have historically been open to the press and general public."[297] If the First Amendment right attaches, proponents of closure must meet a demanding standard.[298]

Importantly for the enterprise of algorithmic risk assessment, *Press-Enterprise II* and its progeny established a presumption of openness regarding bail hearings. Numerous courts have recognized that the functional benefits of public access, which serves as "a check on judicial conduct and tends to improve the performance both of the parties and of the judiciary," are as apparent in pretrial release proceedings as in other judicial proceedings.[299] Perhaps even more so: "The decision to hold a person presumed innocent of any crime without bail is one of major importance to the administration of justice," and the community is "directly affected" by these decisions.[300]

By the same token, the press and the public have a constitutional right to attend sentencing and have access to sentencing-related documents. This right is integrally related to the court's duties in sentencing, which are independent from those of the jury.[301] At sentencing, public access is particularly important because it "operates to check any temptation that might be felt by either the prosecutor or the court to obtain a guilty plea by coercion or trick, or to seek or impose an arbitrary or disproportionate sentence."[302] Likewise, sentencing is socially significant to numerous audiences: to "friends and family members of the defendant being sentenced," to "victims of crimes, to family members of victims, and to members of the community in which the crime occurred."[303] Sentencing is also a particularly "solemn occasion at which the judge has the weighty duty of determining the fate of another human being."[304] These perspectives have

295. *Press-Enterprise II*, 478 U.S at 10.
296. 478 U.S. 1 (1986).
297. *Id.* at 8.
298. *Press-Enterprise I*, 464 U.S. 501, 510 (1984) ("The presumption of openness may be overcome only by an overriding interest based on findings that closure is essential to preserve higher values and is narrowly tailored to serve that interest.").
299. United States v. Chagra, 701 F.2d 354, 363–64 (5th Cir. 1983) (citing United States v. Criden, 675 F.2d 550, 556 (3d Cir. 1982)).
300. Seattle Times Co. v. U.S. Dist. Court, 845 F.2d 1513, 1516–17 (9th Cir. 1988).
301. United States v. Carpentier, 526 F. Supp. 292, 295 (E.D.N.Y. 1981) ("In sentencing, unlike other aspects of criminal proceedings, it is the distinct province of the court to determine what constitutes proper sentence.").
302. United States v. Soussoudis (*In re* Wash. Post Co.), 807 F.2d 383, 389 (4th Cir. 1986).
303. United States v. Alcantara, 396 F.3d 189, 198 (2d Cir. 2005).
304. *Id.* at 199.

remained part of the logic of holding open sentencing hearings despite the increasingly transactional nature of sentencing, which today includes "precious little discussion of the human qualities of the victim or the defendant, of the inherently unquantifiable moral aspects of the defendant's crime, or of the type of sanction that would best achieve any of the purposes of sentencing."[305]

The First Amendment interests in open government proceedings suggest that proprietary algorithmic governance mechanisms may violate the Constitution. As one commentator has put it, "once a computerized algorithm is used by the government, constitutional rights may attach."[306] When the government relies upon an automated decision system to generate evidence at trial, to set bail, or to determine a sentence, the public's First Amendment rights demand that those proceedings be held in an open and transparent manner. By shielding the methodology of decision-making from public view, the government undermines critical assumptions of the First Amendment.

IV. TRANSPARENCY REMEDIES FOR ALGORITHMIC OPACITY

Time and again, litigants directly confront black box procedures that result from the outsourcing or privatization of government decision-making. This opacity often flouts constitutional or statutory requirements of openness. In short, these challenges can be understood as efforts to obtain access to key information needed to understand government decisions that affect people directly.

Reframing algorithmic decision-making as reflecting a public interest in *disclosure*, rather than a purely private interest in *due process*, brings to the fore a central dynamic. When courts find that the Constitution or a statute requires the disclosure of how the government reaches its decisions, we should understand that that requirement is not a relic of procedural due process alone. Rather, it reflects fundamental values of open government that are codified in the Freedom of Information Act, its state equivalents, and the First Amendment. Those mechanisms—the fabric of the law of access—are hostile to privatized, proprietary decision-making.

Viewing algorithmic governance through the lens of access law introduces a new perspective into the discussion of accountability and transparency for automated decision systems. Not only should algorithmic governance be accountable to those whom it affects, it should also satisfy, or at least not violate, fundamental values of open government that are core to our democratic system. These values cast doubt on the viability of the frameworks that have developed to limit the flow of critical information about algorithmic governance.

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305. KATE STITH & JOSÉ A. CABRANES, FEAR OF JUDGING: SENTENCING GUIDELINES IN THE FEDERAL COURTS 85 (1998).

306. *See* Eidelman, *supra* note 52, at 918.

A. Secrecy by Contract

At bottom, the transparency problem raised by algorithmic governance as it is presented today results largely from procurement practices that fail to foreground the public interest. As Catherine Crump has documented, this problem is particularly pronounced in the context of criminal law enforcement and surveillance.[307] State and local government agencies seeking to secretly procure surveillance technologies can often either face a lack of awareness and interest by legislative officials or avoid legislative oversight entirely.[308]

From the perspective of intellectual property law, the dueling interests between vendors' trade secrecy claims and plaintiffs' challenges seem unremarkable.[309] But from the perspective of procurement law, this need not be so. States differ widely with regard to how public contracts should treat intellectual property rights. Some states generally treat these contracts as conferring licenses upon state actors, while others, by default, allocate full ownership of intellectual property to the state.[310] Some have criticized this allocation of intellectual property ownership to the state, writing that conveying such ownership to a public purchaser simply is not necessary for "the efficient and cost-effective delivery of supplies and services."[311] In the mine-run of cases, this observation is likely correct.

But where intellectual property rights are likely to clash with governments' obligations under transparency laws, perhaps different contract terms should be anticipated.[312] Procurement law anticipates a distinction between items that are used for "governmental purposes" and those that are not.[313] Surely, the allocation of government benefits and decisions regarding critical civil rights and liberties are "governmental purposes." This suggests that these tools are not generally "commercial" systems.[314] Indeed, many vendors of automated decision systems have government agencies as their primary, or sole, customer base.

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307. *See generally* Crump, *supra* note 44.

308. *Id.* at 1617.

309. *See, e.g.*, Katyal, *supra* note 38.

310. *See generally* RICHARD PENNINGTON, COMPARATIVE REVIEW OF STATE IT PROCUREMENT PRACTICES (2010), https://www.naspo.org/dnn/portals/16/documents/NASPO_IT_Procurement_Whitepaperfinal2.pdf [https://perma.cc/YAV5-4B2S].

311. *See Transforming Procurement for the 21st Century*, IJIS INST. 10 (Mar. 2009), https://www.ijis.org/resource/collection/58A7EE9C-2F96-4E73-8D02-4BA3C9ED76DD/proc_abstct_transforming_procurement_21st_century.pdf [https://perma.cc/RUA5-KN4S].

312. *Cf.* Woodrow Hartzog, *Body Cameras and the Path to Redeem Privacy Law*, 96 N.C. L. REV. 1257, 1259 (2018) (describing how, in the absence of rules about body camera use, police agencies and commercial vendors were left to "come up with their own rules"); Peter Swire & Jesse Woo, *Privacy and Cybersecurity Lessons at the Intersection of the Internet of Things and Police Body-Worn Cameras*, 96 N.C. L. REV. 101, 139 (2018) (stressing the "importance of the contractual terms when police departments procure [body-worn cameras] and related services").

313. Federal Acquisition Regulation, 48 C.F.R. § 2.101 (2019) (defining "commercial" items as items that are "of a type customarily used by the general public or by non-governmental entities for purposes other than governmental purposes").

314. *Id.*

Acting as consumers, governments can therefore require more demanding contract terms that bring their procurement processes into alignment with due process and transparency requirements. A draft bill recently introduced by the Washington State Legislature exemplifies this approach.[315] The draft bill requires that automated decision systems have several transparency and accountability-enhancing features, including that they be open to audit and inspection by state agencies and third parties and that they be capable of giving intelligible explanations for the decisions they reach.[316] In terms of procurement, the Washington bill also requires that procurement contracts for automated decision systems cannot contain nondisclosure provisions or other obstacles to transparency.[317] Washington's approach provides sound guidance for other jurisdictions to follow in reforming their procurement policies for algorithmic governance.

B. Transparency for Me, but Not for Thee

In an atmosphere of increasing automation and privatization, these cases pit proprietary interests in trade secrecy against individual interests in transparency. Faced with demands for more transparency, courts and litigants have sometimes reached an apparent compromise: protective orders, coupled with nondisclosure orders, that permit disclosure to the parties while preventing disclosure to the general public.[318]

In this vein, numerous commentators have suggested that vendors' claims of trade secrecy cannot simply surmount the rights of affected individuals to understand and challenge decisions that affect them.[319] The scholarly consensus appears uniform: simply privileging vendors' assertions of trade secrecy over the affected parties' rights is inappropriate.[320] Faced with concerns about how to balance proprietary interests against those of individuals who seek to challenge algorithmic determinations, however, many have suggested that courts could employ protective orders to ensure that vendors could be compelled to disclose proprietary information to individual litigants while shielding the same information from public view.[321]

From this perspective, the chief problem with algorithmic opacity is that the individuals who are affected should have sufficient information to understand how they are assessed, judged, and scored.[322] Only by enabling

315. *See* H.R. 1655, 66th Leg., Reg. Sess. (Wash. 2019).

316. *Id.*

317. *Id.*

318. *See supra* Part I.A (describing the Idaho plaintiffs' rejection of a protective order); *supra* Part I.B (describing the *HISD* protective order).

319. *See, e.g.*, Citron, *supra* note 42; Citron & Pasquale, *supra* note 29.

320. *See, e.g.*, Brenda Reddix-Smalls, *Credit Scoring and Trade Secrecy: An Algorithmic Quagmire or How the Lack of Transparency in Complex Financial Models Scuttled the Finance Market*, 12 U.C. DAVIS BUS. L.J. 87 (2011); *see also* Barocas & Selbst, *supra* note 28; Ram, *supra* note 49; Wachter et al., *supra* note 39; Wexler, *supra* note 29.

321. *See* Ram, *supra* note 49, at 717–18; Wexler, *supra* note 29, at 1410.

322. *See* Citron, *supra* note 42, at 30; Citron & Pasquale, *supra* note 29, at 5.

the disclosure of this information can we vindicate individuals' dignity, autonomy, and due process rights. Within this paradigm, striking a bargain with vendors that facilitates these important disclosures is often worth some cost to public knowledge.[323] And although some scholars have expressed some unease with the impact that this solution might have on broader interests in transparency, they have not critiqued it on these terms.[324]

This assumption that protective orders can appropriately balance the interest in disclosure against intrusion into the proprietary interests of the developer overlooks, however, the importance of information about algorithmic governance to the public as a whole. Viewing algorithmic decision-making through the lens of the law of access makes clear that these new tools impact not only those who are directly affected by algorithmic decision-making but also the general public. Extensive reliance on proprietary decision-making methods runs headlong into the principles that underpin transparency protections embedded in the First Amendment's right of access to government proceedings and open government statutes such as FOIA.

As a procedural "fix" for problems of algorithmic opacity, protective orders raise serious problems of their own. First, this framework makes explicit an assumption that the methodologies of proprietary decision-making in government need only be disclosed to the individual plaintiffs who choose to bring challenges. This assumption overlooks the resonance of calls for more transparency and accountability for broader populations who are not represented before the courts.[325] Yet the implications of these cases for unrepresented parties are clear: each of the algorithmic tools described in the foregoing sections makes decisions that affect thousands of individuals. Bringing these cases as class actions, as in the health-care context, or on behalf of institutional plaintiffs, as in *HISD*, can partially solve the problem of representing the interests of all, or as many as possible, of the affected individuals. But protective orders, by design, impede the flow of information to those individuals, as well as to the press and the public. This issue was presented in sharp relief in the Idaho case, in which the plaintiffs rejected the state's offer to enter into a protective order, instead insisting that the information they sought be disclosed not only to the named plaintiffs but also to every participant in the budget waiver program.[326]

In fact, relying on individual plaintiffs to challenge—and gain access to—proprietary decision-making tools on an ad hoc basis has serious social costs

323. *See* FRANK PASQUALE, BLACK BOX SOCIETY: THE SECRET ALGORITHMS THAT CONTROL MONEY AND INFORMATION 142–43 (2015) (setting out a "spectrum of disclosure"); Tal Z. Zarsky, *Transparent Predictions*, 2013 U. ILL. L. REV. 1503, 1530.

324. *See, e.g.*, Wexler, *supra* note 29, at 1353 n.46 (raising a "potential conflict between protective orders and Sixth Amendment public trial rights").

325. This Article leaves for another day an exploration of how social movements' calls for algorithmic accountability also complicate these legal paradigms. *Cf.* Amna Akbar, *Toward a Radical Imagination of Law*, 93 N.Y.U. L. REV. 405, 476 (2018) (calling for legal scholars to consider "movements' visions for the world beyond what law can readily recognize or through the lens of what the state adopts").

326. *See supra* Part I.A.

because the parties to these cases will be unlikely to push back on overly broad assertions of trade secrecy or other proprietary interests. As the *HISD* case demonstrates, in civil cases, the incentives to consent to a protective order are typically high. Litigants who are challenging opaque algorithmic decisions often settle, plead guilty, or accept disclosure of key information regarding the challenged methodology subject to a protective order that prevents the public from gaining access.[327] This dynamic is all the more pronounced when the litigants are poor individuals or underresourced organizational parties.[328] Although criminal defendants have been on the front lines of efforts to compel disclosure of vital information related to black box tools, many more have simply pleaded guilty when faced with inculpatory evidence from algorithmic tools.[329] It is hardly surprising that individuals of limited means—such as Kevin Johnson, the defendant in the FST case who was represented by the Federal Defenders of the Eastern District of New York—would accept these tradeoffs.[330]

The result is that, by employing protective orders to make records available to the parties but shielded from the public, the courts create a framework of "information silos."[331] The silo vividly symbolizes the problem of isolated decision-making within impermeable walls, unmoored from relevant outside experience or expertise.[332]

Protective orders create silos by making disclosure to individuals contingent on their silence to a broader audience. In essence, each individual recipient of the information exists in his or her own silo, unable to communicate that information to others who might want or need it. This is precisely the issue raised by the disclosure of source code by Dräger, one of

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327. *See* discussion *supra* Part I.C.

328. Gillian K. Hadfield, *Exploring Economic and Democratic Theories of Civil Litigation: Differences Between Individual and Organizational Litigants in the Disposition of Federal Civil Cases*, 57 STAN. L. REV. 1275, 1276 (2005).

329. *See* ProPublica Memorandum, *supra* note 178.

330. Kirchner, *supra* note 171.

331. *See* Richard E. Levy & Robert L. Glicksman, *Agency-Specific Precedents*, 89 TEX. L. REV. 499, 510 (2011). The term "silo" typically refers to barriers—whether formal or informal—that prevent the flow of information, data, or managerial responsibility from one area to another. The term is frequently used in the managerial literature to describe difficulties coordinating across different areas of a business. *See, e.g.*, James G. Bohn, *Development and Exploratory Validation of an Organizational Efficacy Scale*, 21 HUM. RESOURCE DEV. Q. 227, 235 (2010) ("What are often called 'silos' represent a lack of coordination between teams in an organization, and they are a recipe for disaster."); Ron Ashkenas, *Jack Welch's Approach to Breaking Down Silos Still Works*, HARV. BUS. REV. (Sept. 9, 2015), https://hbr.org/2015/09/jack-welchs-approach-to-breaking-down-silos-still-works [https://perma.cc/5RVW-GX6G] (describing how, despite advances in information technology, "many organizations still have hierarchical, siloed, and fragmented processes and cultures").

332. *See, e.g.*, Levy & Glicksman, *supra* note 331, at 510; *see also* Edgar H. Schein, *Organizational Psychology Then and Now: Some Observations*, 2 ANN. REV. ORGANIZATIONAL PSYCHOL. & ORGANIZATIONAL BEHAV. 1, 4 (2015) (describing the fragmentation of an intellectual field into "many sub-cultures each with its own jargon and preferred research methods and each evolving an intellectual silo disconnected from either central theory and/or other silos").

the breathalyzer vendors.[333] As a matter of policy, Dräger will disclose its source code in any criminal proceeding, subject to a protective order.[334] The protective order makes clear the devil's bargain: even though Dräger's source code is material to hundreds, if not thousands, of cases, the broader public is permitted to know very little about how it functions.[335] Indeed, when two defense experts presented a report describing flaws in the code to an annual convention of DUI lawyers—many of whom had worked on cases involving Dräger source code—the company claimed it had been defamed.[336] The same issue would be confronted by Legal Aid attorneys who represented individuals seeking to challenge their Medicaid waiver benefit determinations or lawyers for the Houston teachers' union who represented teachers seeking to challenge their terminations.[337]

There might be good reasons, in some cases, to limit disclosure of information to individual litigants instead of to the general public. For instance, it is easy to imagine that certain medical information, key to the outcome of a hearing on eligibility for Medicaid benefits, is private and not subject to disclosure. In some settings, there might also be legitimate concerns that automated systems could be "gamed" if they were too open.[338] But when the information regards the methodology for how government decisions are made, it is much harder to understand what interests could possibly support secrecy. The entire framework of the law of access to government proceedings and records is intended to ensure that information critical to public debate and oversight is available to all, not just to a few.[339] When information is sufficiently important to be disclosed to individuals, making that disclosure contingent on a broader silence makes clear that the compromise in fact comes at a significant cost to the public interest.[340]

New legislation may advance the interests of both defendants and the public. In September 2019, Representative Mark Takano introduced the Justice in Forensic Algorithms Act of 2019,[341] a bill designed to promote defense access to evidence in criminal proceedings.[342] The bill, which was influenced by the work of Rebecca Wexler and Andrea Roth, would amend the Federal Rules of Evidence to forbid using the trade secret privilege alone

333. *See* discussion *supra* Part I.C.3.
334. *See* discussion *supra* Part I.C.3.
335. *See* discussion *supra* Part I.C.3.
336. Whittaker, *supra* note 167 ("Draeger sent the researchers a cease and desist letter claiming defamation and alleging the two violated a protective order, designed to protect the source code from leaking.").
337. *See* discussion *supra* Parts I.A–B.
338. *See* Frank Pasquale, *Restoring Transparency to Automated Authority*, 9 J. TELECOMM. & HIGH TECH. L. 235, 236 (2011) (explaining how concerns about gaming "provoked a shift away from transparency").
339. *See supra* Part III.
340. *See* Helen Hershkoff, *Poverty Law and Civil Procedure: Rethinking the First-Year Course*, 34 FORDHAM URB. L.J. 1325, 1328 (2007) ("Litigation is not just a contest between two opposing private parties. It also is a state-sanctioned process that uses public money and is subject to constitutional constraints.").
341. H.R. 4368, 116th Cong. (2019).
342. *Id.* pmbl.

to shield evidence from disclosure to defendants.[343] In addition, the bill would task the National Institute of Standards and Technology with setting standards for forensic software, including standardizing requirements for "publicly available documentation" of the software, its training data, and its testing methodology.[344]

The Justice in Forensic Algorithms Act does not address protective orders, but it nevertheless reflects a powerful endorsement of public standard-setting, documentation, and testing of forensic algorithms. In doing so, the Act partially responds to Ellen Goodman and Robert Brauneis's call for government agencies to require more documentation of algorithmic systems to render them transparent.[345] But while the due process and *Brady* issues in the context of forensic evidence are pronounced, there is no reason that the Act's approach should be limited to forensic algorithms alone. Indeed, the other applications of algorithmic governance described in Part I reflect the same need for standardization, validation, and public documentation of algorithmic decision-making systems to render them transparent and accountable. If anything, the use of proprietary algorithmic decision-making in contexts that deprive individuals of their civil rights has gone relatively underreported and unnoticed by Congress.[346] Congress should therefore advance a similar approach in considering the use of algorithmic decision-making systems in civil contexts, including (if necessary) by amending the Medicaid Act and by limiting the provision of federal funding in contexts where state agencies rely on black box proprietary decision-making systems.

C. The Challenge to Transparency Values

More generally, algorithmic tools sometimes appear to defy the traditional logic of government oversight—that "sunlight is said to be the best of disinfectants," that the public's presence can benefit proceedings, and that public oversight can benefit the operations and structure of governance.[347] If we accept the premise that algorithmic governance is more "efficient, valuable, powerful, and objective" than its human counterparts, then why

343. *Id.* § 2(b).

344. *Id.* § 2(a)(2). In addition, the bill would require the National Institute of Standards and Technology to set standards for crime labs' validation of forensic software and their public reporting about their validation studies. *Id.* § 2(a)(2)(D).

345. Brauneis & Goodman, *supra* note 13, at 166 (calling for additional documentation).

346. At the state and municipal level, efforts to promote legislative study and oversight of algorithmic governance are still nascent. *See, e.g.*, *State Artificial Intelligence Policy*, ELECTRONIC PRIVACY INFO. CTR., https://epic.org/state-policy/ai/ [https://perma.cc/EF57-MYZQ] (last visited Feb. 14, 2020) (documenting efforts in New York, Vermont, Alabama, and elsewhere to engage in oversight and study); *see also* Margot K. Kaminski & Andrew D. Selbst, Opinion, *The Legislation That Targets the Racist Impacts of Tech*, N.Y. TIMES (May 7, 2019), https://www.nytimes.com/2019/05/07/opinion/tech-racism-algorithms.html [https://perma.cc/UG2Y-LVGF] (criticizing the Algorithmic Accountability Act of 2019 as insufficiently robust).

347. Buckley v. Valeo, 424 U.S. 1, 67 (1976) (quoting LOUIS D. BRANDEIS, OTHER PEOPLE'S MONEY 62 (1933)).

value transparency at all?[348] Maybe we can look toward a future in which government-by-machine need not bother with the administrative headache and "burden" of responding to FOIA requests and producing documents.[349] Indeed, the value of public observation and participation in the democratic process looks a lot like the kind of subjective, "clinical" judgment at which advocates of actuarial measures look askance. If actuarial measures are already accurate and fair, it's difficult to understand how "[p]ublic scrutiny of a criminal trial enhances the quality and safeguards the integrity of the factfinding process" or "fosters an appearance of fairness, thereby heightening public respect for the judicial process."[350]

In other words, algorithmic governance resists the straightforward application of existing transparency mechanisms, but not only because of practical obstacles. The major threat to government transparency in an algorithmic age is not simply that processes have become obscure, automated, and outsourced. Rather, it is easy to see how the promise of "objectivity"—even if it is false—can undermine the core assumptions of transparency law. When government decision makers can disclaim responsibility because they have simply adopted an ostensibly neutral recommendation generated by a technological tool, it diminishes the public's ability to hold the government accountable.

As such, algorithmic governance also lays bare the need for *enhanced*—not minimized—transparency and accountability measures. The public-oriented perspective on government oversight evinced in the transparency case law helps to inform judgments about when accountability is necessary, why transparency is helpful, and how we might want to approach algorithmic decision-making in law and in government.[351] While current research (perhaps rightly) focuses on the individuals and institutions who are directly affected by algorithmic governance, the adoption of these methodologies also creates a ripple effect, shielding the decision-making process from scrutiny by affected parties and by the public.[352]

Updating transparency law for the algorithmic age will take work. To begin, courts should critically examine the application of trade secrets protections to shield government decision-making processes from scrutiny. As articulated in Part II.A, this practice lacks any basis in FOIA's case law and is in substantial tension with the fundamental values of FOIA. These fundamental values also suggest some potential changes in government procurement and contracting processes. Informed by the principles of open government, agencies and courts should avoid contracting for proprietary decision-making tools with vendors who require broad secrecy provisions.

348. Christian Sandvig, *Seeing the Sort: The Aesthetic and Industrial Defense of "The Algorithm,"* MEDIA-N, http://median.newmediacaucus.org/art-infrastructures-information/seeing-the-sort-the-aesthetic-and-industrial-defense-of-the-algorithm [https://perma.cc/E68S-MMDG] (last visited Feb. 14, 2020).

349. *See generally* Pozen, *supra* note 43.

350. Globe Newspaper Co. v. Superior Court, 457 U.S. 596, 606 (1982).

351. *See supra* Part III.

352. *See supra* Part III.

The emergence of algorithmic governance also suggests a more vital role for affirmative—rather than reactive—disclosure of key information about how the government functions. FOIA and the First Amendment do not require the government to create new records or interpret existing policies—they only require the production of existing records in response to an individual request.[353] But affirmative disclosure of key information about how algorithmic governance works would vindicate values of open government, even though it is not required by existing law. New York City has adopted this approach in its pivotal algorithmic accountability bill, which requires a new task force to develop a "process for making information publicly available that, for each agency automated decision system, will allow the public to meaningfully assess how such system functions and is used by the city, including making technical information about such system publicly available where appropriate."[354]

This affirmative approach to transparency is preferable to a framework that relies on individual claimants to challenge opacity on an ad hoc basis. Individual due process challenges are insufficient to guarantee meaningful *public* oversight and accountability for algorithmic tools.

CONCLUSION

True algorithmic transparency goes far beyond an explanation of a challenged action to the individual who is affected. Rather, as challenges to opacity illustrate, algorithmic governance implicates core values of transparency law: access to government records and to key information necessary to understand government decision-making. Viewing algorithmic governance through the lens of access law makes clear that automation and privatization pose a serious threat to the existing framework, which privileges reactive disclosure of existing government records to individual requesters. Rather, just as algorithmic governance portends a new era in government decision-making, it must be accompanied by new forms of transparency to protect the vital role of public oversight in our democratic system.

353. NLRB v. Sears, Roebuck & Co., 421 U.S. 132, 162 (1975) (explaining that FOIA does not require agencies to "create explanatory material").

354. N.Y.C. Council 2018/049 (N.Y. 2018) (enacted).