# ARTIFICIAL INTELLIGENCE AND THE END OF AUTONOMY

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2024 was an election year. News outlets were buzzing with warnings about the impact of AI on election security, whether that meant synthetic images of Donald Trump being arrested,<sup>1</sup> or deepfake audio of President Biden encouraging voters to stay home.<sup>2</sup> Less attention was paid to a far less visible, but equally insidious threat—the increasing integration of preemptive technologies within contemporary governance models. Computational models are no longer confined to predicting our online purchases or our streaming preferences; they are now used to predict our employment potential,<sup>3</sup> our academic achievement,<sup>4</sup> and our criminal propensities.<sup>5</sup> As predictive models become more sophisticated and more ubiquitous, the temptation to not only predict, but preempt, human behavior becomes irresistible.<sup>6</sup>

What happens when this combination of big data and computing power intersects with political interests? It is not difficult to imagine a future in which the infrastructure of in-person voting is replaced by

<sup>1</sup> Kayleen Devlin & Joshua Cheetham, *Fake Trump Arrest Photos: How to Spot an AI-Generated Image*, BRITISH BROAD. CORP. (Mar. 24, 2023), https://www.bbc.com/ news/world-us-canada-65069316 [https://perma.cc/5QZW-X4P].

<sup>2</sup> Tiffany Hsu, *New Hampshire Officials to Investigate A.I. Robocalls Mimicking Biden*, N.Y. TIMES (Jan. 22, 2024), https://www.nytimes.com/2024/01/22/business/media/bidenrobocall-ai-new-hampshire.html [https://perma.cc/285X-T7Q3].

<sup>3</sup> Erica Pedersen, Note, *People Analytics and Individual Autonomy: Employing Predictive Algorithms as Omniscient Gatekeepers in the Digital Age Workplace*, 2020 COLUM. BUS. L. REV. 1122, 1132 (2020).

<sup>4</sup> Helen Smith, Algorithmic Bias: Should Students Pay the Price?, 35 AI & Soc. 1077 (2020).

<sup>\*</sup> Joint Postdoctoral Fellow, NYU Law/Cornell Tech. I am deeply indebted to Kathy Strandburg, Jeremy Waldron, Jack Balkin, James Grimmelmann, James Wilson, Alma Diamond, Meir Yarom, Tomer Kenneth, Stav Zeitouni, Ngozi Nwanta, Anja Bossow, Carlos Andrés Baquero-Díaz, Ira Rubinstein, Thomas Streinz, Gabe Nicholas, and Sebastian Benthall for their helpful comments on earlier versions of this paper. I also benefited from the feedback of participants at the Data (Re)makes The World Conference at Yale Law School, the Privacy Law Scholars Conference at the University of Colorado, the Schmidt AI Workshop Series at the Jackson School for Global Affairs, and the ConTrust Lecture Series at Goethe University, Frankfurt.

<sup>&</sup>lt;sup>5</sup> John Monahan & Jennifer L. Skeem, *Risk Redux: The Resurgence of Risk Assessment in Criminal Sanctioning*, 26 Feb. SENT'G REP. 158, 158–59 (2013); Jessica M. Eaglin, *Constructing Recidivism Risk*, 67 EMORY L.J. 59, 68 (2017); Erin Collins, *Punishing Risk*, 107 Geo. L.J. 57, 63–64 (2018).

<sup>&</sup>lt;sup>6</sup> Daniel Susser, *Decision Time: Normative Dimensions of Algorithmic Speed, in* PROCEEDINGS OF THE 2022 ACM CONFERENCE ON FAIRNESS, ACCOUNTABILITY, AND TRANSPARENCY 1410, 1414 (2022), https://dl.acm.org/doi/10.1145/3531146.3533198 [https:// perma.cc/8NKW-QXK8].

computational models. Why maintain voting machines and polling stations when you could simply form a Congress on the basis of predicted votes? Of course, the idea of replacing elections with algorithms is patently absurd. But why is it absurd? Judges routinely rely on predictions of future behavior to make decisions about pre-trial detention and post-conviction incarceration. If predictive algorithms already distribute individual liberty, why not let them distribute political power as well?

This Article develops normative resources for reconciling our divergent intuitions regarding the prediction of recidivism and the prediction of political votes. This normative-theoretical account offers two insights for technology governance. First, it demonstrates that, in the context of the state's growing preemptive capabilities, decisional autonomy is no longer guaranteed. The sophistication and ubiquity of predictive models has irrevocably altered our tolerance for ex ante intervention. Second, it offers a variety of explanations for our divergent treatment of voter and defendant autonomy, drawing on insights from legal philosophy and democratic theory. This account suggests that different segments of society will experience different degrees of autonomy loss, depending on their relationship with the institution responsible for protecting their decisional autonomy. This suggests an inherent and potentially insurmountable tension between the liberal and egalitarian commitments of politico-legal institutions and emerging AI technologies.

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#### INTRODUCTION

Just as surveillance technologies exposed the limits of privacy law,<sup>7</sup> predictive technologies are exposing the unfettered power of the preemptive state. The volume of data gathered on individual citizens, combined with the processing power of computational models, dramatically increases the range of human behaviors that the state can predict and thus preempt.<sup>8</sup>

<sup>&</sup>lt;sup>7</sup> Carol S. Steiker, *The Limits of the Preventive State*, 88 J. CRIM. LAW & CRIMINOLOGY 771 (1998).

<sup>&</sup>lt;sup>8</sup> Virtual world-building will only enhance the capacity of computational models to predict human behavior by generating an endless stream of highly sensitive user data. Virtual reality headsets can record an individual's involuntary responses to digital stimuli, including eye movements, pupil dilation, facial muscles, and brain activity via electroencephalography. As data firms exploit the novel capabilities of immersive technologies to record user behavior in unprecedented ways, their computational models will appear capable of predicting almost any human behavior, with a high degree of accuracy. *See* Brittan Heller, *Watching Androids Dream of Electric Sheep: Immersive Technology, Biometric Psychography, and the Law,* 23 VAND. J. ENTERTAIN. & TECHNOL. LAW 1 (2020); MARK MCGILL, INST. OF ELECTRICAL & ELECTRONICS ENG'RS, THE IEEE GLOBAL INITIATIVE ON ETHICS OF EXTENDED REALITY (XR) REPORT: EXTENDED REALITY (XR) AND THE EROSION OF ANONYMITY AND PRIVACY (2021), https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9619999 [https://perma. cc/HZL4-LZ95].

Where algorithms previously engaged in relatively low-stakes predictions, they now claim to predict our employment potential,<sup>9</sup> our academic achievement,<sup>10</sup> our criminal propensities,<sup>11</sup> our sexual orientation,<sup>12</sup> our emotions,<sup>13</sup> and our political leanings.<sup>14</sup>

Given the amount of data states and firms now possess about individual voters, it would not be difficult to predict how an individual is likely to vote in an upcoming election.<sup>15</sup> So, why does the voting process persist? Why not abandon the long queues, the voting booths, the ballot counts, and simply form a Congress based on predicted votes? Assuming an equivalent amount of data is available on every voter, predictive voting could deliver a legislature that is more representative than the current electoral system, one in which low voter turnout effectively erases millions of Americans' preferences.<sup>16</sup> Predictive voting could also reduce the time and expense associated with in-person voting, freeing up public resources for other social endeavors.<sup>17</sup> Despite these potential advantages, a system of predictive voting would likely encounter strong public opposition.<sup>18</sup> This Article interrogates the source of such opposition in light of the normalization of prediction in many other decision-making contexts. Specifically, this Article compares the unacceptability of vote prediction with the normalization of recidivism prediction in criminal sentencing. The purpose of this comparison is to demonstrate that in the context of the State's growing preemptive capabilities, autonomy is no longer guaranteed. Instead, we must confront the uncomfortable truth: some members of society will experience diminishing control over their own decisions. We need to be able to explain and justify why this is the case.

<sup>13</sup> YOUSIF KHAIREDDIN & ZHUOFA CHEN, FACIAL EMOTION RECOGNITION: STATE OF THE ART PERFORMANCE ON FER2013 (2021), http://arxiv.org/abs/2105.03588 [https://perma.cc/GEC6-RMXV].

<sup>14</sup> Michal Kosinski, *Facial Recognition Technology Can Expose Political Orientation from Naturalistic Facial Images*, 11 Sci. REP. No. 100, at 1 (2021).

<sup>15</sup> *Id.* at 2, 5.

<sup>16</sup> Drew Desilver, *Turnout in U.S. Has Soared in Recent Elections but by Some Measures Still Trails That of Many Other Countries*, PEW RSCH. CTR. (Nov. 1, 2022), https://www.pewresearch.org/short-reads/2022/11/01/turnout-in-u-s-has-soared-in-recent-elections-but-by-some-measures-still-trails-that-of-many-other-countries/ [https://perma.cc/EF4U-8NFD].

<sup>17</sup> CHARLES STEWART III, MIT ELECTION DATA + SCIENCE LAB, THE COST OF CONDUCTING ELECTIONS (2022), https://electionlab.mit.edu/sites/default/files/2022-05/The CostofConductingElections-2022.pdf [https://perma.cc/8SA8-32EV].

<sup>&</sup>lt;sup>9</sup> Pedersen, *supra* note 3.

<sup>&</sup>lt;sup>10</sup> Smith, *supra* note 4.

<sup>&</sup>lt;sup>11</sup> Collins, *supra* note 5.

<sup>&</sup>lt;sup>12</sup> Yilun Wang & Michal Kosinski, *Deep Neural Networks Are More Accurate than Humans at Detecting Sexual Orientation from Facial Images*, 114 J. PERSONALITY & SOC. PSYCH. 246, 254 (2018).

<sup>&</sup>lt;sup>18</sup> Gary Fields & Amelia Thomson Deveaux, *Yes, We're Divided. But New AP-NORC Poll ShowsAmericans StillAgree on Most Core American Values*, APNEws (Apr. 3, 2024), https://apnews. com/article/ap-poll-democracy-rights-freedoms-election-b1047da72551e13554a3959487e5181a [https://perma.cc/2GA4-2BJ7].

The institutional legitimacy of both democracy and criminal justice relies on respect for personal autonomy.<sup>19</sup> A political party has a legitimate mandate to govern,<sup>20</sup> but only if it has been elected by a majority of autonomously cast votes. Similarly, proof of autonomous conduct legitimizes criminal punishment.<sup>21</sup> The state may legitimately punish an individual defendant only after it has proven beyond reasonable doubt that said defendant autonomously committed the crime charged to them.<sup>22</sup> Given that the institutional legitimacy of both democracy and criminal justice depend on respect for individuals' autonomous choices, predicting and preempting those choices is normatively problematic. Yet, institutional treatment of prediction differs markedly.<sup>23</sup> Judges routinely rely on predictions of future behavior to make decisions about pre-trial detention and post-conviction incarceration.<sup>24</sup> A defendant who scores poorly on a risk assessment instrument is more likely to be incarcerated for a longer period of time.<sup>25</sup> In contrast, the idea of forming a Congress on the basis of predicted votes would generate significant public backlash.<sup>26</sup> What explains these differing approaches to prediction, despite the shared normative foundation of these two institutions? Why does the state deprive defendants of liberty based on algorithmic prediction, but decline to use the same tools to form a democratic legislature?

This Article draws on legal philosophy and democratic theory to explain our diverging intuitions regarding the prediction of recidivism, and the prediction of political votes. Parts I and II describe the general relation between prediction and autonomy, and how computational prediction alters that relation. Part II describes the legal and normative limits on the preemptive state, including constitutional limits on preventive detention. Part III parses voter autonomy into its constituent parts: the mental capacity to identify a party or candidate that aligns with one's normative commitments ("deliberative autonomy"), and the physical capacity to communicate those preferences without coercion, intimidation, or other unwanted interference ("expressive autonomy"). It explains how historical efforts to secure free and fair elections focused on protecting voters' *expressive* 

<sup>23</sup> Eaglin, *supra* note 5, at 61–63.

- <sup>25</sup> Eaglin, *supra* note 5.
- <sup>26</sup> Paulo & Bublitz, *supra* note 20, at 59.

<sup>&</sup>lt;sup>19</sup> David Enoch, Autonomy as Non-Alienation, Autonomy as Sovereignty, and Politics\*, 30 J. POLIT. PHILOS. 143 (2022); Paul H. Robinson, Punishing Dangerousness: Cloaking Preventive Detention as Criminal Justice Commentary, 114 HARV. L. REV. 1429 (2000).

<sup>&</sup>lt;sup>20</sup> Norbert Paulo & Christoph Bublitz, *Pow(d)er to the People? Voter Manipulation, Legitimacy, and the Relevance of Moral Psychology for Democratic Theory,* 12 NEUROETHICS 55, 55–56 (2019); Adam Lovett & Jake Zuehl, *The Possibility of Democratic Autonomy,* 50 PHILOS. PUB. AFF. 467, 474–75 (2022).

<sup>&</sup>lt;sup>21</sup> Robinson, *supra* note 19, at 1449.

<sup>&</sup>lt;sup>22</sup> Id. at 1429.

<sup>&</sup>lt;sup>24</sup> Monahan & Skeem, *supra* note 6; Collins, *supra* note 5; Eaglin, *supra* note 5.

autonomy; whereas contemporary threats to democracy largely undermine voters' *deliberative* autonomy, for example, through voter microtargeting.

Parts V through XI offer a variety of explanatory theories for our divergent treatment of voter and defendant autonomy. These include: a desert-based theory of autonomy, the instrumental value of voter autonomy, social intolerance for election errors relative to sentencing errors, voter-defendant power asymmetries, and the stakeholder-specific utility of prediction-based sentence enhancements. These explanations are by no means exhaustive, but they suggest that different segments of society will experience different degrees of autonomy loss, depending on their power relation with the institution from whom they are demanding respect for their autonomous choices. Specifically, the segments of society that are most likely to experience autonomy losses by virtue of preemptive technologies are those with the lowest social capital. In other words, the autonomy of the least powerful will be the first to disappear.

### I. How Does Prediction Affect Personal Autonomy?

Broadly speaking, autonomy can be defined as the capacity for self-rule, or the ability to author one's own life.<sup>27</sup> Internalist accounts of autonomy focus on psychological freedom and the capacity to engage in critical reflection and evaluation of first-order desires.<sup>28</sup> These accounts measure autonomy by referencing the integrity of the "inner citadel."<sup>29</sup> In contrast, externalist accounts prioritize the absence of external constraints on individuals' abilities to execute their plans, and pursue their values and interests (for example, the absence of coercion or duress).<sup>30</sup> Externalist accounts focus on the socio-relational circumstances that exist independently of psychological states and provide a socially supportive environment for self-determination.<sup>31</sup>

Respect for personal autonomy, or individuals' decision-making capacities, requires non-interference with their autonomous actions.<sup>32</sup> But what makes an action autonomous? Gerald Dworkin and Harry Frankfurt describe autonomous actions as those that result from individuals reflectively identifying with their first-order desires or preferences by means of higher-level (second-order) desires or preferences.<sup>33</sup> Tom Beauchamp argues, however, that such a demanding conception of autonomy would

<sup>&</sup>lt;sup>27</sup> See Joseph Raz, The Morality of Freedom 247 (1988).

<sup>&</sup>lt;sup>28</sup> Marina L. Oshana, *Personal Autonomy and Society*, 29 J. Soc. Philos. 81 (1998).

<sup>&</sup>lt;sup>29</sup> *Id.* at 85.

<sup>&</sup>lt;sup>30</sup> *Id.* at 95.

<sup>&</sup>lt;sup>31</sup> *Id.* 

<sup>&</sup>lt;sup>32</sup> Tom L. Beauchamp, *Who Deserves Autonomy, and Whose Autonomy Deserves Respect, in* Personal Autonomy: New Essays on Personal Autonomy and Its Role in Contemporary Moral Philosophy 310 (J. Stacey Taylor ed., 2005).

<sup>&</sup>lt;sup>33</sup> *Id.* at 317.

render non-autonomous many of the everyday choices of ordinary people, due to the absence of reflective identification.<sup>34</sup> Instead, Beauchamp advocates for a less demanding conception of autonomy, in which the majority of peoples' choices would qualify for protection, even in the absence of higher-order reflection, provided that those choices were made intentionally, with understanding, and without controlling influences.<sup>35</sup> Adopting this less demanding conception of personal autonomy, we can then examine how it is affected by prediction.

### A. How Does Prediction Affect Personal Autonomy?

There are many circumstances in which individual interests are determined by autonomous choices. For example, if Adam decides to steal a particularly leafy cabbage from the farmer's market, Adam may be arrested for shoplifting and banned from re-entering the market for a specific period of time. This punitive outcome is partially the result of Adam's autonomous decision to steal the cabbage. If, however, Jojo has no history of cabbage theft, but is, nevertheless, denied entry to the farmer's market because there has been a recent uptick in cabbage theft by people with orange hair, and Jojo has orange hair, this preemptive denial of entry (based on Jojo's expected future criminality) will erode Jojo's personal autonomy. It does not matter that Jojo has no history of cabbage theft and has no plans for cabbage theft in the future. Jojo's individual choices have no effect on his freedom to shop at the farmer's market because his choices were predicted and preempted for him.

When a determination of an individual's rights and interests is made based on their predicted future behavior, that individual suffers a loss of decisional autonomy. When a defendant is preemptively incarcerated for *x* additional years (beyond some retributively-defined minimum) because they are expected to recidivate if released earlier, the defendant is denied the opportunity to make this choice (to recidivate or not to recidivate) for themselves. Similarly, Congress formed based on predicted votes denies voters the opportunity to elect their preferred party or candidate themselves. Both decisions (to preemptively incarcerate a high-risk recidivist, and to appoint a candidate based on predicted votes) restrict the capacity of defendants and voters to make autonomous choices. Arguably, defendants lose more from recidivism prediction than voters would lose from vote prediction because votes only have power when jointly cast, whereas incarceration has severe consequences for individual freedom.<sup>36</sup>

Thomas Hurka explains that the autonomous individual has a causal impact on the world by determining facts about it—by choosing

<sup>&</sup>lt;sup>34</sup> Id. at 319.

<sup>&</sup>lt;sup>35</sup> Id. at 322.

<sup>&</sup>lt;sup>36</sup> I am grateful to Jeremy Waldron for pointing this out.

*a*, instead of *b*, *c*, or *d*, so that the agent is not only responsible for *a*, but is also responsible for *not-b*, *not-c*, and *not-d*.<sup>37</sup> Through the exercise of their will, therefore, individuals are responsible not only for positive facts about what the world contains, but also negative facts about what it does not.<sup>38</sup> Just as the possession of knowledge allows individuals to stand in a certain relation to the world (where their beliefs correspond to the content of the world), the exercise of agency has the converse effect: the content of the world comes to match one's aims, through the exercise of individual choice.<sup>39</sup> Thus, the agent's relation-to-the-world is significantly enhanced.<sup>40</sup> In contrast, non-autonomous individuals are responsible for fewer facts about the world in which they live, because their choices have less causal efficacy.<sup>41</sup>

Over the long term, prediction has a more insidious and invisible effect on personal autonomy. As more resources are directed towards predicting and controlling individual behavior, incentives for adjusting the structural conditions that shape such behavior may begin to lose their traditional force.<sup>42</sup> If the public believes that crime can be prevented by simply surveilling, policing, and preemptively incarcerating "high-risk" individuals, there will be little incentive to alter the underlying conditions that contribute to high-risk behaviors.<sup>43</sup> Public investments in education, housing, and healthcare, for example, would alter baseline conditions of inequality and the "propensity" of individuals within certain groups toward specific behavioral outcomes.<sup>44</sup> However, predictive models would discourage such investments in favor of discriminatory profiling practices that instead require the persistence of existing disparities in order to be effective.<sup>45</sup>

This persistent focus on individual behavior as the cause of social problems, like crime, would weaken the imperative to invest in social infrastructure.<sup>46</sup> The mythology of "Big Data" would instead reassure an

<sup>43</sup> See DAVID GARLAND, THE CULTURE OF CONTROL: CRIME AND SOCIAL ORDER IN CONTEMPORARY SOCIETY (2001); see generally Litska Strikwerda, *Predictive Policing: The Risks Associated with Risk Assessment*, 94(3) POLICE. J. 422, 422–36 (discussing risk factor prevention and its role in crime control).

<sup>44</sup> See Charles Tilly, Durable Inequality (1998).

<sup>45</sup> See generally Kasper Lippert-Rasmussen, Born Free and Equal?: A Philosophical Inquiry into the Nature of Discrimination (2013).

<sup>&</sup>lt;sup>37</sup> Thomas Hurka, *Why Value Autonomy*?, 13 Soc. Theory & Prac. 361, 366 (1987).

<sup>&</sup>lt;sup>38</sup> Id. at 375.

<sup>&</sup>lt;sup>39</sup> Id. at 371.

<sup>&</sup>lt;sup>40</sup> Id.

<sup>&</sup>lt;sup>41</sup> Id. at 366.

<sup>&</sup>lt;sup>42</sup> Ben Green & Salomé Viljoen, *Algorithmic Realism: Expanding the Boundaries of Algorithmic Thought, in* PROCEEDINGS OF THE 2020 CONFERENCE ON FAIRNESS, ACCOUNTABILITY, AND TRANSPARENCY 19, 27 (2020), https://dl.acm.org/doi/10.1145/3351095.3372840 [https://perma.cc/V58A-XXXF].

<sup>&</sup>lt;sup>46</sup> Green & Viljoen, *supra* note 42.

anxious public that the behavior of individual criminals could be predicted and controlled.<sup>47</sup> As policymakers began to neglect investments in social infrastructure, persistent socioeconomic disparities would reproduce the very behaviors that predictive models were designed to prevent.<sup>48</sup> Over time, the reproduction of inequality in algorithmically intermediated environments would constrain the range of substantive autonomy that is available to members of underserved communities.<sup>49</sup>

Naturally, any discussion of the criminogenic features of social environments begs the question: What does it mean for a defendant to have autonomy? If individuals who are released after serving retributively defined minimum sentences are so constrained or pressured by their environment that they ultimately reoffend (against their best judgment), would we describe this as an autonomous choice? Is this the kind of autonomous choice that must be respected by not extending the sentences of high-risk recidivists? I reserve this difficult question for future work. For the purposes of this Article, I presume that defendants and voters are equally capable of making autonomous choices that deserve respect, despite being vulnerable to influence by their environments.

### B. How Does Computational Prediction Affect Autonomy?

If the prediction of individual behavior by human decisionmakers already undermines autonomy, how is that relationship altered by computational prediction? Computational prediction refers to the processing of large volumes of personal data to identify statistical correlations between historical engagement in behavior x and the features of the individuals who engaged in such behavior.<sup>50</sup> Computational prediction is a ubiquitous and often convenient feature of contemporary life.<sup>51</sup> Individuals who receive targeted Instagram ads for their favorite products, or use Smart Reply suggestions to compose their emails, may feel that their personal autonomy is enhanced by these time-saving tools.<sup>52</sup> However, for criminal defendants whose liberty hinges on an algorithmic risk score, computational models exacerbate the autonomy-eroding effects of recidivism predictions in at least three ways.

<sup>&</sup>lt;sup>47</sup> Philip D. Waggoner, Ryan Kennedy, Hayden Le & Myriam Shiran, *Big Data and Trust in Public Policy Automation*, 10 STAT. POL. POL'Y 115 (2019).

<sup>&</sup>lt;sup>48</sup> See TILLY, supra note 44.

<sup>&</sup>lt;sup>49</sup> Green & Viljoen, *supra* note 42.

<sup>&</sup>lt;sup>50</sup> ERIC SIEGEL, PREDICTIVE ANALYTICS: THE POWER TO PREDICT WHO WILL CLICK, BUY, LIE, OR DIE 11–12 (2016).

<sup>&</sup>lt;sup>51</sup> Id. at 2.

<sup>&</sup>lt;sup>52</sup> See Daniel Susser, Beate Roessler & Helen Nissenbaum, *Technology, Autonomy, and Manipulation*, INTERNET POL'Y REV. (June 30, 2019), https://policyreview.info/articles/analysis/technology-autonomy-and-manipulation [https://perma.cc/ZK4B-ZPY2].

First, an algorithmic prediction is more likely to skew or dominate a decision-making process than a non-algorithmic prediction due to the appearance of statistical objectivity or automation bias.<sup>53</sup> A human decision-maker may be inclined to assign more weight to the algorithmic prediction than to the possibility that the defendant may disprove it.<sup>54</sup> Second, defendants cannot meaningfully challenge algorithmic predictions due to a lack of technical knowledge about the algorithm's construction.<sup>55</sup> Third, defendants cannot change the features about themselves that are used to draw statistical inferences about their likely future behavior.<sup>56</sup> They cannot control, for example, what race is imputed to them by society, nor what race is correlated with patterns of criminality.<sup>57</sup> Nor should they feel pressure to change a mutable characteristic about themselves (for example, their religion) because it is correlated with patterns of "undesirable" behavior.<sup>58</sup>

The use of (dubious) statistical information to draw inferences about an individual's likely future behavior exacerbates the autonomyeroding effects of prediction by denying an individual's moral agency.<sup>59</sup> Algorithmic prediction assumes that an individual's future behavior can be reliably inferred from the historical behavior of their statistical peers.<sup>60</sup> In other words, whether a defendant reoffends is not their own choice, but a function of the actions of previous defendants.<sup>61</sup> As Daniel Susser explains, presuming to know how an individual will act in the future, and preemptively intervening on that basis, suggests either that the state does not recognize individuals as full moral subjects, or that, despite such recognition, it sees no harm in instrumentalizing them.<sup>62</sup>

Institutional decisions guided by algorithmic predictions of individual behavior fail to provide the conditions of mutual recognition

<sup>56</sup> LIPPERT-RASMUSSEN, *supra* note 45.

<sup>57</sup> Id.

<sup>59</sup> *Id.* at 284

<sup>&</sup>lt;sup>53</sup> Kathleen L. Mosier & Linda J. Skitka, *Automation Use and Automation Bias*, 43 Proc. HUM. FACTORS & ERGONOMICS SOC. ANNU. MEETING 344, 348 (1999).

<sup>&</sup>lt;sup>54</sup> Ben Green & Yiling Chen, *The Principles and Limits of Algorithm-in-the-Loop Decision Making*, 3 Proc. ACM HUM.-COMPUT. INTERACT. 50:1 (2019).

<sup>&</sup>lt;sup>55</sup> Francesca Palmiotto, *The Black Box on Trial: The Impact of Algorithmic Opacity on Fair Trial Rights in Criminal Proceedings, in* ALGORITHMIC GOVERNANCE AND GOVERNANCE OF ALGORITHMS: LEGAL AND ETHICAL CHALLENGES 49 (Martin Ebers & Marta Cantero Gamito eds., 2021), https://doi.org/10.1007/978-3-030-50559-2\_3 [https://perma.cc/D26S-SRJC].

<sup>&</sup>lt;sup>58</sup> Daniel Susser, *Predictive Policing and the Ethics of Preemption, in* THE ETHICS OF POLICING: NEW PERSPECTIVES ON LAW ENFORCEMENT 268, 279 (Ben Jones & Eduardo Mendieta eds., 2021).

<sup>&</sup>lt;sup>60</sup> Id. at 278.

<sup>&</sup>lt;sup>61</sup> Sarah H. Cen & Manish Raghavan, *The Right to Be an Exception to a Data-Driven Rule*, MIT CASE STUD. SOC. & ETHICAL RESPS. COMPUTING (2023), https://mit-serc.pubpub. org/pub/right-to-be-exception/release/2 [https://perma.cc/PKR5-4GJQ].

<sup>&</sup>lt;sup>62</sup> Susser, *supra* note 58.

that are necessary for individual autonomy.63 Joel Anderson and Axel Honneth explain that autonomy, as the capacity to develop and pursue one's conception of a worthwhile life, is only attainable under socially supportive conditions.<sup>64</sup> It requires the ability to sustain certain attitudes towards oneself (self-trust, self-respect, and self-esteem) that cannot be maintained unilaterally, but require reinforcement from those around us as part of an "ongoing intersubjective process, in which one's attitude toward oneself emerges" through encounters with others.65 Honneth and Anderson describe these encounters as "relations of recognition," which include institutionalized relations of respect for individual autonomy.66 It is only through these relations that individuals come to see themselves as authors of their own lives.<sup>67</sup> Accordingly, when institutions intervene in individual decision-making based on algorithmic prediction, they express to individuals not only that they are incompetent to make their own decisions, but also that they cannot be trusted to live as free and equal citizens.68

Over the long term, computational prediction also affects personal autonomy by narrowing the range of decision outcomes that are available to certain individuals or groups.<sup>69</sup> Kathleen Creel explains that when the same machine learning model (or its derivative, or a different model trained on the same dataset) is used by multiple decision-makers, an individual is likely to receive the same decision outcome across multiple domains ("outcome homogenization").<sup>70</sup> Deep learning foundation models such as BERT, DALL-E, and GPT-4 are frequently adapted for a variety of downstream uses so that the strengths and weaknesses of the original model are amplified and propagated across a variety of domains.<sup>71</sup> Foundation models also exhibit emergent properties because system behavior is implicitly induced rather than explicitly constructed.<sup>72</sup> These properties make it difficult to anticipate, understand, and address their

<sup>70</sup> Id. at 1–2.

<sup>71</sup> RISHI BOMMASANI ET AL., ON THE OPPORTUNITIES AND RISKS OF FOUNDATION MODELS 152 (2021) https://arxiv.org/pdf/2108.07258 [https://perma.cc/6NZ2-ATU9].

<sup>72</sup> *Id.* at 3.

<sup>&</sup>lt;sup>63</sup> Joel Anderson & Axel Honneth, *Autonomy, Vulnerability, Recognition, and Justice, in* AUTONOMY AND THE CHALLENGES TO LIBERALISM: NEW ESSAYS 127, 131–32 (John Christman & Joel Anderson eds., 2005).

<sup>64</sup> Id. at 130.

<sup>65</sup> Id.at 130-31.

<sup>&</sup>lt;sup>66</sup> *Id.* at 133.

<sup>&</sup>lt;sup>67</sup> *Id.* at 132.

<sup>&</sup>lt;sup>68</sup> *Id.* (Liberal society's commitment to individual autonomy must include a commitment to fostering the institutional relations that promote and maintain individual autonomy, rather than relations of humiliation and denigration).

<sup>&</sup>lt;sup>69</sup> Rishi Bommasani, Kathleen A. Creel, Ananya Kumar, Dan Jurafsky & Percy Liang, *Picking on the Same Person: Does Algorithmic Monoculture Lead to Outcome Homogenization?*, *in* 36TH CONFERENCE ON NEURAL INFORMATION PROCESSING SYSTEMS (2022), https://arxiv.org/pdf/2211.13972 [https://perma.cc/D4TV-HYUG].

unexpected failure modes.<sup>73</sup> This makes homogenization risky because all downstream models will inherit the unexpected flaws of the foundation model, for example, the arbitrary exclusion of a subset of the population.<sup>74</sup>

For example, if an individual job applicant is applying to ten different companies, but each company uses the same automated resume screening tool (e.g., HireVue), that individual may be eliminated from the hiring process by all ten companies.<sup>75</sup> Similarly, if a predictive model performs well on the majority of welfare recipients but performs poorly on a subset of them (whom it erroneously classifies as "high-risk" for welfare fraud), and the same model is used by multiple welfare agencies, then the same subset of individuals will continue to be denied welfare.<sup>76</sup> They will also be excluded from the training set for future models (because they are not classified as welfare recipients), meaning that future models will also recommend denying them public benefits.<sup>77</sup>

When many decision-makers rely on the same computational models ("algorithmic monoculture"), such reliance can lead to consistent illtreatment of individuals by homogenizing the decision outcomes they receive.<sup>78</sup> Over the long term, as the same algorithmic tools are used across multiple domains, algorithmic monoculture can lead to the systematic exclusion of certain individuals or groups from specific opportunities, or a reduction in their range of substantive autonomy.<sup>79</sup> Kleinberg and Raghavan explain that algorithmic monoculture reduces the heterogeneity of decision outcomes and diminishes the overall quality of decision-making by allowing valuable options to "slip through the cracks."<sup>80</sup>

Sarah Cen claims that the only way to break these feedback loops is by affording decision subjects the right to be an exception in datadriven decision-making.<sup>81</sup> This places an obligation on the decisionmaker, when relying on computational prediction, to consider the harm associated with the relevant decision, the degree to which the prediction has been individualized,<sup>82</sup> and the degree of uncertainty surrounding the prediction; that is, the possibility that this individual may be an outlier.<sup>83</sup>

<sup>&</sup>lt;sup>73</sup> *Id.* at 6.

<sup>&</sup>lt;sup>74</sup> Id. at 152.

<sup>&</sup>lt;sup>75</sup> BOMMASANI ET AL., *supra* note 71, at 2.

<sup>&</sup>lt;sup>76</sup> SARAH H. CEN, THE RIGHT TO BE AN EXCEPTION IN DATA-DRIVEN DECISION-MAKING 11 (2022), https://arxiv.org/pdf/2212.13995 [https://perma.cc/3YX4-WGYC].

<sup>&</sup>lt;sup>77</sup> Id.

<sup>&</sup>lt;sup>78</sup> Bommasani, Creel, Kumar, Jurafsky & Liang, *supra* note 69, at 152.

<sup>&</sup>lt;sup>79</sup> Personal autonomy requires, at minimum, certain cognitive abilities, an adequate range of valuable options to choose from, and independence (freedom from coercive interference). *See* RAZ, *supra* note 27.

<sup>&</sup>lt;sup>80</sup> Jon Kleinberg & Manish Raghavan, *Algorithmic Monoculture and Social Welfare*, 118 Proc. NAT'L. ACAD. SCIS. 1, 12 (2021).

<sup>&</sup>lt;sup>81</sup> CEN, supra note 76.

<sup>&</sup>lt;sup>82</sup> Cen & Raghavan, *supra* note 61, at 8.

<sup>&</sup>lt;sup>83</sup> *Id.* at 10.

Computational models that display near-perfect performance on average can, nevertheless, produce predictions that perform poorly on specific individuals.<sup>84</sup> For example, poor performance could be the result of sampling bias, low model expressiveness, distribution shift, computational irreducibility, or partial observability.<sup>85</sup> Cen argues that if a particular decision (for example, preventive incarceration) is associated with a significant risk of harm to the decision-subject, then the decision-maker faces a greater obligation to consider the possibility that this individual may be an outlier and disprove the prediction.<sup>86</sup> Instead of assuming that predictive computational models are suitable for every context in which they are applied, the decision-maker must consider whether the level of certainty surrounding the prediction is high enough to justify a decision that inflicts harm upon the decision-subject.<sup>87</sup>

Some readers will wonder whether the preservation of autonomy requires society to abandon the use of prediction in high-stakes environments altogether, regardless of whether the prediction is carried out by humans or by machines. Strict retributivists (who view the purpose of incarceration as punitive, not incapacitative) would eliminate the use of prediction in post-conviction sentencing.<sup>88</sup> And even those who view crime prevention as a legitimate objective of sentencing, acknowledge that there are less restrictive means of preventing future crime than extending the sentence of a "high-risk" recidivist.<sup>89</sup> That discussion, while important, is not the focus of this Article. Instead, this Article argues that computational prediction is increasing the range and frequency of *ex ante* intervention and forcing a critical examination of our normative commitments to autonomy.

### C. How Does Computational Prediction Affect Collective Autonomy?

The previous Parts described how predictions of future behavior, whether made by a human or by a machine, affect individual autonomy. However, when prediction occurs on a large scale, it also affects collective autonomy or the ability of a group of people to make informed choices about their collective welfare.<sup>90</sup> For example, when "high-risk" recidivists are preemptively incarcerated for an additional x years (after serving a retributively-defined minimum sentence) because they are expected

<sup>&</sup>lt;sup>84</sup> Cen & Raghavan, *supra* note 61.

<sup>&</sup>lt;sup>85</sup> Id. at 4–5.

<sup>&</sup>lt;sup>86</sup> *Id.* at 9.

<sup>&</sup>lt;sup>87</sup> Id. at 12.

<sup>&</sup>lt;sup>88</sup> Bernard Harcourt, *Against Prediction: Sentencing, Policing, and Punishing in an Actuarial Age* (U. Chi. Law Sch. Pub. L. & Legal Theory Working Papers, Paper No. 94, 2005), https://chicagounbound.uchicago.edu/public\_law\_and\_legal\_theory/22 [https://perma.cc/B2AM-CBWL].

<sup>&</sup>lt;sup>89</sup> Alec Walen, A Punitive Precondition for Preventive Detention: Lost Status as a Foundation for a Lost Immunity, 48 SAN DIEGO L. REV. 1229, 1255–56 (2011).

<sup>&</sup>lt;sup>90</sup> I am grateful to Tomer Kenneth for pointing this out.

to recidivate upon release, society experiences a loss of information associated with autonomous re-entry. What might the defendant have done if released *x* years earlier, when their family and community ties were stronger? Would they have found gainful employment and successfully re-entered society? What choices would they have made if given the opportunity to make those choices for themselves? And how would those choices have informed the distribution of resources for re-entry programs?

Similarly, if the preferences of voters are predicted for them, political parties and candidates miss out on the information that is ordinarily communicated through autonomous votes, such as voter satisfaction with an incumbent candidate's record in office or endorsement of their opponent's policy platform.<sup>91</sup> The information that is ordinarily communicated through autonomous choices—and which society relies upon to make decisions about the future—is lost when those choices are replaced by computational prediction.<sup>92</sup> In turn, this information deficit undermines society's capacity to make informed decisions about collective welfare.<sup>93</sup> Accordingly, prediction affects not only the individual, but also society at large in terms of lost information expressed through autonomous decision-making.

### D. Is Computational Prediction Lowering Barriers to Ex Ante Intervention?

By lowering the costs of prediction, computational models are reshaping social tolerance for *ex ante* intervention.<sup>94</sup> In other words, as predictive models become cheaper, more accurate, and more ubiquitous,<sup>95</sup> they may facilitate a greater number of interventionist approaches to social problems.<sup>96</sup> As Herbert Packer explains, "[T]he more confidently we can predict behavior and the more subtly we can control it, the more powerful will be the temptation to relax the constraints that inhibit us at present from aggressively intervening in the lives of individuals."<sup>97</sup>

Harry Surden would describe this as a loss of latent structural constraints;<sup>98</sup> in a pre-digital world, it was difficult and costly to predict human behavior using physical documents and paper trails, so these costs

<sup>&</sup>lt;sup>91</sup> Thomas Piketty, Voting as Communicating, 67 Rev. ECON. STUD. 169, 187 (2000).

<sup>&</sup>lt;sup>92</sup> Hideyuki Matsumi & Daniel J. Solove, *The Prediction Society: AI and the Problems of Forecasting the Future*, GWU LEGAL STUD. RSCH. (2024), https://ssrn.com/abstract=4453869 [https://perma.cc/B2VS-MW4S].

<sup>&</sup>lt;sup>93</sup> Id.

<sup>&</sup>lt;sup>94</sup> Nigel Gilbert et al., *Computational Modelling of Public Policy: Reflections on Practice*, J. of Artificial Soc'ys. & Soc. SIMULATION (2018).

<sup>&</sup>lt;sup>95</sup> SIEGEL, *supra* note 50, at 54.

<sup>&</sup>lt;sup>96</sup> See id.

<sup>&</sup>lt;sup>97</sup> HERBERT L. PACKER, *The Limits of the Criminal Sanction, in* The Limits of the Criminal Sanction (1968).

<sup>&</sup>lt;sup>98</sup> See Harry Surden, Structural Rights in Privacy Essay, 60 SMU L. Rev. 1605, 1618 (2007).

functioned as a constraint on prediction.<sup>99</sup> Today, however, it is cheap and easy to predict human behavior using digital surveillance, datasharing agreements, and the processing power of large computational models.<sup>100</sup> Accordingly, personal autonomy is no longer protected by the costs of prediction, which have been lowered by the emergence of new technologies.<sup>101</sup> The vulnerability of individual interests to the removal of latent structural constraints by exogenous factors is well-documented in the privacy context, where new technologies have lowered the costs associated with privacy-violating behaviors, and thus, removed the constraints that previously inhibited them.<sup>102</sup> For example, in a pre-digital world, searching for private information about an individual often meant combing through physical files stored in a remote and secure location.<sup>103</sup> These physical barriers acted as structural constraints to information flow and helped secure individual privacy. Today, digital technologies have dramatically lowered the costs associated with privacy-violating behaviors, with the result that laws and other forms of regulation must play a larger role in securing individual privacy.104

Actors involved in crime prevention were some of the earliest adopters of predictive technologies, given the strong public interest in community safety.<sup>105</sup> Police departments around the world have eagerly embraced data-driven technologies that facilitate predictive policing by directing investigational resources to expected crime hotspots.<sup>106</sup> In addition to place-based prediction, some police departments also use person-based prediction in order to target individuals likely to be connected to gang-related offenses, recruited into crime,<sup>107</sup> or involved in gun violence (e.g., the Chicago Police Department's Strategic Subject List).<sup>108</sup> Bonnie Sheehey argues that predictive policing exhibits a paranoid form of

<sup>106</sup> See id. at 1124; see generally Elizabeth E. Joh, The New Surveillance Discretion: Automated Suspicion, Big Data, and Policing Symposium: Policing in America on the 50th Anniversary of Miranda v. Arizona, 10 HARV. L. POL'Y REV. 15, 19 (2016); Dean Wilson, Algorithmic Patrol: The Futures of Predictive Policing, in BIG DATA, CRIME AND SOCIAL CONTROL 109–11 (Aleš Završnik ed., 2017).

<sup>107</sup> Robert Booth, *How Bristol Assesses Citizens' Risk of Harm – Using an Algorithm*, THE GUARDIAN (Oct. 15, 2019), https://www.theguardian.com/uk-news/2019/oct/15/bristolalgorithm-assess-citizens-risk-harm-guide-frontline-staff#:~:text=Citizen%20scoring%20 is%20underpinned%20by,people%20who%20were%20previously%20abused [https://perma. cc/7DK3-RNPH].

<sup>108</sup> Simon Egbert & Susanne Krasmann, *Predictive Policing: Not yet, but Soon Preemptive?*, 30 POLIC. Soc. 905 (2020).

<sup>&</sup>lt;sup>99</sup> Id. at 1613–14.

<sup>&</sup>lt;sup>100</sup> See SIEGEL, supra note 50, at 54.

<sup>&</sup>lt;sup>101</sup> See Surden, supra note 98, at 1625.

<sup>&</sup>lt;sup>102</sup> Id.

<sup>&</sup>lt;sup>103</sup> Surden, *supra* note 98, at 1613.

<sup>&</sup>lt;sup>104</sup> See id. at 1610.

<sup>&</sup>lt;sup>105</sup> See generally Andrew Guthrie Ferguson, Policing Predictive Policing, 94 WASH. L. REV. 1109, 1126 (2016).

governmentality,<sup>109</sup> in which individuals cannot be trusted to obey the law as rational moral agents, but instead must be preemptively restrained like "beasts in a circus."<sup>110</sup>

Once an individual has been arrested, computational prediction continues to be used at almost every decision node in the criminal justice system. At the pre-trial detention stage, it is used to predict whether a person is a flight risk or a danger to the community.<sup>111</sup> At the postconviction sentencing stage, it is used to predict whether a person is likely to recidivate.<sup>112</sup> And at the parole supervision stage, it is used to predict how much supervision a parolee will require.<sup>113</sup> Prediction-based preemption is also a common feature of counter-terrorism measures, including the "No Fly List", preventive detention orders that permit detention without charge or trial, and control orders that permit the house arrest of people considered to be a terrorist risk.<sup>114</sup> Margaret Hu describes the No Fly List and similar screening tools as "digital blacklists" which prevent individuals from engaging in specific activities on the basis of statistical inferences of guilt.<sup>115</sup> An individual may be blacklisted from boarding a plane, voting in an election, or working for a specific employer on the basis of irregular or "suspicious" data with very little recourse for overturning this presumption of guilt by rectifying erroneous data records.<sup>116</sup>

Ian Kerr argues that predictive technologies are facilitating a "fundamental jurisprudential shift from our current *ex post* facto systems of penalties and punishments to *ex ante* preventative measures," legitimated by a philosophy of preemption.<sup>117</sup> Although the majority of such preemptive measures are currently concentrated in the field of crime prevention, increasing interest in preemptive prediction may eventually justify new forms of social control.<sup>118</sup> Outside of terrorism and crime

<sup>113</sup> Id.

<sup>115</sup> Margaret Hu, Big Data Blacklisting, 67 FLA. L. REV. 1735, 1744 (2015).

<sup>&</sup>lt;sup>109</sup> Bonnie Sheehey, Algorithmic Paranoia: The Temporal Governmentality of Predictive Policing, 21 ETHICS & INF. TECH. 49, 50 (2019).

<sup>&</sup>lt;sup>110</sup> Andrew von Hirsch, *Proportionality in the Philosophy of Punishment*, 16 CRIME & JUST. 55, 67 (1992); Thomas Douglas, *Is Preventive Detention Morally Worse than Quarantine?*, PREDICTIVE SENT'G: NORMATIVE & EMPIRICAL PERSPECTIVES 1, 9 (2019).

<sup>&</sup>lt;sup>111</sup> Jodi L. Viljoen, Melissa R. Jonnson, Dana M. Cochrane, Lee M. Vargen & Gina M. Vincent, Impact of Risk Assessment Instruments on Rates of Pretrial Detention, Postconviction Placements, and Release: A Systematic Review and Meta-Analysis, 43 L. & HUM. BEHAV. 397 (2019).

<sup>&</sup>lt;sup>112</sup> Christopher Slobogin, *Risk Assessment, in* THE OXFORD HANDBOOK OF SENT'G & CORR. 196, 198 (Joan Petersilia & Kevin R. Reitz eds., 2012).

<sup>&</sup>lt;sup>114</sup> Jude McCulloch & Sharon Pickering, *Pre-Crime and Counter-Terrorism: Imagining Future Crime in the 'War on Terror*, 49 BRIT. J. CRIMINOLOGY 628, 630 (2009).

<sup>&</sup>lt;sup>116</sup> Id.

<sup>&</sup>lt;sup>117</sup> Ian Kerr, *Prediction, Pre-Emption, Presumption: The Path of Law after the Computational Turn, in PRIVACY, DUE PROCESS & THE COMPUTATIONAL TURN 91 (Mireille Hildebrandt & Katja de Vries eds., 2013).* 

<sup>&</sup>lt;sup>118</sup> Id.; Ben Anderson, Preemption, Precaution, Preparedness: Anticipatory Action and Future Geographies, 34 PROGRESS HUM. GEOGRAPHY 777, 778 (2010); Claudia Aradau &

prevention, computational prediction is already used to purge possible non-citizens from voter registration rolls and investigate individuals that are expected to commit welfare fraud,<sup>119</sup> or to neglect their children.<sup>120</sup>

Daniel Susser agrees that automated decision systems (and decision aids) are recalibrating the temporality of decision-making processes with significant normative consequences.<sup>121</sup> As predictive algorithms normalize *ex ante* intervention, individuals are afforded less time to make decisions for themselves before the state preemptively intervenes.<sup>122</sup> This reallocation of time, from the individual to the state, alters the balance of power between them.<sup>123</sup> Furthermore, as the benefits of temporality are unequally distributed, the individuals who retain decisional autonomy, whose decisions are not the target of prediction, will reflect higher-order judgments about their social status and their political value.<sup>124</sup>

It is already apparent that the distribution of predictive technologies reflects existing power structures and that the targets of prediction tend to wield less collective power than the individuals that retain decisional autonomy.<sup>125</sup> In contemporary workplaces, for example, employees may be subject to preemptive measures based on "suspicious" activities detected by surveillance technologies.<sup>126</sup> In 2020, several Uber drivers were automatically fired after the company's algorithm flagged their accounts for "irregular" and presumptively fraudulent activity.<sup>127</sup> Some employers give individual workers an algorithmic "risk score," based on "how likely they are to leak data or steal company secrets".<sup>128</sup> AI software Veriato examines the text of workers' emails and chat conversations

<sup>120</sup> Virginia Eubanks, *A Child Abuse Prediction Model Fails Poor Families*, WIRED (Jan. 15, 2018), https://www.wired.com/story/excerpt-from-automating-inequality/ [https://perma. cc/2BZY-CMNJ].

<sup>121</sup> Susser, *supra* note 6.

122 Id.

<sup>123</sup> ELIZABETH F. COHEN, THE POLITICAL VALUE OF TIME: CITIZENSHIP, DURATION, AND DEMOCRATIC JUSTICE 145 (2018).

<sup>124</sup> Susser, *supra* note 6.

<sup>125</sup> Sun-ha Hong, *Prediction as Extraction of Discretion*, BIG DATA & Soc., Jan.–June 2023, at 1, 6.

<sup>126</sup> Welcome to the era of the hyper-surveilled office, THE ECONOMIST (May 14, 2022), https:// www.economist.com/business/welcome-to-the-era-of-the-hyper-surveilled-office/21809219 [https://perma.cc/5DCH-HQJ5].

<sup>127</sup> They Claim Uber's Algorithm Fired Them. Now They're Taking It to Court, WIRED UK (Nov. 2, 2020), https://www.wired.co.uk/article/uber-fired-algorithm [https://perma. cc/6CHP-EXA3].

<sup>128</sup> Zoë Corbyn, 'Bossware Is Coming for Almost Every Worker': The Software You Might Not Realize Is Watching You, THE GUARDIAN (Apr. 27, 2022), https://www.theguardian.com/ technology/2022/apr/27/remote-work-software-home-surveillance-computer-monitoring-

Tobias Blanke, *Politics of Prediction: Security and the Time/Space of Governmentality in the Age of Big Data*, 20 EUR. J. SOC. THEORY 373 (2017).

<sup>&</sup>lt;sup>119</sup> Stephanie Wykstra, *Government's Use of Algorithm Serves Up False Fraud Charges*, UNDARK MAG. (June 1, 2020), https://undark.org/2020/06/01/michigan-unemployment-fraud-algorithm [https://perma.cc/9HKK-N8SF].

to identify certain sentiments, or changes in sentiment, that suggest disgruntlement and the need for preemptive action.<sup>129</sup> Employers may use emotion-recognition technology to "read" employees' faces and to flag for intervention those workers that exceed the recommended markers for negative emotions.<sup>130</sup>

Sun-Ha Hong explains that this disparity between the predictor and the predicted "reprises over a century of [labor] struggle" in which the extraction of discretion has facilitated the extraction of labor power.<sup>131</sup> The decision to surveil, predict, and preempt the behavior of workers frames them as targets of suspicion and as potential thieves of corporate property or wages via low productivity.<sup>132</sup> Employee surveillance reinforces existing asymmetries of power by reallocating discretion from the target of prediction (the employee) to the client of prediction (the employer).<sup>133</sup> In this way, computational prediction is less about gaining an "objective foothold on future outcomes", and more about reallocating discretion away from those who should not have it (because they are "dangerous") to those who "deserve" to have discretion.134 A similar discrepancy is observable in criminal datasets; there is a wealth of information about Black crime that is used to justify predictive policing in Black neighborhoods, but very little data about police brutality and misconduct in Black communities.<sup>135</sup> Existing asymmetries of power shape what data is collected and who becomes the subject of measurement, and thus, the target of prediction.<sup>136</sup>

Like employees, debtors also experience disproportionate levels of prediction-based preemption. Technologies such as Deepscore predict the "trustworthiness" of individual debtors from their facial and vocal features, and thus their eligibility for specific loans.<sup>137</sup> Debtors who

<sup>131</sup> Hong, *supra* note 125, at 7.

<sup>136</sup> See id. at 1, 3.

<sup>137</sup> Todd Feathers, *This App Claims It Can Detect 'Trustworthiness.' It Can't*, VICE (Jan. 19, 2021), https://www.vice.com/en/article/akd4bg/this-app-claims-it-can-detect-trustworthiness-it-cant [https://perma.cc/97CC-FUQT].

pandemic [https://perma.cc/7864-Y44S]; Welcome to the era of the hyper-surveilled office, supra note 126.

<sup>&</sup>lt;sup>129</sup> Welcome to the era of the hyper-surveilled office, supra note 126.

<sup>&</sup>lt;sup>130</sup> Cheryl Teh, "Every Smile You Fake" — An AI Emotion-Recognition System Can Assess How "Happy" China's Workers Are in the Office, BUS. INSIDER (June 15, 2021), https:// www.businessinsider.com/ai-emotion-recognition-system-tracks-how-happy-chinas-workersare-2021-6 [https://perma.cc/JZP3-F38J]; Ifeoma Ajunwa, Algorithms at Work: Productivity Monitoring Applications and Wearable Technology as the New Data-Centric Research Agenda for Employment and Labor Law Symposium: Law, Technology, and the Organization of Work, 63 ST. LOUIS UNIV. L.J. 21 (2018); Mark Burdon & Paul Harpur, Re-Conceptualising Privacy and Discrimination in an Age of Talent Analytics Thematic: Communications Surveillance, Big Data and the Law, 37 UNIV. NEW SOUTH WALES L.J. 679 (2014); Pedersen, supra note 3.

<sup>132</sup> Id. at 8.

<sup>&</sup>lt;sup>133</sup> See id. at 1, 8.

<sup>&</sup>lt;sup>134</sup> *Id.* at 2.

<sup>&</sup>lt;sup>135</sup> *Id.* at 5.

receive subprime auto loans may have their vehicles remotely disabled by creditors (using starter interrupt devices) if they miss a single repayment, despite the fact that repossession laws "typically prevent lenders from seizing cars until the borrowers are in default."<sup>138</sup> Lenders can also use GPS tracking software to create geo-fences that alert them if debtors are engaging in "unusual" activity (for example, no longer traveling to their regular place of work) that might indicate a reduced capacity for loan repayment.<sup>139</sup>

Debtors, employees, defendants, and racial minorities represent only a handful of the communities that are already experiencing the autonomy-eroding effects of computational prediction. As predictive models become cheaper, more accurate, and more ubiquitous, we can expect prediction-based preemption to threaten the autonomy of many more individuals.<sup>140</sup> But who will they be, and what normative or empirical claims will be used to justify their lost autonomy? This Article compares voter and defendant autonomy to understand why computational prediction is prevalent in one context (criminal sentencing) and not the other (political elections). Understanding why voter autonomy is treated differently from defendant autonomy will help us to understand the unspoken hierarchy of autonomy interests that is revealed by the emergence of predictive technologies.

## II. RESPECT FOR AUTONOMY AND INSTITUTIONAL LEGITIMACY

Democracy and criminal law are two institutions whose legitimacy depends on respect for individual autonomy. A political party has a legitimate mandate to govern only if it has been elected by a majority of democratic voters whose votes were autonomously cast.<sup>141</sup> Similarly, criminal punishments are considered a legitimate use of state authority if they are contingent on proof of autonomous conduct.<sup>142</sup> The state may legitimately punish defendants only after it has proven that the defendant autonomously committed the crime for which they are being punished.<sup>143</sup> Given that the institutional legitimacy of both democracy and criminal law depend on respect for the autonomous choices made by individuals, predicting and preempting those choices is normatively problematic, as the following paragraphs explain.

<sup>&</sup>lt;sup>138</sup> Michael Corkery & Jessica Silver-Greenberg, *Miss a Payment? Good Luck Moving That Car*, N.Y. TIMES (Sept. 24, 2014), https://dealbook.nytimes.com/2014/09/24/miss-a-payment-good-luck-moving-that-car/ [https://perma.cc/8XMC-TTHQ].

<sup>139</sup> Id.

<sup>&</sup>lt;sup>140</sup> See Hong, supra note 125.

<sup>&</sup>lt;sup>141</sup> See Paulo & Bublitz, supra note 20, at 59; See Lovett & Zuehl, supra note 20, at 9, 39.

<sup>&</sup>lt;sup>142</sup> See Robinson, supra note 19.

<sup>&</sup>lt;sup>143</sup> See id.

#### A. Autonomous Voting

Why does the legitimacy of democratic government depend on voter autonomy? Norbert Paulo and Christoph Bublitz explain that the conferral of legitimacy upon an elected government is a one-directional relation of correspondence, in which the will of the people is reflected in the outcome of the electoral process and in the composition of the elected government.<sup>144</sup> The elected government possesses a legitimate mandate to govern only when the will of the people has been freely formed and expressed without coercion, manipulation, deception, or other unwanted interference.<sup>145</sup> Paulo and Bublitz offer an input-theory of democratic legitimacy, meaning that the source of authority to govern is the inputs, or political preferences, of free voters.<sup>146</sup> If the government has manipulated the will of the people by unduly influencing voter behavior, then it does not possess a legitimate mandate to govern, because it does not truly possess the consent of the governed.<sup>147</sup> It has simply elected itself. The will of the people cannot confer legitimacy if that will is not freely formed.148

Ideally, the will of the people should be formed through deliberative public discourse between free and equal citizens, collectively reasoning about the common good, under ideal speech conditions characterized by equality, respect, and mutual understanding.<sup>149</sup> In this context, voters' preferences would be transformed only by the force of the better argument.<sup>150</sup> The underlying assumption of deliberative democratic theory is that the initial, self-regarding preferences of individual voters will eventually be replaced by rational conceptions of the common good through collective public discourse.<sup>151</sup> Naturally, these discursive conditions are difficult to attain; the current political environment, for example, is characterized by stark inequalities of influence.<sup>152</sup> Furthermore, even when these discursive conditions are attainable, the transformative power of rational discourse remains an open question.<sup>153</sup> Nevertheless, the ideals of deliberative democracy serve as useful regulative goalposts.

<sup>153</sup> Paulo & Bublitz, *supra* note 20, at 67.

<sup>&</sup>lt;sup>144</sup> Paulo & Bublitz, *supra* note 20, at 59, 62.

<sup>&</sup>lt;sup>145</sup> *Id.* at 59–60.

<sup>&</sup>lt;sup>146</sup> *Id.* at 59.

<sup>&</sup>lt;sup>147</sup> *Id.* at 64.

<sup>&</sup>lt;sup>148</sup> *Id.* at 62, 64.

<sup>&</sup>lt;sup>149</sup> *Id.* at 63–64.

<sup>&</sup>lt;sup>150</sup> *Id.* at 64.

<sup>&</sup>lt;sup>151</sup> *Id.* at 66.

<sup>&</sup>lt;sup>152</sup> Kathleen M. Sullivan, *Political Money and Freedom of Speech Edward L. Barrett, Jr. Lecture on Constitutional Law*, 30 UC DAVIS LAW REV. 663 (1996) (citing Dworkin's view that "the right to equal participation as voters must be understood to entail a corollary right to equal participation as advocates in the electoral campaigns that precede and determine the vote," or converting equal suffrage into equal speaking power).

In contrast, an *output*-theory of democratic legitimacy would argue that even if the elected government reflects the will of the people through free and fair elections, if the government fails to achieve the *outputs* required by most reasonable moral theories (for example, the mitigation of inequality, or the protection of minority rights), then this system of government lacks legitimacy.<sup>154</sup> However, if the majority of self-interested voters do not perceive inequality reduction as a worthwhile political goal, how can their preferences be altered? Output theories of democratic legitimation recognize the tension between the pursuit of desirable social goals and the consequences for democratic input legitimation of preference engineering.<sup>155</sup> The merits of output-theory lie beyond the scope of this Article; for our purposes, we will focus on democratic *input* legitimation and how this might be affected by a system of predictive voting.

Consistent with Paulo and Bublitz, Adam Lovett and Jake Zuehl argue that the value of democracy cannot be measured simply by its outputs.<sup>156</sup> In other words, democracy is not valuable simply because it is associated with better outcomes for governed populations than other governance models.<sup>157</sup> Rather, democracy has significant *intrinsic* as well as instrumental value.<sup>158</sup> Lovett and Zuehl locate this value in voter autonomy—in the sense of ownership that voters feel over political outcomes when they are jointly responsible for bringing them about.<sup>159</sup> This sense of joint authorship of a common political life is valuable in the same way that it is valuable to be the author of one's own life.<sup>160</sup> And this sense of ownership over political outcomes would be absent in a system of benevolent dictatorship, even if that system produced the same positive social outcomes as a system of democratic governance.<sup>161</sup> These philosophers convincingly show that a democratic system of government is legitimated by the autonomous votes of its constituents.

#### B. Autonomous Crime

What does it mean for a system of criminal justice to respect individual autonomy? Respect for individual autonomy distinguishes the moral legitimacy of post-punishment (punishment after a crime has been committed) from the illegitimacy of pre-punishment (punishment before a crime has been committed).<sup>162</sup> Some scholars argue that post-punishment

<sup>&</sup>lt;sup>154</sup> *Id.* at 59.

<sup>&</sup>lt;sup>155</sup> See id. at 59, 67.

<sup>&</sup>lt;sup>156</sup> Lovett & Zuehl, *supra* note 20, at 2–3.

<sup>&</sup>lt;sup>157</sup> Id.

<sup>&</sup>lt;sup>158</sup> *Id.* at 3.

<sup>&</sup>lt;sup>159</sup> Id. at 4, 16.

<sup>&</sup>lt;sup>160</sup> *Id.* at 4.

<sup>&</sup>lt;sup>161</sup> *Id.* at 3.

<sup>&</sup>lt;sup>162</sup> Saul Smilansky, The Time to Punish, 54 ANALYSIS 50 (1994).

and pre-punishment are epistemically indistinguishable.<sup>163</sup> From an epistemic standpoint, we may be just as certain that X committed Y in the past, as we are certain that A will commit B in the future.<sup>164</sup> If the level of certainty that justifies criminal sanctions (proof beyond reasonable doubt) could also be established with respect to future conduct ("it is beyond reasonable doubt that A will commit B in the future"), why not punish this conduct in advance? Saul Smilansky argues that pre-punishment is distinguished from post-punishment precisely by the occurrence of the offence.<sup>165</sup> Once X has committed Y, that action cannot be reversed, but *before* A commits B, there remains a "window of moral opportunity" for A to change their mind and refrain from committing the offence.<sup>166</sup> To close that window of opportunity preemptively, before A has made their choice, is to deny A's capacity for moral autonomy and to treat A like an object of control.<sup>167</sup>

The legitimacy of criminal law stems from its treatment of individuals as autonomous moral agents.<sup>168</sup> If the prevention of future crime was the sole objective of criminal law, there would be little reason to wait until a crime had been committed before intervening; it would be more efficient to screen a population for factors predictive of crime and to preemptively detain "dangerous" individuals.<sup>169</sup> Such single-minded pursuit of crime prevention, however, would never receive popular support due to the presumption of innocence.<sup>170</sup> The preemptive incarceration of "high-risk" but innocent individuals would "defeat the ultimate goal of law in a free society, which is to liberate rather than to restrain."<sup>171</sup>

Preventive detention is morally problematic for a variety of reasons. First, despite advances in computational prediction, we are still generally unable to predict the future with complete accuracy.<sup>172</sup> Humility about our predictive abilities should make us wary of preventive detention, especially where community concerns about safety can be addressed using less restrictive means.<sup>173</sup> Secondly, because the errors associated with

<sup>&</sup>lt;sup>163</sup> Christopher New, *Time and Punishment*, 52 ANALYSIS 35, 40 (1992).

<sup>&</sup>lt;sup>164</sup> Smilansky, *supra* note 162, at 51.

<sup>&</sup>lt;sup>165</sup> *Id.* 

<sup>&</sup>lt;sup>166</sup> Id. at 52.

<sup>&</sup>lt;sup>167</sup> *Id.* at 53.

<sup>&</sup>lt;sup>168</sup> Packer, *supra* note 97.

<sup>&</sup>lt;sup>169</sup> Robinson, *supra* note 19, at 1439–40.

<sup>&</sup>lt;sup>170</sup> Packer, *supra* note 97. The presumption of innocence promotes social cohesion and community trust by treating individuals as autonomous moral agents. *See id.* 

<sup>&</sup>lt;sup>171</sup> Id.

<sup>&</sup>lt;sup>172</sup> Gabriel Grill, Constructing Certainty in Machine Learning: On the Performativity of Testing and Its Hold on the Future (Sept. 5, 2022) (draft of Ph.D. dissertation, University of Michigan) (Osf Preprints), https://osf.io/preprints/osf/zekqv [https://perma.cc/NAT6-6MU8].

<sup>&</sup>lt;sup>173</sup> David Cole, *Out of the Shadows: Preventive Detention, Suspected Terrorists, and War*, 97 Cal. L. Rev. 693, 696 (2009).

erroneous release tend to be more visible than the errors associated with erroneous detention, decision-makers are likely to err on the side of custody rather than liberty, and this increases the risk that innocent people will be unfairly detained.<sup>174</sup> Thirdly, preventive detention denies individuals' moral capacity to choose for themselves to obey the law. Respect for autonomy demands that we refrain from intervening until individuals engage in unlawful conduct, rather than preemptively punishing their thoughts, intentions, or propensities.<sup>175</sup> This requires a strong presumption that society manages the threat posed by dangerous individuals through criminal prosecution, rather than preventive detention.<sup>176</sup>

### III. THE LEGAL LIMITS OF THE PREEMPTIVE STATE

Just as surveillance technologies exposed the limits of privacy law,<sup>177</sup> predictive technologies will test the limits of institutional commitments to autonomy. The volume of data gathered on individual citizens, combined with the processing power of computational models, dramatically increases the range of human behaviors that can be predicted, and thus, preempted. In the absence of epistemic constraints on prediction, what legal and normative constraints remain? This Part examines the legal constraints on preemptive state action.

### A. The Insatiable Demand for Security

The preventive apprehension of "potentially dangerous" individuals has a long and sordid history. In the early twentieth century, law enforcement authorities used vagrancy and loitering laws to preemptively remove "unsavory" characters from public places, until those laws were struck down by courts.<sup>178</sup> Eric Janus explains that preventive measures of this kind did not trigger widespread alarm about the erosion of civil liberties because they targeted a narrow group of "outsiders" with whom the general public did not identify.<sup>179</sup> Initially, those outsiders were defined by race, gender, sexual orientation, disability, and poverty; over time, this outsider status was increasingly defined by "risk."<sup>180</sup> The notion of "risk" as something measurable, calculable, and objectively ascertainable replaced previously

<sup>&</sup>lt;sup>174</sup> Id.

<sup>&</sup>lt;sup>175</sup> Id.; see Robinson, supra note 19, at 1444.

<sup>&</sup>lt;sup>176</sup> Cole, supra note 173, at 696; see Robinson, supra note 19, at 1444.

<sup>&</sup>lt;sup>177</sup> See Robinson, supra note 19, at 1454.

<sup>&</sup>lt;sup>178</sup> Eric S. Janus, *The Preventive State, Terrorists and Sexual Predators: Countering the Threat of a New Outsider Jurisprudence*, 40 CRIM. L. BULL. 576, 587 (2004); *see, e.g.*, City of Chicago v. Morales, 527 U.S. 41 (1999) (loitering law); Kolender v. Lawson, 461 U.S. 352 (1983) (loitering law); Papachristou v. Jacksonville, 405 U.S. 156 (1972) (vagrancy law).

<sup>&</sup>lt;sup>179</sup> Janus, *supra* note 178, at 2.

<sup>&</sup>lt;sup>180</sup> Id. at 22.

overt and problematic identifiers of outsider status, such as race.<sup>181</sup> But using "risk" as a marker of otherness is not without its problems. Basing outsider status on "risk" (and ceding control of its measurement to a limited few) significantly expands the range of individuals that will be the target of not only preventive detention, but also of systemic surveillance.<sup>182</sup> The civil commitment of the mentally ill, for example, is limited only by the judicial definition of "mental disorder" as "serious difficulty in controlling behavior."<sup>183</sup> Given the number of addictive and compulsive behaviors in which large segments of the population frequently engage (e.g., smoking, gambling, drinking, drug use),<sup>184</sup> this definition provides only a limited guardrail against the deprivation of liberty.

Although the scientific concept of "risk" initially appeared to remove the taint of racism, homophobia, and other forms of prejudice that characterized outsider jurisprudence, it is now well understood that the concept of "risk" merely cloaks normative practices with a neutral and objective veneer.<sup>185</sup> For example, specific preconceptions of "dangerousness" continue to inform what patterns of behavior and what categories of individuals are the subject of surveillance, measurement, and prediction.<sup>186</sup> More importantly, the transition from "guilt" to "risk" as a sufficient justification for liberty deprivation threatens the traditional balance between liberty and security offered by the state.<sup>187</sup> The avoidance of risk is used to justify widespread government surveillance and intervention to prevent all possible future crimes by casting a sufficiently broad net.<sup>188</sup> Unlike the punishment of past crime, the avoidance of future crime has no temporal limits; it is as limitless as the future is infinite. As Janus explains, the capacity to measure risk creates powerful political pressure to control it.<sup>189</sup> Accordingly, politicians feel compelled to adopt a "zero-tolerance" approach to crime, by expanding "preventive control to cover all degrees of risk, broadening the populations being assessed, and . . . lowering . . . the risk threshold for intervention."<sup>190</sup> What this produces, ultimately, is an "insatiable" demand for security.191

<sup>&</sup>lt;sup>181</sup> Id. at 26–27.

<sup>&</sup>lt;sup>182</sup> *Id.* at 22.

<sup>&</sup>lt;sup>183</sup> Id. at 24.

<sup>&</sup>lt;sup>184</sup> Id.

<sup>&</sup>lt;sup>185</sup> Id. at 26–27.

<sup>&</sup>lt;sup>186</sup> Robinson, *supra* note 19; *see* Hu, *supra* note 115, at 1747.

<sup>&</sup>lt;sup>187</sup> Janus, *supra* note 178 at 32; Malcolm M. Feeley & Jonathan Simon, *The New Penology: Notes on the Emerging Strategy of Corrections and Its Implications*, 30 CRIMINOLOGY 449, 457 (1992); *see* Robinson, *supra* note 19, at 1446.

<sup>&</sup>lt;sup>188</sup> Janus, *supra* note 178, at 32.

<sup>&</sup>lt;sup>189</sup> *Id.* at 33.

<sup>&</sup>lt;sup>190</sup> *Id.* at 34.

<sup>&</sup>lt;sup>191</sup> Id.

#### B. Preventive Detention

Preemptive state action has been normalized most frequently around preventive detention.<sup>192</sup> Although the state primarily uses criminal prosecution and punishment to manage threats to public safety, the state has certain powers to preventatively detain "dangerous" individuals when criminal prosecution is unable to address a serious threat.<sup>193</sup> These include the power to preventively detain: (a) an individual who is awaiting trial for a criminal or immigration offence and presents either a flight risk or a danger to the community; (b) a material witness to a grand jury investigation or criminal trial who presents a flight risk if they are served with a subpoena; (c) a convicted sex offender who cannot control their behavior and is likely to recidivate; (d) an individual with a mental illness who cannot control their behavior and poses a risk to themselves or to others; and (e) a convicted criminal whose sentence extends beyond a retributivelydefined minimum because they are likely to recidivate.<sup>194</sup> In each of these cases, the state's preventive-detention authority is constrained by a few important limits: (a) the detainee must have been charged with a criminal or immigration offence (except where the individual is a material witness or has a mental disorder); (b) the detention is temporally limited; and (c) there must be individualized proof that the particular individual presents a flight risk or a danger to the community.<sup>195</sup>

In general, three constitutional limits constrain the state's preventive detention authority: the Due Process Clause (found in both the Fifth and Fourteenth Amendments), the Fourth Amendment, and the Suspension Clause.<sup>196</sup> The Due Process Clause only permits government detention (outside of criminal punishment) in narrowly-defined circumstances: where the purpose and character of the detention is non-punitive, the detention is temporally limited, and the justification for the detention is particularized to the individual (usually probable cause of historical or future wrongdoing).<sup>197</sup> Pre-trial detention, for example, is constitutionally permissible because it serves the non-punitive purpose of protecting the community from an individual who has been shown, through particularized proof, to present either a flight risk or a danger to the community.<sup>198</sup> For this reason, pre-trial detention is not considered excessive in light of that

<sup>197</sup> Id. at 708.

<sup>&</sup>lt;sup>192</sup> See Cole, supra note 173, at 695.

<sup>&</sup>lt;sup>193</sup> Id. at 697.

<sup>&</sup>lt;sup>194</sup> Id. at 700.

<sup>&</sup>lt;sup>195</sup> David Cole, *Out of the Shadows: Preventive Detention, Suspected Terrorists, and War*, 97 CALIF. LAW REV. 693 (2009).

<sup>&</sup>lt;sup>196</sup> Id. at 707.

<sup>&</sup>lt;sup>198</sup> *Id.* at 707; *see* United States v. Salerno, 481 U.S. 739 (1987) (holding that pretrial detention based on future danger was permissible).

legitimate purpose.<sup>199</sup> The Fourth Amendment requires all seizures to be "reasonable," or to show probable cause that the individual committed a criminal offense, except where the seizure serves "special needs" outside of ordinary law enforcement.<sup>200</sup> The Suspension Clause enables detainees to seek judicial review of the legality of their detention, except during "times of Rebellion or Invasion," when Congress may suspend the writ of habeas corpus.<sup>201</sup>

In 1998, Carol Steiker raised the possibility that future "technology will enhance the state's ability to collect data about its citizens and to conduct surveillance of them in both real and virtual space," producing almost unlimited capacity for preemptive state action.<sup>202</sup> Steiker argued that there are relatively few legal constraints on the preventive state, compared to the constitutional limits on the punitive state.<sup>203</sup> Given law enforcement's monopoly on the legitimate use of force, the drafters of the Constitution were understandably concerned with limiting the state's punitive power; for example, through the Eighth Amendment's proscription of "cruel and unusual punishment," and the Fourth Amendment's proscription of "unreasonable" searches and seizures.<sup>204</sup> In contrast, many preventive measures escape constitutional scrutiny if they are considered "non-punitive."<sup>205</sup>

Steiker argues that this binary distinction between "punitive" and "non-punitive" state action overlooks the functionally punitive effects of many preventive measures, such as the involuntary civil commitment of the mentally ill.<sup>206</sup> Given the "distressing lack of clarity" about the degree of impairment necessary to permit the indefinite detention of the mentally ill, Steiker argues that there are very few safeguards against the preventive incarceration of an expansively defined group of "dangerous" individuals once courts are convinced that the commitment is non-punitive.<sup>207</sup>

For example, "mental abnormality" could broadly include individuals who suffer from alcoholism or drug abuse.<sup>208</sup> In the area of search and

<sup>&</sup>lt;sup>199</sup> Cole, *supra* note 173, at 709.

<sup>&</sup>lt;sup>200</sup> *Id.* at 712.

<sup>&</sup>lt;sup>201</sup> *Id.* at 702.

<sup>&</sup>lt;sup>202</sup> Steiker, *supra* note 7, at 806–07.

<sup>&</sup>lt;sup>203</sup> Id. at 777.

<sup>&</sup>lt;sup>204</sup> *Id.* at 806.

<sup>&</sup>lt;sup>205</sup> See id. at 777.

<sup>&</sup>lt;sup>206</sup> See id. at 783.

<sup>&</sup>lt;sup>207</sup> Id. at 789, 791.

<sup>&</sup>lt;sup>208</sup> Steven B. Datlof, *The Law of Civil Commitment in Pennsylvania: Towards a Consistent Interpretation of the Mental Health Procedures Act*, 38 DUQUESNE L. REV. 1 (1999); Mara Lynn Krongard, *A Population at Risk: Civil Commitment of Substance Abusers after Kansas v. Hendricks*, 90 CALIF. L. REV. 111 (2002). In Kansas v. Hendricks, 521 U.S. 346 (1997), the Supreme Court held that a "mental abnormality" is sufficient constitutional grounds for involuntary commitment of "dangerous" individuals. *Id.* at 115. State civil commitment laws have been used for alcohol abuse. *Id.* at 145, 155–56.

seizure, for example, there is an expansive borderland between "criminal law enforcement" (which is subject to traditional Fourth Amendment constraints) and the "special needs" of the regulatory state (which are constrained only by legitimate public interests).<sup>209</sup> These vaguely worded safeguards have not constrained the warrantless stops of motorists or the suspicionless drug testing of certain employees.<sup>210</sup> Steiker argues that preventive state actions, such as the civil commitment of the mentally ill and suspicionless searches and seizures, should be subject to the same limits that would ordinarily apply to punitive measures.<sup>211</sup>

Lucia Zedner agrees that civil preventive measures operate in a shadow system of preventive justice that stands outside the ordinary protections of criminal law.<sup>212</sup> Civil control orders for suspected terrorists, for example, impose severe deprivations of liberty in anticipation of wrongdoing, with no need for law enforcement to present the evidence against a particular individual or to allow them to contest it.<sup>213</sup> These ostensibly "non-punitive" control orders may impose indefinite restrictions upon individual liberty, rendering them effectively penal in character.<sup>214</sup> For this reason, Zedner argues, they should be subject to the ordinary constraints on punishment.<sup>215</sup>

David Cole agrees that bypassing the criminal process to prevent acts of terrorism (for example, by preventively detaining "suspected terrorists") sets a dangerous precedent.<sup>216</sup> Normalizing the preventive detention of categories of criminal offenders without charge or conviction upsets the delicate balance between liberty and security.<sup>217</sup> If "suspected terrorists" deserve preventive detention, why not suspected serial killers or suspected rapists?<sup>218</sup> Cole advocates for maintaining a strong presumption in favor of criminal prosecution and punishment as the primary means of managing the threat posed by dangerous individuals rather than preemptive state intervention.<sup>219</sup> According to Cole, preventive detention should not be permitted without strong proof that "criminal prosecution is inadequate to address a compelling need to protect the community from danger."<sup>220</sup> The risk of "mission creep" is too strong, especially given the predictive technologies with which the state is now armed.<sup>221</sup> One of the few remaining

- <sup>216</sup> Cole, *supra* note 195.
- <sup>217</sup> See id. at 749.
- $^{218}$  Id. at 728.
- <sup>219</sup> Id.at 696–97.
- <sup>220</sup> *Id*.at 747.
- <sup>221</sup> Id. at 749.

<sup>&</sup>lt;sup>209</sup> Steiker, *supra* note 7, at 797–99.

<sup>&</sup>lt;sup>210</sup> See id. at 799-801.

<sup>&</sup>lt;sup>211</sup> Steiker, *supra* note 7, at 806–07.

<sup>&</sup>lt;sup>212</sup> Lucia Zedner, Preventive Justice or Pre-Punishment? The Case of Control Orders, 60 CURR. LEG. PROBL. 174 (2007).

<sup>&</sup>lt;sup>213</sup> See id. at 194.

<sup>&</sup>lt;sup>214</sup> *Id.* at 193.

<sup>&</sup>lt;sup>215</sup> Id. at 192.

checks on preventive detention is that it is still regarded as exceptional within American legal culture.<sup>222</sup> The presumption of innocence, liberty, and autonomy must continue to reinforce the exceptional nature of preventive intervention.

Concerns raised by legal scholars about the implications of the state's unfettered power to preemptively detain "dangerous" individuals are not far-fetched. In the United Kingdom, civil control orders for terrorist suspects provided the model for Serious Crime Prevention Orders (SCPO), which are used to restrict the movements and activities of suspected drug traffickers, among others, to prevent future crimes from occurring.<sup>223</sup> Far more people could be targeted by preventive orders in the future. The jurisprudence of prevention challenges the "dominant post hoc orientation of prosecution and punishment"<sup>224</sup> by reframing "security" as protection from the threat posed by dangerous others rather than the long arm of the state.<sup>225</sup>

David Cole argues that the U.S. government "already has substantial preventive-detention authority and has shown its ability and willingness to use it."<sup>226</sup> Section 412 of the USA PATRIOT Act authorizes the Attorney General to detain "terrorist suspects" without a hearing and without proof that they pose a danger or a flight risk.<sup>227</sup> Section 18 U.S.C. § 2339B permits the prosecution and conviction of individuals who have never engaged in or aided terrorist activity but have provided "material support" to "terrorist organizations," broadly defined.<sup>228</sup> It effectively authorizes the preventive detention of individuals who have associated with undesirable organizations without proof that they have engaged in any unlawful activity.<sup>229</sup> The material witness law, which permits detention without probable cause of criminal activity, also represents a tempting tool for law enforcement authorities to detain a suspected individual for whom they cannot establish probable cause.<sup>230</sup>

Improvements in predictive technology legitimize the preventive state by giving the impression that the specific "risk posed by a given individual (both in terms of the gravity of the expected harm and the likelihood of it occurring)" can be accurately calculated and acted upon.<sup>231</sup>

Accordingly, Zedner questions whether the shift towards preemptive state action is truly motivated by improvements in the "scientific"

- <sup>224</sup> *Id.* at 202.
- <sup>225</sup> *Id.* at 191.

<sup>227</sup> Id. at 702.

- <sup>229</sup> *Id.* at 724.
- <sup>230</sup> Id. at 722.

<sup>&</sup>lt;sup>222</sup> Id.

<sup>223</sup> See Zedner, supra note 212.

<sup>&</sup>lt;sup>226</sup> Cole, *supra* note 195. See Cole, *supra* note 216.

<sup>&</sup>lt;sup>228</sup> Id. at 723.

<sup>&</sup>lt;sup>231</sup> See Zedner, supra note 212.

assessment of risk or by the desire to minimize the political fallout from the occurrence of specific events.<sup>232</sup> Regardless of motive, improvements in the scale and accuracy of computational prediction are likely to strain the legal limits of preventive detention. The weakness of these limits reinforces the importance of our normative commitment to autonomy.

### C. Predictive Voting

In contrast to crime prevention, there are no constitutional limits on preemptive state action in the context of democratic elections. In other words, there is nothing to stop an incumbent government from installing a system of predictive voting and forming a Congress based on predicted votes.<sup>233</sup> In fact, computational prediction already influences voting outcomes today through election polls and voter microtargeting.<sup>234</sup> Voter microtargeting involves using personal data to tailor political messages to individual voters based on their inferred political preferences and cognitive vulnerabilities.<sup>235</sup> This form of covert influence affects a voter's ability to identify a political candidate whose policies align with their personal values and commitments.<sup>236</sup>

Two elements are essential to voter autonomy: (1) the mental capacity to reflect upon the available options and to identify the party or candidate that is most aligned with one's political interests, priorities, and values ("deliberative autonomy"); and (2) the physical capacity to express this preference by casting a ballot, either in-person or through mail-in voting ("expressive autonomy"). Accordingly, voters enjoy autonomy only if they can freely develop and express their political preferences without coercion, manipulation, deception, or any other unwanted interference. This conception of voter autonomy aligns most closely with philosophical conceptions of personal autonomy as the ability to author one's own life, or

<sup>&</sup>lt;sup>232</sup> Id.

<sup>&</sup>lt;sup>233</sup> The Supreme Court has not always treated the right to vote as a fundamental right that triggers strict scrutiny of election regulations under the Fourteenth Amendment, and its approach to unconstitutional infringements of the right to vote remains unclear and incoherent following *Crawford v. Marion County Election Board. See, e.g.*, Bryan P. Jensen, *Crawford v. Marion County Election Board: The Missed Opportunity to Remedy the Ambiguity and Unpredictability of Burdick Comment*, 86 DENV. U. L. REV. 535, 536 (2008); Joshua A. Douglas, *Is the Right to Vote Really Fundamental*, 18 CORNELL J.L. & PUB. POL'Y 143, 156 (2008); Eli L. Levine, *Does the Social Contract Justify Felony Disenfranchisement*?, 1 WASH. U. JURIS. REV. 193, 197 (2009).

<sup>&</sup>lt;sup>234</sup> See Solon Barocas, The Price of Precision: Voter Microtargeting and Its Potential Harms to the Democratic Process, Ass'N FOR COMPUTING MACHINERY 31 (2012), https://doi. org/10.1145/2389661.2389671 [https://perma.cc/FF8R-GD2A].

<sup>&</sup>lt;sup>235</sup> See Ira S. Rubinstein, Voter Privacy in the Age of Big Data, 2014 Wis. L. Rev. 861, 882 (2014).

<sup>&</sup>lt;sup>236</sup> See Jacquelyn Burkell & Priscilla M. Regan, Voter Preferences, Voter Manipulation, Voter Analytics: Policy Options for Less Surveillance and More Autonomy, INTERNET POL'Y REV. (Dec. 31, 2019), https://policyreview.info/pdf/policyreview-2019-4-1438.pdf [https:// perma.cc/F3M9-AHRX].

in this case, to collectively author a common political life.<sup>237</sup> This requires, at minimum, certain cognitive abilities (e.g., minimum rationality, the ability to absorb information and to form intentions), an adequate range of valuable options to choose from, and independence (i.e., freedom from coercive interference).<sup>238</sup>

Beginning in the late nineteenth century, efforts to secure free and fair elections were focused on protecting *expressive* autonomy: the ability to cast a ballot freely, without pressure or intimidation from a particular party or candidate.<sup>239</sup> The secret ballot was introduced to protect voters from the bribery and intimidation that had characterized public voting in antebellum America.<sup>240</sup> Today, proponents of democracy are increasingly concerned with threats to *deliberative* autonomy.<sup>241</sup> Political candidates can target and tailor their messages to specific categories of voters based on sophisticated combinatorial analysis of their demographic, behavioral, and psychological characteristics.<sup>242</sup> For example, the form, content, and timing of a political message can be altered to persuade specific types of voters based on psychological traits like openness, extroversion, or neuroticism.<sup>243</sup> This allows political candidates to increase the impact of their messaging by exploiting voters' cognitive vulnerabilities.<sup>244</sup> At the same time, voters are unlikely to be exposed to countervailing perspectives, because their information environment is designed to reinforce their previously expressed or inferred preferences.245

The replacement of a single political message for a mass audience ("broadcasting") with thousands of personalized messages for individual voters ("narrowcasting") limits the electorate's capacity for collective debate.<sup>246</sup> It is difficult to facilitate public dialogue about a shared political reality when individual members of the same household may be

<sup>241</sup> See Zeynep Tufekci, Engineering the Public: Big Data, Surveillance and Computational Politics, FIRST MONDAY 19(7) (2014); Jonathan Zittrain, Engineering an Election Response, 127 HARV. L. REV. FORUM 335, 336–39 (2013); see generally Barocas, supra note 234.

<sup>242</sup> See Burkell & Regan, supra note 236 at 5.

<sup>243</sup> See id. at 5–10.

<sup>&</sup>lt;sup>237</sup> See RAZ, supra note 27; Lovett & Zuehl, supra note 20, at 469.

<sup>&</sup>lt;sup>238</sup> See RAZ, supra note 27 at 408.

<sup>&</sup>lt;sup>239</sup> See Malcolm Crook & Tom Crook, *Reforming Voting Practices in a Global Age: The Making and Remaking of the Modern Secret Ballot in Britain, France and the United States, c.1600–c.1950*, 212 PAST PRESENT 199, 208 (2011).

<sup>&</sup>lt;sup>240</sup> See Chris Evans, It's the Autonomy, Stupid: Political Data-Mining and Voter Privacy in the Information Age, 13 MINN, J.L. SCI. & TECH. 867, 867 (2012); Crook & Crook, supra note 239.

<sup>&</sup>lt;sup>244</sup> See id.; Ryan Calo, Digital Market Manipulation, 82 GEO. WASH. L. REV. 995 (2013); Shaun B. Spencer, The Problem of Online Manipulation, 2020 UNIV. ILL. L. REV. 959, 987 (2020); Daniel Susser, Beate Roessler & Helen Nissenbaum, Technology, Autonomy, and Manipulation, INTERNET POL'Y REV. 7 (June 30, 2019), https://policyreview.info/pdf/ policyreview-2019-2-1410.pdf [https://perma.cc/DA4D-MK3Q].

<sup>&</sup>lt;sup>245</sup> See Burkell & Regan, supra note 236, at 6.

<sup>&</sup>lt;sup>246</sup> Rubinstein, *supra* note 235, at 882.

receiving contradictory messages from the same political candidate.<sup>247</sup> Increasingly individualized candidate-voter interactions also make it difficult for media outlets to fact-check microtargeted messages.<sup>248</sup> Narrowcasting creates an information asymmetry in which the candidate has intimate information about voters, but voters know very little about the candidate's true policy positions.<sup>249</sup> This distortion, isolation, and individualization of political information undermines the capacity of voters to develop political preferences that reflect their objective interests.<sup>250</sup>

Morris Lipson argues that voter autonomy is a function of the information that voters receive; to exercise it, citizens must receive all information that could either change or confirm their convictions after critically reviewing those convictions in light of the new information they have received.<sup>251</sup> When citizens do not receive all the information that is relevant to their decision, they are unable to fully express themselves through their vote, because it is based on fewer of their interests, values, and commitments than it could have been.<sup>252</sup> In other words, the greater the amount of relevant information over which a citizen has deliberated, the more they are able to express themselves through their vote, and the more autonomous their choice is.<sup>253</sup>

Although voters are always subject to influence, such influence rises to the level of manipulation when voters are unable to recognize and reflect on those influences in their decision-making processes.<sup>254</sup> Several scholars have described voter microtargeting as a form of manipulation because it covertly directs voters to act for reasons they do not recognize, towards ends they have not chosen, by exploiting their cognitive vulnerabilities.<sup>255</sup> The dynamic choice architectures of digital platforms adapt and optimize user interactions in real time to reflect new user information obtained through digital surveillance.<sup>256</sup> Maximizing deliberative autonomy does not require complete insulation from external influence, but it does require awareness of, and protection from, certain forms of subconscious manipulation that interfere with voters' control of their reasoning process.<sup>257</sup>

- <sup>251</sup> Morris Lipson, Autonomy and Democracy, 104 YALE LAW J. 2249, 2265 (1995).
- <sup>252</sup> See id. at 2268–69.

<sup>&</sup>lt;sup>247</sup> See id.

<sup>&</sup>lt;sup>248</sup> See William A. Gorton, Manipulating Citizens: How Political Campaigns' Use of Behavioral Social Science Harms Democracy, 38 NEW POLIT. SCI. 61 (2016).

<sup>&</sup>lt;sup>249</sup> See Rubinstein, supra note 235, at 883.

<sup>&</sup>lt;sup>250</sup> See Burkell & Regan, supra note 236, at 6; Gorton, supra note 248.

<sup>&</sup>lt;sup>253</sup> See id. at 2270.

<sup>&</sup>lt;sup>254</sup> See Susser, Roessler & Nissenbaum, supra note 244, at 6.

<sup>&</sup>lt;sup>255</sup> See generally Gorton, supra note 248; Susser, Roessler & Nissenbaum, supra note 244.

<sup>&</sup>lt;sup>256</sup> Susser, Roessler & Nissenbaum, *supra* note 244, at 7.

<sup>&</sup>lt;sup>257</sup> Paul M. Schwartz, *Privacy and Democracy in Cyberspace*, 52 VAND. L. REV. 1607, 1670–72 (1999); Susser, Roessler & Nissenbaum, *supra* note 244, at 13.

The data profiling practices that facilitate voter microtargeting today are the same practices that would be used to predict an individual's vote in a hypothetical system of predictive voting, in which political representatives are chosen by algorithmically predicted votes. Accordingly, the current electoral system is not so different from a system of predictive voting, at least with respect to its treatment of deliberative autonomy. The primary difference, then, between these two systems, is their treatment of voters' expressive autonomy. The current electoral system prioritizes the ability of voters to cast their ballots on election day, without intimidation or coercion by a particular party or candidate.<sup>258</sup> In contrast, a system of predictive voting would eliminate voters' expressive autonomy because all votes would be predicted by a computational model. If the key factor differentiating the current electoral system from a hypothetical system of predictive voting is its treatment of expressive autonomy, does this represent a meaningful distinction? Does a voter's expressive autonomy still have value in the absence of deliberative autonomy? Is it still important for voters to express their political preferences if those preferences have effectively been constructed for them through voter microtargeting?<sup>259</sup>

The answer to these questions depends on how much we demand from the concept of deliberative autonomy. In an ideal world, every voter would have ample opportunity to consult and compare the policy agendas of competing parties and candidates. They would then spend a meaningful amount of time considering which party or candidate would be most likely to serve their needs and interests. However, only a minority of voters enjoy the luxury of such temporal opportunities.<sup>260</sup> Many individuals do not have time to meaningfully consider and compare policy agendas and campaign platforms.<sup>261</sup> In fact, the United States does not impose any external or internal conditions for deliberative autonomy, apart from age.<sup>262</sup> Voters do not need to have achieved a certain level of education, proficiency in English, nor some minimum level of exposure to political messaging to cast their ballots.<sup>263</sup> Very few demands are made of the "autonomous" votes that legitimate state power.

John Christman explains that although liberalism justifies political power when supported by autonomous citizens, the requirements of

<sup>&</sup>lt;sup>258</sup> See Lorraine C. Minnite, Frances Fox Piven, Power and Inequality: Voter Suppression: The Attack on Rights (2d ed. 2021).

 <sup>&</sup>lt;sup>259</sup> See generally Paul Slovic, The Construction of Preference, 50 AM. PSYCHOL. 364 (1995).
 <sup>260</sup> See Sam Fullwood III, Why Young, Minority, and Low-Income Citizens Don't Vote,

CTR. FOR AM. PROGRESS, Nov. 6, 2014, https://www.americanprogress.org/article/why-youngminority-and-low-income-citizens-dont-vote/ [https://perma.cc/6GR8-SXCP].

<sup>&</sup>lt;sup>261</sup> See id.

<sup>&</sup>lt;sup>262</sup> U.S. CONST. amend. XXVI, § 1.

<sup>&</sup>lt;sup>263</sup> See Angelo Ancheta, Language Accommodation and the Voting Rights Act (Santa Clara Univ. Sch. of L. Legal Stud. Rsch. Papers Series, Working Paper No. 06-21, 2006), https://papers.ssrn.com/abstract=953155 [https://perma.cc/N9AX-UDZN].

autonomy "are too stringent to be met by the majority of citizens bound by political institutions."<sup>264</sup> Christman argues that for political institutions to be "legitimate," citizens living under them must achieve "a level of self-knowledge and reflective self-endorsement that most fail to meet."265 Only a small fraction of the self is available to conscious reflection, meaning that an individual's internal view of their motivational matrix may be incomplete and occasionally inaccurate.<sup>266</sup> Christman argues, however, that it is nevertheless important to treat ordinary citizens as the "fundamental representatives of their own values and commitments."267 Failures of epistemic access to self-knowledge should not be fatal because the "reasons for granting self-representational authority in collective decisions are personal rather than epistemic."268 As long as individuals exhibit some minimal cognitive competence and self-endorsement via nonalienation or non-repudiation of their motives, they should be considered sufficiently autonomous to endorse political institutions.<sup>269</sup> In other words, even if individuals are mistaken about what truly motivates them, and what is in their best interests, they always get to speak for themselves on such matters 270

David Enoch agrees that a voter's choice should be taken as conclusive evidence of their commitments and should not be questioned or interrogated.<sup>271</sup> This is the case even if a voter is clearly voting against their objective interests because in the political context, the form of autonomy that matters most is "sovereignty" in the sense of having the last word on a particular decision.<sup>272</sup> Respecting a voter's sovereign choice and treating it as representative of their normative commitments (even if there is evidence that it is not) is how the state treats voters as responsible and accountable agents.<sup>273</sup> Naturally, an autonomous life should be shaped by both an individual's values (the principle of non-alienation) as well as their choices (the principle of sovereignty).<sup>274</sup> But in the political context,

<sup>&</sup>lt;sup>264</sup> John Christmam, *Autonomy, Self-Knowledge, and Liberal Legitimacy, in* AUTONOMY AND THE CHALLENGES TO LIBERALISM: NEW ESSAYS 330, 330 (Joel Anderson & John Christman eds., 2005).

<sup>&</sup>lt;sup>265</sup> *Id.* at 331.

<sup>&</sup>lt;sup>266</sup> See generally id.

<sup>&</sup>lt;sup>267</sup> *Id.* at 331.

<sup>&</sup>lt;sup>268</sup> *Id.* at 346.

<sup>&</sup>lt;sup>269</sup> *Id.* at 348.

<sup>&</sup>lt;sup>270</sup> *Id.* at 347. In contrast, other scholars believe that votes which are not well-informed, or not aligned with an individual's objective interests, have effectively been thrown away. *See, e.g.*, BRYAN CAPLAN, THE MYTH OF THE RATIONAL VOTER (2007).

<sup>&</sup>lt;sup>271</sup> David Enoch, *Autonomy as Non-Alienation, Autonomy as Sovereignty, and Politics*, 30 J. POLIT. PHIL. 143 (2022).

<sup>&</sup>lt;sup>272</sup> See id.at 158–59.

<sup>&</sup>lt;sup>273</sup> See id. at 160.

<sup>&</sup>lt;sup>274</sup> See id.at 144.

Enoch argues, the dominant form of autonomy that must be respected is sovereignty, rather than non-alienation.<sup>275</sup>

It is unsurprising then, that voter microtargeting has gained such a foothold on the deliberative autonomy of American voters. If the current electoral system makes so few demands of voters before imputing autonomous choices to them, it is not surprising that political parties and candidates have invested so heavily in the infrastructure of voter microtargeting. The prevalence of voter microtargeting illustrates that liberal democracies already tolerate some use of computational prediction in electoral outcomes. In addition to prediction, there are many other practices that distort voting outcomes, such as gerrymandering, felony disenfranchisement, and the decision to hold elections during regular working hours.<sup>276</sup> All of these practices indicate that voter autonomy, or the deliberative and expressive freedom to choose a preferred party or candidate, is not as insulated from external influence as we might like to believe.

#### IV. DEFINING VOTER AUTONOMY

Part III defined "voter autonomy" in terms of the process of voting: the deliberative and expressive freedom to choose a preferred party or candidate without coercion, manipulation, deception, or other unwanted interference.<sup>277</sup> However, even voters who have enjoyed such deliberative and expressive freedom may feel non-autonomous if their votes have no causal effect on the electoral outcome and they are forced to live under constraints imposed by a party for whom they did not vote.<sup>278</sup> This type of autonomy is concerned with the *outcome* of voting.

Still, others might feel that they lack full autonomy over their voting rights if they cannot exchange those rights for things that they value more. For example, individuals might regard the income generated from the sale of their votes as more autonomy-enhancing than the ability to cast their votes, especially if they are unlikely to affect the overall outcome.<sup>279</sup> Similarly, if the cost of voting in-person is very high, and a state does not

<sup>&</sup>lt;sup>275</sup> See id. at 158.

<sup>&</sup>lt;sup>276</sup> I am grateful to James Wilson for pointing this out. *See, e.g.*, Kyle Pitzer, Gena Gunn Mcclendon & Michael Sherraden, *Voting Infrastructure and Process: Another Form of Voter Suppression?*, 95 Soc. SERV. REV. 175, 176–77 (2021); Sarah M. L. Bender, *Algorithmic Elections Notes*, 121 MICH. L. REV. 489 (2022).

<sup>&</sup>lt;sup>277</sup> See discussion *infra* Part IV. Note also that "voter autonomy" is inherently constrained by the characteristics of the political system in which it is exercised (for example, the number of political parties and candidates that are available to choose from and the substantive range of their policy platforms). I am grateful to Paul Friedl for pointing this out.

<sup>&</sup>lt;sup>278</sup> See Hurka, supra note 37, at 366; Jiwei Ci, Evaluating Agency: A Fundamental Question for Social and Political Philosophy, 42 METAPHILOSOPHY 261, 270, 272 (2011).

<sup>&</sup>lt;sup>279</sup> See James Stacey Taylor, Autonomy, Vote Buying, and Constraining Options, 34 J. APPLIED PHIL. 711, 713–14 (2017).

permit absentee ballots, individuals might wish to delegate their votes to a proxy because they value their time more than they value the capacity to cast a ballot.<sup>280</sup> These voters might view delegation as more autonomyenhancing than abstention. This conceptualization of voter autonomy focuses on *alienability*—the right to sell or to delegate one's vote to a third party. Part IV will compare these conceptions of voter autonomy in order to understand our intuitive resistance to a system of predictive voting.

#### A. Voter Autonomy as Causal Efficacy

Even voters who have enjoyed deliberative and expressive freedom in casting their ballots for their preferred candidate may not feel autonomous if their vote has no effect on the overall outcome and they are forced to live under constraints imposed by a party for whom they did not vote.<sup>281</sup> For these voters, who require a causal connection between their vote and their desired electoral outcome, algorithmic vote prediction might present a more effective way of translating their political preferences into congressional representation. Namely, the preferences of nonvoters who share their political preferences would also be counted, allowing them to form a more influential voting bloc. The current electoral system effectively ignores the preferences of millions of Americans due to poor voter turnout.282 In contrast, a hypothetical system of predictive voting could capture the preferences of every nonvoter (provided that the same amount of data is available on every individual). A Congress formed on the basis of such comprehensive political data might be more likely to enact legislation that reflects the preferences of a majority of Americans on controversial issues such as abortion, marijuana, and gun control. If combined with other structural changes (such as proportional representation and a multi-party rather than a two-party system), predictive voting could produce a more representative legislature.<sup>283</sup>

Some democratic theorists, however, argue that individual voters enjoy autonomy even if their vote has no causal effect on an electoral outcome. For example, Peter Josse argues that democracy is compatible with individual autonomy even if individuals lack causal control over the laws under which they live, if those individuals nevertheless endorse the system of political decision-making that produced those laws.<sup>284</sup> This is the

<sup>&</sup>lt;sup>280</sup> See Henry E. Brady & John E. McNulty, *Turning Out to Vote: The Costs of Finding and Getting to the Polling Place*, 105 AM. POL. SCI. REV. 115, 115 (2011).

<sup>&</sup>lt;sup>281</sup> See Hurka, supra note 37, at 366; Ci, supra note 278.

<sup>&</sup>lt;sup>282</sup> See Kei Kawai, Yuta Toyama & Yasutora Watanabe, Voter Turnout and Preference Aggregation, 13 AM. ECON. J. 548, 548 (2021).

<sup>&</sup>lt;sup>283</sup> I am grateful to James Wilson for pointing this out. *See, e.g.*, Rob Richie & Steven Hill, *Renewed Momentum for Voting System Reform*, 90 NAT'L. CIVIC REV. 183, 183 (2001).

<sup>&</sup>lt;sup>284</sup> Peter J. Josse, *Democratic Compatibilism*, 24 CRITICAL REV. INT'L. Soc. & POL. PHIL. 579, 585–86 (2021).

theory of "democratic compatibilism."285 Similarly, Lovett and Zuehl argue that conceiving of voter autonomy as a causal chain between an individual vote and an electoral outcome relies on an "implausibly narrow conception of causation" that requires counterfactual dependence; that is, the electoral outcome would not have occurred but for their individual vote.286 This conception of voter autonomy as causal control over electoral outcomes would render non-autonomous many of the votes cast in contemporary elections.<sup>287</sup> Instead, Lovett and Zuehl argue that a voter who votes for a winning candidate contributes to the electoral outcome through their "joint intention," even if the outcome was not counterfactually dependent on their individual vote.<sup>288</sup> Conversely, individuals who vote for the losing party still contribute to the collective authorship of a shared political life because political power is cyclical (today's losers are yesterday's winners), and policy is cumulative (new parties often make only incremental changes to existing policies).<sup>289</sup> Accordingly, individuals who vote for the losing party can still claim to have authored many of the laws to which they are subject, because they are subject to more than just the laws of the day.<sup>290</sup> This is how voters enjoy collective authorship of a shared political life, or democratic autonomy, even when electoral outcomes do not turn on their individual votes.

### B. Voter Autonomy as Alienability

Alternatively, we could define "voter autonomy" not in terms of process or outcome, but in terms of alienability. For voters who place only instrumental value on their right to vote and regard their individual vote as unlikely to influence an electoral outcome, the ability to sell, rather than to cast their vote, might be more autonomy-enhancing.<sup>291</sup> This is consistent with the view that individuals enjoy a greater degree of autonomy if more options are available to them.<sup>292</sup> Voters might be willing to sell their votes if the sale would secure benefits that they valued more than they valued the future exercise of their vote.<sup>293</sup>

James Taylor argues, however, that creating a market for votes would provide an electoral advantage to the party that aligns with the interests of high-income voters (the "Rich Party").<sup>294</sup> The market for votes would

<sup>289</sup> See id. at 488–489.

<sup>294</sup> Taylor, *supra* note 279, at 717–18.

<sup>285</sup> Id. at 580-81.

<sup>&</sup>lt;sup>286</sup> Lovett & Zuehl, supra note 20, at 475.

<sup>&</sup>lt;sup>287</sup> See id.

<sup>288</sup> Id. at 492.

<sup>&</sup>lt;sup>290</sup> Id. at 488-89.

<sup>&</sup>lt;sup>291</sup> Some voters value the right to vote for non-instrumental reasons, e.g., self-expression or democratic participation. *See, e.g.*, Taylor, *supra* note 279, at 713–14, 716.

<sup>&</sup>lt;sup>292</sup> See Hurka, supra note 37, at 366.

<sup>&</sup>lt;sup>293</sup> See Christopher Freiman, Vote Markets, 92 AUSTRALASIAN J. PHIL. 759, 761 (2014).

create a prisoner's dilemma, in which poor voters would be more motivated than rich voters to sell their votes, due to the diminishing marginal utility of money.<sup>295</sup> Since the Rich Party would only need a certain number of additional votes to secure victory, poor voters would be motivated to sell their votes quickly and cheaply to prevent oversupply.<sup>296</sup> The subsequent electoral victory of the Rich Party would not enhance the autonomy of the individual vote-seller (because they would earn very little from the sale of their vote), and would reduce the collective autonomy of poor voters, due to the unfavorable policies that the Rich Party passed.<sup>297</sup> In this sense, the option to sell one's vote represents a "constraining option" that would diminish the ability of poor voters to exercise their autonomy post-choice.<sup>298</sup>

Alternatively, a voter might enhance their autonomy by delegating their vote to a proxy, who could vote on their behalf. Millions of Americans already engage in a form of implicit vote delegation when they choose not to vote, and thereby cede their political preferences to other voters.<sup>299</sup> Nonvoters who are politically apathetic effectively delegate their choice to individuals with stronger preferences.<sup>300</sup> However, voters who abstain from voting because the costs of voting in-person are too high could benefit from a system of delegated voting similar to corporate proxy voting.<sup>301</sup> The corporate proxy promotes democratic participation by allowing shareholders to overcome the costs of attending annual meetings in person.<sup>302</sup> In states that do not permit absentee ballots, installing a system of vote delegation would increase political participation by allowing nonvoters to overcome the costs of in-person voting.<sup>303</sup>

Naturally, as with any principal-agent relationship, there is always the risk of the delegate intentionally or unintentionally voting for a party

<sup>299</sup> See Andrew Tutt, Choosing Representatives by Proxy Voting, 116 Colum. L. Rev. SIDEBAR 61, 69 (2016).

<sup>300</sup> See James A. Gardner, *Democratic Legitimacy Under Conditions of Severely Depressed Voter Turnout*, U. CHI. L. REV. ONLINE 24, 29 (2020).

<sup>302</sup> See Tutt, supra note 299, at 68.

<sup>303</sup> See Atiba R. Ellis, *The Cost of the Vote: Poll Taxes, Voter Identification Laws, and the Price of Democracy*, 86 DENV. L. REV. 1023, 1032, 1034–35 (2009).

<sup>&</sup>lt;sup>295</sup> See id. at 713–14. A prisoner's dilemma is a decision-making and game theory paradox in which two rational agents making separate decisions in their own self-interest may inadvertently produce a sub-optimal outcome. See Prisoner's Dilemma, WIKIPEDIA, https://en.wikipedia.org/w/index.php?title=Prisoner%27s\_dilemma&oldid=1193983703 [https://perma.cc/GEK7-6PLH].

<sup>&</sup>lt;sup>296</sup> Taylor, supra note 280, at 714

<sup>&</sup>lt;sup>297</sup> See id. at 714–15.

<sup>&</sup>lt;sup>298</sup> *Id.* at 713.

<sup>&</sup>lt;sup>301</sup> See Tutt, supra note 299, at 68; Saul Levmore, *Precommitment Politics*, 82 VA. L. REV. 567, 615 (1996) ("Proxy voting is such a familiar and unobjectionable practice in corporate law that it can be difficult to explain why the rules of corporate law and politics are in this respect so different.").

or candidate that the individual voter does not endorse.<sup>304</sup> A jurisdiction could reduce the risk of principal-agent variance by imposing fiduciary obligations on delegates.<sup>305</sup> Maintaining a system of delegated voting would also involve considerable administration, including verifying that a proxy possesses the authority to vote on behalf of another, but jurisdictions could repurpose the existing voter identification infrastructure for this objective.<sup>306</sup>

If we conceive of voter autonomy in terms of alienability, or the right to delegate one's vote, then a hypothetical system of predictive voting would promote, rather than undermine, voter autonomy, provided that all citizens agreed to such a system. Voters would effectively be delegating their votes to a computational model, rather than to a human proxy. Many people would feel comfortable letting a close friend or family member vote on their behalf because they would trust that person to vote in line with their political preferences. If delegating one's vote to a trusted human proxy could satisfy the individual need for participation in the electoral process, could delegation to a predictive model achieve the same effect? Would individuals still feel that they had "participated" in a democratic election if a sophisticated and trusted computational model cast their vote?

We can begin to answer this question by unpacking the reasons why an individual voter might feel comfortable allowing a close friend (or family member) to vote on their behalf. First, the voter is able to *choose* the individual who will represent them in the polling booth. Second, there is a pre-existing relationship of *trust* between the voter and the proxy. Third, the voter can *instruct* the friend or family member to vote in a specific way and can update those instructions right up until the proxy votes. Fourth, the voter has *chosen* to share most of the information that the proxy possesses about the voter's political preferences. Fifth, the voter has *personal knowledge* about the character of their friend or family member—how reliable and responsive they are and how they are likely to behave in any given situation. Finally, the ongoing personal relationship between the voter and proxy creates a sense of *accountability* for any errors in voting. If the proxy votes against the voter's preferences, the voter can replace the proxy depending on the nature of their relationship.

If designers could build these characteristics of choice, trust, control, consent, understanding, and accountability into a computational model, would voters feel comfortable allowing such a model to vote on their behalf? Would this satisfy their need to participate in the electoral

<sup>&</sup>lt;sup>304</sup> For example, it might be difficult for a voter to communicate to their delegate a lastminute change in preference. *See, e.g.*, James Green-Armytage, *Direct Voting and Proxy Voting*, 26 CONST. POL. ECON. 190, 213 (2015).

<sup>&</sup>lt;sup>305</sup> Tutt, *supra* note 299, at 72.

<sup>&</sup>lt;sup>306</sup> See id. at 73.

process? Conceivably, voters could satisfy their desire for choice, consent, understanding, and accountability if they were able to: participate in the design of the predictive model; control what data they share with the model; understand in detail how the model works; and replace the model if it displays an intolerable degree of error.<sup>307</sup> Realistically, however, the efficiency imperatives for introducing a system of predictive voting would conflict with the resource burdens of such a participatory design process.<sup>308</sup>

Additionally, it is highly unlikely that a predictive model could satisfy the principles of trust and control. Individuals are unlikely to trust the machinations of a computational model in the same way that they trust close friends or family members, due to the absence of any pre-existing relationship and limited technical knowledge. In addition, the voter cannot instruct the model to vote in a specific way. The purpose of the model is to predict how the individual is likely to vote *without consulting* that individual.<sup>309</sup> Given the low probability that a predictive model could simulate the characteristics of a trusted voting proxy, individuals are unlikely to feel that they have autonomously participated in a democratic election if their votes are predicted by a computational model.

### C. Which Conception of Voter Autonomy Is Imperiled by Predictive Voting?

In a hypothetical dystopian future, where Congress is formed on the basis of computationally predicted votes, this system of predictive voting will have different effects on voter autonomy, depending on how such autonomy is conceived. If we conceive of voter autonomy in terms of *outcome* (an individual's vote should have a causal effect on the winning party or candidate), then algorithmic vote prediction might enhance the autonomy of voters whose preferences align with the majority of Americans because it would capture the political preferences of *all* Americans, not just those who vote on election day.

If we define voter autonomy in terms of *alienability* (voters should be able to delegate their votes), then a system of algorithmic vote prediction

<sup>&</sup>lt;sup>307</sup> See generally Devansh Saxena & Shion Guha, Conducting Participatory Design to Improve Algorithms in Public Services: Lessons and Challenges, in COMPANION PUBLICATION OF THE 2020 CONFERENCE ON COMPUTER SUPPORTED COOPERATIVE WORK AND SOCIAL COMPUTING 383 (2020), https://dl.acm.org/doi/10.1145/3406865.3418331 [https://perma.cc/ DQ3W-MPZT] (explaining participatory design processes).

<sup>&</sup>lt;sup>308</sup> See id. at 383–84.

<sup>&</sup>lt;sup>309</sup> See Antoinette Rouvroy, Thomas Burns & Elizabeth Libbrecht, Algorithmic Governmentality and Prospects of Emancipation, 177 RESEAUX 163, 173 (2013) ("Algorithmic governmentality produces no subjectification, it circumvents and avoids reflexive human subjects, feeding on infra-individual data which are meaningless on their own, to build supra-individual models of behaviours or profiles without ever involving the individual, and without ever asking them to themselves describe what they are or what they could become.").

may respect the autonomy of voters who feel comfortable delegating their votes to a computational model, and disrespect the autonomy of voters who only trust human proxies.<sup>310</sup>

Finally, if we conceive of voter autonomy in terms of *process*, then algorithmic vote prediction would undermine voter autonomy by preventing voters from forming political preferences without covert influence ("deliberative autonomy") and from expressing those preferences at the polling booth ("expressive autonomy"). This is the conception of voter autonomy that is likely to undergird popular resistance to a system of predictive voting. Accordingly, the remainder of this Article will refer to this conception of voter autonomy.

### V. THE NORMATIVE LIMITS OF THE PREEMPTIVE STATE

As discussed in Part IV, there are surprisingly few legal constraints on the preemptive state, particularly in crime prevention, where prediction is regularly used to constrain the liberty of criminal defendants. Given the sophistication and accuracy of contemporary computational models, the range of human behaviors that may be predicted and preempted is steadily increasing, in parallel with an almost insatiable appetite for security.<sup>311</sup> In this epistemic environment of almost unlimited prediction, why does a system of predictive voting still feel normatively illegitimate and statistically unlikely?

This Part examines popular intuitions about the normative legitimacy of recidivism prediction and the relative illegitimacy of vote prediction. If predicting individuals' future behavior disrespects their autonomy, why is the autonomy of voters respected more than the autonomy of defendants? What distinguishes democratic voters from criminal defendants? Here, this Article defines "defendant autonomy" as the freedom of individual defendants to make their own choice (whether to recidivate or not to recidivate) after serving a retributively-defined minimum sentence. It can also be conceived as the right not to receive a sentence enhancement based on expected future recidivism.

### A. The Normative Legitimacy of Recidivism Prediction

Describing recidivism prediction as "normatively legitimate" is not intended to erase the opposition to this practice. There are many individuals and communities that oppose the distribution of sentence

<sup>&</sup>lt;sup>310</sup> This statement assumes that voters who consent to a system of predictive voting (where their votes are predicted for them by a computational model) still retain autonomy, and that their consent is given autonomously, provided that no injustice has occurred to cause them to give their consent in this way. *See, e.g.*, David Enoch, *False Consciousness for Liberals, Part I: Consent, Autonomy, and Adaptive Preferences*, 129 PHIL. REV. 159 (2020).

<sup>&</sup>lt;sup>311</sup> See generally Janus, supra note 178.

enhancements based on expected future criminality.<sup>312</sup> Strict retributivists, for example, believe that post-conviction sentencing should exclusively be used to punish defendants for past crimes, rather than to incapacitate them from committing future crimes.<sup>313</sup> Many communities regard recidivism prediction as normatively illegitimate for other reasons.<sup>314</sup> Despite this normative opposition, the practice of recidivism prediction persists. Judges regularly use predictions of future recidivism to justify state-sanctioned deprivations of liberty.<sup>315</sup> In contrast, predictive voting is not currently used anywhere in the United States and is unlikely to be deployed in the future by a democratic government.<sup>316</sup> This does not mean that the idea of predictive voting is universally abhorred (there are many political parties who would embrace such a system) but that the tide of public opinion currently counsels against it.<sup>317</sup>

Accordingly, the "normative legitimacy" of recidivism prediction (as that term is used throughout this Article) refers to the longstanding and persistent use of this practice. Judges engaged in post-conviction sentencing have long considered the risk of future recidivism when determining the length of an individual sentence. Today, the only difference is that the recidivism prediction tends to be made by a computational model, rather than by a human. Accordingly, describing recidivism prediction as "normatively legitimate" does not imply that the practice is universally beloved—far from it—but that it receives sufficient support from the state in order to persist as an institutional practice.

<sup>&</sup>lt;sup>312</sup> See generally Kathleen Auerhahn, Selective Incapacitation and the Problem of Prediction, 37 CRIMINOLOGY 703, 726–29 (1999) (concluding selective incapacitation is too inaccurate to effectively reduce crime by reviewing incapacitation literature); Andrew von Hirsch, *The Ethics of Selective Incapacitation: Observations on the Contemporary Debate*, 30 CRIME DELINQUENCY 175 (1984) (concluding that predictive sentencing is difficult to justify against justice concerns); BERNARD E. HARCOURT, AGAINST PREDICTION: PROFILING, POLICING, AND PUNISHING IN AN ACTUARIAL AGE (2006) (critiquing actuarial methods applied to sentencing).

<sup>&</sup>lt;sup>313</sup> See Larry Alexander & Kimberly Kessler Ferzan, Reflections on Crime and Culpability: Problems and Puzzles 140–41 (2018).

<sup>&</sup>lt;sup>314</sup> See Chelsea Barabas, Karthik Dinakar, Joichi Ito & Madars Virza, Interventions over Predictions: Reframing the Ethical Debate for Actuarial Risk Assessment, 81 PROCS. OF MACH. LEARNING RSCH. 1, 2–4 (2018).

<sup>&</sup>lt;sup>315</sup> Eaglin, *supra* note 5, at 61–62; Collins, *supra* note 5 at 63–67; Monahan & Skeem, *supra* note 5 at 159.

<sup>&</sup>lt;sup>316</sup> See generally Yury Kabanov & Mikhail Kargagin, *Non-Democracies and Big Data, in* DIGITAL TRANSFORMATION AND GLOBAL SOCIETY: DATA-DRIVEN AUTHORITARIANISM: NON-DEMOCRACIES AND BIG DATA 144 (Daniel A. Alexandrov et al. eds., 2018); Netina Tan, *Digital Learning and Extending Electoral Authoritarianism in Singapore*, 27 DEMOCRATIZATION 1073, 1073 (2020).

<sup>&</sup>lt;sup>317</sup> See generally Kabanov & Kargagin, *supra* note 316; Tan, *supra* note 316 at 1073; *see also* Moira Warburton & Jason Lange, *Exclusive: Two in Five U.S. Voters Worry about Intimidation at Polls*, REUTERS (Oct 26, 2022), http://www.reuters.com/world/us/exclusive-two-five-us-voters-worry-about-intimidation-polls-reutersipsos-2022-10-26/ [https://perma.cc/5QGV-P3YS].

This Article assumes here that the persistence of a predictive practice that involves the distribution of state resources is determined largely by the state, guided by public opinion. A further wrinkle is that the average layperson (who has minimal contact with the criminal justice system) is unlikely to know that recidivism prediction is a routine feature of criminal sentencing. If a larger fraction of the public were aware that some defendants are incarcerated specifically to incapacitate them from committing future crimes, perhaps the practice would not persist. This observation highlights two features of the predictionautonomy relationship that will be discussed at greater length in the second half of this Article. First, the degree to which individual autonomy will be respected depends on the relationship between the individual and the autonomy-protector. Individuals' claims or entitlements to respect for their autonomy can be more powerfully made against some parties (for example, the state), than others (for example, the private sector).<sup>318</sup> Secondly, because respect for autonomy is contingent on the nature of the relationship between the individual and the autonomy-protector, citizens who occupy a more powerful position relative to the state will enjoy a greater degree of protection for their autonomous choices.<sup>319</sup> For example, members of affluent or otherwise politically powerful communities can exert greater influence over the types of predictive practices that are deployed by the state, than can the members of marginalized communities.<sup>320</sup> If an affluent community concerned with rising crime rates believes that recidivism prediction should guide post-conviction sentencing, the views of that community are more likely to influence the state's deployment of predictive resources than are the views of a minority community disproportionately affected by mass incarceration.<sup>321</sup> In other words, because state support for the persistence of a predictive practice is often guided by public opinion, more powerful members of the public exert a greater influence on the prediction-autonomy tradeoff.<sup>322</sup> Although in theory, every individual can assert the same formal claim or entitlement to autonomy (and thus to protection from the autonomyeroding effects of prediction), some individuals are better positioned than others to enforce these claims against the state.

<sup>&</sup>lt;sup>318</sup> I am grateful to Alma Diamond for pointing this out.

<sup>319</sup> See infra Part VII.

<sup>320</sup> See infra Part X.

<sup>&</sup>lt;sup>321</sup> See Andrea Leverentz, Neighborhood Context of Attitudes toward Crime and Reentry, 13 PUNISHMENT & SOC'Y 64, 66–67 (2011); Justin M. Smith, Maintaining Racial Inequality through Crime Control: Mass Incarceration and Residential Segregation, 15 CONTEMP. JUST. Rev. 469, 473–79 (2012); STEPHEN FARRALL, JONATHAN JACKSON & EMILY GRAY, SOCIAL ORDER AND THE FEAR OF CRIME IN CONTEMPORARY TIMES 238–63 (Stephen D. Farrall, Jonathan Jackson & Emily Gray eds., 2009).

<sup>&</sup>lt;sup>322</sup> See generally Leverentz, supra note 321; Smith, supra note 321.

### B. The Normative Illegitimacy of Predictive Voting

The "normative illegitimacy" of predictive voting refers to the extremely low probability that a liberal democracy would ever form a legislature on the basis of computationally predicted votes.<sup>323</sup> Naturally, there are political parties and candidates who would benefit from the distribution of political power based on historical voting patterns, but they would likely struggle to convince the majority of democratic voters to cede their votes to a computational model.<sup>324</sup> The mere suggestion of forming a Congress on the basis of predicted votes would likely generate significant public backlash.<sup>325</sup>

Crucially, the normative illegitimacy of predictive voting does not imply that voter autonomy is sacred and unspoiled. As discussed in Part IV, liberal democracies already tolerate some use of computational prediction in electoral outcomes. Voter microtargeting, for example, already affects the ability of voters to form political preferences that align with their objective interests ("deliberative autonomy").<sup>326</sup> Voting outcomes are also distorted by a variety of factors that have nothing to do with computational prediction, including campaign finance laws, gerrymandering, and felony disenfranchisement.<sup>327</sup> However, the hypothetical system of predictive voting described in this Article-in which voters do not go to the polls but have their votes predicted for them by a computational model-would likely still generate significant public backlash. Interrogating why vote prediction feels normatively indefensible-despite the use of recidivism prediction in criminal sentencing-is, therefore, critical for understanding the underlying assumptions that motivate our respect for individual autonomy.

So why is a liberal democracy so unlikely to institute a computational system of predictive voting when it already uses these tools to incarcerate high-risk recidivists? One possible reason for our differential treatment of vote prediction and recidivism prediction is a desert-based justification, or the idea that defendants, by committing crimes, have willingly assumed the risk of some loss of future autonomy.<sup>328</sup> By engaging in unlawful activity, defendants have chosen to surrender the freedoms associated with the presumption of (future) innocence. Because defendants have jeopardized their autonomy in this way, algorithmic predictions of their future behavior seem morally defensible. In contrast, democratic voters

<sup>&</sup>lt;sup>323</sup> See generally Kabanov & Kargagin, supra note 316; Tan, supra note 316.

<sup>&</sup>lt;sup>324</sup> See Warburton & Lange, supra note 317.

<sup>&</sup>lt;sup>325</sup> Thanks to James Wilson for pointing this out.

<sup>&</sup>lt;sup>326</sup> See generally Rubinstein, *supra* note 235; Burkell and Regan, *supra* note 236; Tufekci, *supra* note 241; Zittrain, *supra* note 241.

<sup>&</sup>lt;sup>327</sup> See generally Pitzer, McClendon & Sherraden, supra note 276; Bender, supra note 276.

<sup>&</sup>lt;sup>328</sup> See Walen, supra note 89, at 1238.

have done nothing to compromise their autonomy, so their votes should be freely cast, rather than algorithmically predicted.

A second potential reason for our differential treatment of voter autonomy and defendant autonomy-which is closely related to the firstis the fact that many people attach only instrumental, rather than intrinsic, value to personal autonomy. In other words, the respect afforded to a particular type of autonomy depends on how we expect that autonomy to be exercised. If individual A exercises autonomy by destroying a forest, and individual B exercises autonomy by saving baby turtles, we may respect the autonomy of individual B more than we respect the autonomy of individual A. The fact that individual A autonomously destroyed the forest (as opposed to being coerced or threatened into this activity) makes the act more morally repugnant.<sup>329</sup> For this reason, some members of society may respect defendant autonomy less than voter autonomy because they expect defendant autonomy to be exercised in a morally illegitimate way (the commission of crime). Voter autonomy, in contrast, seems more instrumentally valuable because it is exercised in pursuit of a morally legitimate purpose: the formation of a democratic government.

A third potential reason for the normative illegitimacy of vote prediction is the sense that there is something fundamentally unknowable about our future behavior that cannot be captured by a computational model. Based on this logic, a predictive algorithm could never capture the complexity and spontaneity of a voter's decision-making process, and thus, might generate inaccurate predictions. We might be willing to tolerate such errors in criminal sentencing, but not in the context of democratic elections. What explains this variable tolerance for algorithmic error? Where the state represents the primary source of protection for personal autonomy (because it controls the operation of elections and the administration of justice), self-interest may explain the priority afforded to a particular type of autonomy. The state has a strong interest in protecting voter autonomy in political elections because the distribution of political votes represents the source of its authority to govern.<sup>330</sup> A state may be reluctant to delegate to an algorithm a decision-making process that determines its very existence.<sup>331</sup> In contrast, the distribution of sentence enhancements based on recidivism risk has little bearing, if any, on the legitimacy of democratic governance. Accordingly, the priority afforded to a particular form of autonomy may depend in part on the degree of proximity between the exercise of that autonomy, and the existence of the state.

<sup>329</sup> See RAZ, supra note 27.

<sup>&</sup>lt;sup>330</sup> See Paulo & Bublitz, supra note 20; Lovett & Zuehl, supra note 20.

<sup>&</sup>lt;sup>331</sup> For the purposes of argumentation, I assume an ideal world in which the predictive computational model is not vulnerable to manipulation by state actors.

A fourth possible explanation for the normative illegitimacy of predictive voting is its exclusion of individual participation. For example, a predictive model could easily combine data from various sources to construct a detailed voter profile without consulting the underlying individual.<sup>332</sup> This shift from active participation in the electoral process (casting a ballot) to passive participation (submitting to data surveillance) would fail to create a sense of ownership over the electoral outcome, and subsequent policy decisions.<sup>333</sup> This participatory defect would undermine the legitimacy of electoral outcomes, unlike in criminal sentencing where defendant expectations for autonomy may be much lower.

A fifth possible reason for our differential treatment of recidivism and vote prediction is the sense that society derives substantial utility from preemptively incarcerating high-risk recidivists (in the form of enhanced public safety) but would derive minimal utility from a system of predictive voting. Measuring the expected utility of a predictive practice requires an examination of its differential utility for different actors. For example, there is mixed empirical evidence about the effectiveness of sentence enhancements in reducing crime rates, but risk-averse communities may nevertheless perceive substantial utility in preemptively incarcerating "high-risk" recidivists, especially when they do not bear the costs of false positives.<sup>334</sup> Similarly, supporters of a fringe political party may find no utility in a system of predictive voting trained on historical data, whereas supporters of an incumbent party that currently enjoys a representative majority may perceive substantial utility in reproducing historical voting patterns. Accordingly, the perceived utility of a predictive practice is likely to influence its deployment.

Finally, a sixth possible reason for our differential treatment of vote prediction and recidivism prediction is the difference between the liberties that lie at the core of voter autonomy (the right to vote), and defendant autonomy (the presumption of future innocence). The right to vote represents a Hohfeldian power because its joint exercise alters the assignment of political rights and responsibilities.<sup>335</sup> The vote gives individual citizens— at least in theory—equal power over the authority and tenure of political

<sup>332</sup> See Rouvroy, Burns & Libbrecht, supra note 309, at 10.

<sup>333</sup> See Enoch, supra note 271.

<sup>&</sup>lt;sup>334</sup> See generally Emily G. Owens, More Time, Less Crime? Estimating the Incapacitative Effect of Sentence Enhancements, 52 J.L. & ECON. 551 (2009); Bert Useem, Anne Morrison Piehl & Raymond V. Liedka, Crime-Control Effect of Incarceration: Reconsidering the Evidence, Final Report (2001) https://www.ojp.gov/library/publications/crime-control-effect-incarceration-reconsidering-evidence-final-report [https://perma.cc/3F82-PPSU]; Andrew V. Papachristos, Murder by Structure: Dominance Relations and the Social Structure of Gang Homicide, 115 AM. J. SOCIO. 74 (2009); Wally Hilke, The Truth Limps after: Sentence Enhancements and the Punishment Paradigm, 23 UNIV. PA. J.L. & SOC. CHANGE 69 (2020).

<sup>&</sup>lt;sup>335</sup> See Jeremy Waldron, Votes as Powers, in RIGHTS AND REASON: ESSAYS IN HONOR OF CARL WELLMAN 45, 45–46 (Marilyn Friedman et al. eds., 2000).

officials, and thus, equal control over their government.<sup>336</sup> In contrast, when a judge is deciding whether to enhance a sentence beyond some retributively-defined minimum due to the risk of recidivism, a defendant only possesses a weak immunity against preventive incarceration by virtue of the presumption of future innocence.<sup>337</sup> The difference in priority between a voter's power and a defendant's immunity may also explain our differential treatment of voter and defendant autonomy.

This list of possible explanations is not exhaustive. Careful readers will undoubtedly identify other potential explanations for our divergent intuitions regarding vote prediction and recidivism prediction. These reasons are also not entirely separable from one another; rather, many of them are related. For example, the sense that criminal defendants "deserve what they get" (candidate reason one) is such a commonly expressed sentiment that it likely influences other candidate reasons, such as the state's strategic calculation of which form of autonomy deserves more of the state's protective resources (candidate reason three). Additionally, democratic elections represent a unique decisional environment. Some of the reasons outlined in this Article may not apply to other contexts in which the state must balance the utility of preemptive intervention against respect for individual autonomy. However, unpacking the reasons for the normative illegitimacy of predictive voting will help us to identify the threshold autonomy losses below which preemptive intervention will no longer be tolerated.

### VI. DESERT-BASED AUTONOMY

This Part explores one possible explanation for the normative legitimacy of recidivism prediction which is the sense that respect for autonomy is dependent on good behavior and that criminal defendants have compromised their right to autonomy by virtue of their past behavior.

### A. Loss of the Presumption of Future Innocence

One potential reason for the normative legitimacy of recidivism prediction (and the perceived illegitimacy of vote prediction) is the belief that criminal defendants have voluntarily forfeited their autonomy through the commission of crime.<sup>338</sup> In other words, defendants have willingly surrendered the freedoms associated with the presumption of innocence. Because defendants have *chosen* to jeopardize their autonomy in this way, the exchange of their liberty for public safety seems morally defensible.

<sup>336</sup> See id.

<sup>&</sup>lt;sup>337</sup> See generally Wesley Newcomb Hohfeld, Fundamental Legal Conceptions as Applied in Judicial Reasoning, 26 YALE L.J. 710 (1917).

<sup>&</sup>lt;sup>338</sup> See Walen, *supra* note 89 at 1242; Kimberly Kessler Ferzan, *Preventive Justice and the Presumption of Innocence*, 8 CRIM. LAW PHILOS. 505, 509 (2014).

To break this argument down further, we begin with the idea that liberalism requires the state to treat its citizens as autonomous moral agents. Instead of treating them like dangerous animals, the state must presume that they are law-abiding citizens who can be trusted to move freely within society.<sup>339</sup> Consistently with such treatment, the state cannot deprive individuals of liberty, except in response to their autonomous actions. If individuals choose to commit a crime, they may be punished for this choice, and punishment includes the loss of status as a presumptively law-abiding person.<sup>340</sup> Not only do convicted criminals lose the presumption of past innocence, but they may also lose the presumption of future innocence, depending on the nature of their crime and their personal characteristics.<sup>341</sup> To many people, a defendant's criminal history justifies not only retributive incarceration, but the additional loss of the presumption of future innocence, so that the distribution of sentence enhancements on the basis of expected future recidivism seems morally permissible.

R.A. Duff explains that members of a shared community owe each other not only trust, but also the kind of reassurances that foster trust.<sup>342</sup> For example, if person A treats person B badly, it is reasonable for B to demand assurances from A of their future good behavior.<sup>343</sup> The kind of assurances that can reasonably be demanded depend on the circumstances of the case. Certain crimes or patterns of criminality may express such disrespect for the law, and for the victims of the crimes, that the defendant deserves to lose the presumption of future innocence for a proportional period of time.<sup>344</sup> Once individuals lose the benefit of this presumption, they are no longer immune from preventive detention. This does not mean that preventive detention is warranted in every case but that the individual's liberty interest can be weighed against the community's interest in security.<sup>345</sup> In other words, the public's competing autonomy interest may be prioritized above that of the defendant's.

There are a few assumptions to unpack here. The first assumption is that defendants rationally and voluntarily "choose" to commit crimes—an assumption which is undermined by empirical evidence of the constraining conditions of poverty and other material deprivations, which may compel

<sup>&</sup>lt;sup>339</sup> See Walen, supra note 89, at 1230–31; Stephen J. Morse, Neither Dessert nor Disease, 5 LEG. THEORY 265, 294 (1999).

<sup>&</sup>lt;sup>340</sup> See Walen, supra note 89, at 1231.

<sup>&</sup>lt;sup>341</sup> See id. at 1231; Ferzan, supra note 338.

<sup>&</sup>lt;sup>342</sup> R.A. Duff, *Pre-Trial Detention and the Presumption of Innocence, in* **PREVENTION AND** THE LIMITS OF THE CRIMINAL LAW 115 (Andrew Ashworth, Lucia Zedner & Patrick Tomlin eds., 2013).

 $<sup>^{343}\,</sup>$  See id.

<sup>&</sup>lt;sup>344</sup> See Walen, supra note 89, at 1230.

<sup>&</sup>lt;sup>345</sup> See id. at 1242.

individuals to obtain resources through unlawful means.<sup>346</sup> An individual with no employment, shelter, or healthcare is unlikely to feel "autonomous" in the way that criminal law assumes that defendants exercise a rational choice between lawful and unlawful behavior.<sup>347</sup>

The second assumption is that defendants are aware of the spectrum of autonomy losses associated with a criminal conviction, and that this awareness influences their pre-crime calculus. Many laypeople are aware that certain crimes are punishable by incarceration, and in that sense, the commission of those crimes is associated with a known risk of retributive incarceration. However, fewer people are aware that incarceration is occasionally preventive, that is, designed to physically prevent a high-risk recidivist from committing future crimes.<sup>348</sup> Accordingly, to the extent that defendants are perceived as "voluntarily assuming" a risk of autonomy loss when they engage in criminal activity, they may only be assuming the risk of retributive, rather than preventive, incarceration. As a result, it is difficult to argue that, by committing crimes, defendants have *willingly* assumed the risk of a loss of future autonomy.

Third, even if defendants could be regarded as "willingly" exposing themselves to the risk of autonomy-based restrictions by virtue of their criminal activity, this notion of assumed risk does not universally legitimate preventive incarceration. Committing a crime does not necessarily justify the loss of the presumption of future innocence.<sup>349</sup>

And even if the presumption could be rebutted, preventive detention is not a proportional response if the community's interest in security can be satisfied using less restrictive means.<sup>350</sup> Nor is it necessarily reasonable for a community to expect to live in a "zero risk" environment, considering the unequal social relations generated by contemporary capitalism.<sup>351</sup>

### B. Voter Abstention and the Duty to Vote

As discussed, one potential reason why society views the prediction of recidivism, but not the prediction of votes, as normatively legitimate is the idea that defendants, by committing crimes, have forfeited some of the rights that would ordinarily shield them from preventive detention or caused those rights to lose their ordinary force or scope.<sup>352</sup> In contrast,

 <sup>&</sup>lt;sup>346</sup> See Kyle J. Thomas, Eric P. Baumer & Thomas A. Loughran, Structural Predictors of Choice: Testing a Multilevel Rational Choice Theory of Crime, 60 CRIMINOLOGY 606 (2022).
 <sup>347</sup> See id.

<sup>&</sup>lt;sup>348</sup> See Thomas B. Marvell & Carlisle E. Moody, *The Lethal Effects of Three-Strikes Laws*, 30 J. LEGAL STUD. 89, 89–90 (2001).

<sup>&</sup>lt;sup>349</sup> See Walen, supra note 89, at 1260–61.

<sup>&</sup>lt;sup>350</sup> See id. at 1243.

<sup>&</sup>lt;sup>351</sup> I am grateful to Meir Yarom for pointing this out. *See, e.g.*, FARRALL, JACKSON & GRAY, *supra* note 321, at 264.

<sup>&</sup>lt;sup>352</sup> See Walen, supra note 89 at 1231; Ferzan, supra note 338.

democratic voters have done nothing to compromise their autonomy, so they should be permitted to cast their ballots, free from algorithmic interference. Assuming that we buy this line of argumentation (and view the right to autonomy as something that can be "lost" through bad behavior), how should we treat individuals who consistently abstain from voting? If the rationale for predicting recidivism is that defendants have shown that they cannot be trusted to obey the law, does chronic voter abstention justify predicting the votes of nonvoters?

Removing voter autonomy on the basis of chronic voter abstention implies that there is a duty to vote, either because free-riding is morally wrong (nonvoters benefit from the public good of a democratic system without contributing to its maintenance), or because low voter turnout undermines regime legitimacy.<sup>353</sup> And yet, there are many reasons to doubt the existence of a shared moral responsibility to vote, including the unequal distribution of the economic and political resources required to both develop and express political preferences. Many eligible voters lack the temporal and educational resources to identify political candidates that represent their objective interests, and of those who do, many cannot afford the costs of in-person voting.<sup>354</sup> Accordingly, a shared moral responsibility to vote, were it to exist, could not be shared equally by citizens who are so unequally situated.<sup>355</sup> Nonvoters tend to be poorer, less educated, and less able to influence the political agenda than individuals who vote regularly.<sup>356</sup> In the context of such inequality, it is difficult to claim a shared moral duty to vote.<sup>357</sup>

There is also expressive value in preserving rights of non-participation. If an individual chooses not to vote because they are apathetic about the political process and have not formed a political preference that they wish to express through voting, it seems odd to algorithmically construct a preference for them. Similarly, if individuals choose not to vote in order to express their dissatisfaction with the entire field of candidates, then it would also seem wrong to preclude this form of expression by algorithmically predicting their vote. On the other hand, if an individual abstains from voting because the cost of voting (lost wages and travel expenses) exceeds the expected benefit of voting (because their vote is unlikely to influence the outcome), then algorithmically predicting that individual's vote (to the extent that this accurately captures political preferences) seems morally defensible. However, in this situation, lowering the cost of voting (for example, with mail-in ballots) would more effectively promote voter autonomy than algorithmic prediction.

<sup>&</sup>lt;sup>353</sup> See Annabelle Lever, Is Compulsory Voting Justified?, 1 PUB. REASON 57, 57 (2009); David T. Risser, The Moral Problem of Nonvoting, 34 J. Soc. PHIL. 348, 348–49 (2003).

<sup>&</sup>lt;sup>354</sup> See Risser, supra note 353, at 356–57.

<sup>355</sup> See id. at 360.

<sup>&</sup>lt;sup>356</sup> See id.

<sup>&</sup>lt;sup>357</sup> See id.

### VII. THE UTILITARIAN VALUE OF AUTONOMY

This Part explores a second possible explanation for our divergent normative intuitions regarding vote prediction and recidivism prediction, namely that respect for a particular form of autonomy depends on its expected instrumental value.

### A. Respect for Autonomy Depends on How That Autonomy Will Be Exercised

As mentioned in Part VI, one possible reason for society's differential treatment of defendant and voter autonomy is a desert-based justification, or the idea that criminal defendants, as a group, are less "deserving" of autonomy than voters, by virtue of their historic behavior. As a result, it is morally justifiable to provide greater protection to voter autonomy than to defendant autonomy. This perspective ties the degree of protection afforded to autonomy to the moral worthiness of the autonomy-wielder.

A similar but slightly different approach is to tie the degree of protection afforded to autonomy not to the moral worthiness of its wielder, but to the moral value of its expected use. For example, consider two individuals, A and B, who are both upstanding citizens and have never engaged in any unlawful activity. Under the desert-based theory of autonomy, both A and B deserve to have full autonomy over their actions because nothing in their past behavior suggests otherwise. Imagine, however, that one day we learn that A plans to burn down a forest, and B plans to build a wind farm. Based on this information alone, we might respect the autonomy of B more than we respect the autonomy of A, due to the higher social value of the wind farm's expected use. In this sense, the respect accorded to autonomy depends on its instrumental value. In other words, autonomy is not valuable in and of itself but only in pursuit of morally legitimate goals.<sup>358</sup> For this reason, some members of society may respect the autonomy of criminal defendants less than they respect the autonomy of political voters because they expect defendant autonomy to be exercised in an immoral way (the commission of crime). In contrast, voter autonomy is expected to be exercised in pursuit of a morally legitimate goal: the formation of a democratic government.

### B. Will the Exercise of Autonomy Be Harmless or Harmful?

Another way of framing this is to say that voting is generally considered to be a harmless activity, and people should be allowed to freely participate in it without their behavior being predicted and preempted.<sup>359</sup>

<sup>&</sup>lt;sup>358</sup> See Hurka, supra note 37, at 375.

<sup>&</sup>lt;sup>359</sup> I am grateful to Jack Balkin for pointing this out.

In contrast, society rationalizes the prediction of recidivism on the basis that it prevents the occurrence of criminal activity.<sup>360</sup> This perspective assumes that voter autonomy will be exercised for unequivocally "good" outcomes (the election of political representatives), and that defendant autonomy will be exercised for unequivocally "bad" outcomes (the commission of crime). In reality, however, the exercise of voter autonomy could produce a variety of outcomes. For example, individuals might vote against their objective interests by electing a representative who is corrupt, authoritarian, or determined to remove welfare programs upon which the voter depends.<sup>361</sup> A voter might also abstain from voting, thereby compromising Congress's ability to resolve social conflicts based on the revelation of majority sentiment.<sup>362</sup> Conversely, defendants might use their autonomy for objectively "good" outcomes: reuniting with their loved ones, re-integrating into their communities, and becoming valuable members of society.<sup>363</sup> For this reason, characterizing the exercise of voter/ defendant autonomy as harmless/harmful represents a false dichotomy.

Coding the exercise of a particular form of autonomy as "harmful" or "harmless" is also contingent on stakeholder perspective. Democratic voters in Georgia, for example, may see no harm in voting for Joe Biden in the 2024 presidential election. In fact, from their perspective, exercising their autonomy in this way is expressive of their political preferences. For Republican politicians in Georgia, however, this exercise of voter autonomy would harm their political ambitions. For this reason, Republicans might try to constrain the autonomy of Democratic voters by reducing polling locations, restricting mail-in voting, passing strict voter ID laws, or manipulating electoral boundaries.<sup>364</sup> Packing or cracking congressional districts (a process known as gerrymandering)<sup>365</sup> dilutes the effectiveness of an individual vote as a fraction of the voting population, so that fewer representatives of one party are elected than would otherwise be suggested by the distribution of their supporters.<sup>366</sup> For example, a

<sup>&</sup>lt;sup>360</sup> Empirical evidence of the effectiveness of sentence enhancements in lowering crime rates is mixed, at best. *See* Wally Hike, *The Truth Limps After: Sentence Enhancements and the Punishment Paradigm*, 23 U. PA. J.L. & SOC. CHANGE 69, 78 (2020).

<sup>&</sup>lt;sup>361</sup> See Steve Rathje, Azim Shariff & Simone Schnall, *Ideology Trumps Self-Interest: Continued Support for a Political Leader Despite Disappointing Tax Returns*, 33 J. ELECTIONS PUB. OP. & PARTIES 479, 480 (2023).

<sup>&</sup>lt;sup>362</sup> See Stuart Chinn, Procedural Integrity and Partisan Gerrymandering, 58 Hous. L. Rev. 597, 612 (2020).

<sup>&</sup>lt;sup>363</sup> See Christy A. Visher, *Returning Home: Emerging Findings and Policy Lessons about Prisoner Reentry*, 20 FeD. SENT'G REP. 93, 99–100 (2007).

<sup>&</sup>lt;sup>364</sup> See Samuel Issacharoff, Gerrymandering and Political Cartels, 116 HARV. L. REV. 593, 597 (2002).

<sup>&</sup>lt;sup>365</sup> See Id.

<sup>&</sup>lt;sup>366</sup> But cf. Chinn, supra note 362, at 625 (noting that representational equality is "only one of several possible ingredients that support the legitimacy of the larger democratic system").

numerical minority could capture a majority of legislative representation.<sup>367</sup> This disproportionality undermines the exercise of voter autonomy, and diminishes the quality of representative government.<sup>368</sup> A representative of a gerrymandered district "will perceive that the people who put her in power are those who drew the map rather than those who cast the ballots," so that she will not feel beholden to her constituency at all.<sup>369</sup> Under this scenario, the act of voting simply legitimates a predetermined outcome.<sup>370</sup>

Gerrymandering is harmful not only where it minimizes the influence of a voting constituency by discriminating against a particular party or racial group, but also where the dominant parties agree to carve up the market for political votes in a mutually beneficial way (a bipartisan gerrymander).<sup>371</sup> This "bilateral cartelization of political markets" allows the two dominant parties to rely on (and preserve) their historical market shares with no accountability to shifting voter preferences.<sup>372</sup> This diminution of competition in the market for political votes undermines the exercise of voter autonomy. Voters can only express a "free and uncorrupted choice" if they are able to choose between competitive alternatives.<sup>373</sup> Gerrymandering allows political representatives to rely on historical voting patterns to entrench themselves in office, rather than compete for individual votes by responding to voter preferences.<sup>374</sup> As a result, election outcomes reflect predetermined decisions.<sup>375</sup> Over the long term, public awareness of the distorting effect of gerrymandering on electoral outcomes may cause voters to question their continued participation in the democratic process.376

### C. Does Autonomy Have Only Instrumental Value?

There are several philosophers who describe the value of autonomy in purely instrumental terms. Joseph Raz, for example, explains that "autonomy is valuable only if exercised in pursuit of the good."<sup>377</sup> Accordingly, the autonomous wrongdoer is morally inferior to the nonautonomous wrongdoer, because "[t]he wrongdoing casts a darker shadow on its perpetrator if it is autonomously done by him."<sup>378</sup> Naturally, this view

<sup>374</sup> See id. at 627–28.

- <sup>376</sup> See Chinn, supra note 362, at 623.
- <sup>377</sup> RAZ, *supra* note 27, at 381.
- <sup>378</sup> *Id.* at 380.

<sup>&</sup>lt;sup>367</sup> See Issacharoff, supra note 364, at 595–96.

<sup>&</sup>lt;sup>368</sup> See Brian O'Neill, *The Case for Federal Anti-Gerrymandering Legislation*, 38 U. MICH. J.L. REFORM 683, 685 (2005).

<sup>&</sup>lt;sup>369</sup> Veith v. Jubelirer, 541 U.S. 267, 331 (2004) (Stevens, J., dissenting).

<sup>&</sup>lt;sup>370</sup> See O'Neill, supra note 368, at 698.

<sup>&</sup>lt;sup>371</sup> See Issacharoff, supra note 364, at 597–98.

<sup>&</sup>lt;sup>372</sup> *Id.* at 600.

<sup>373</sup> Id. at 615.

<sup>&</sup>lt;sup>375</sup> See O'Neill, supra note 368, at 698.

of autonomy's value as purely instrumental is not universally held. Many philosophers believe that autonomy has significant non-instrumental (or intrinsic) value and that, regardless of how autonomy is exercised, it is an essential component of identity formation, self-governance, and self-determination.<sup>379</sup> These philosophers believe that if an individual's actions are constantly chosen for them, there is no space for individual growth and development.<sup>380</sup> Bringing one's own projects to fruition, rather than being the passive experiencer of outcomes, bears critically on self-esteem and satisfaction.<sup>381</sup>

Proponents of autonomy's intrinsic value argue that an essential part of living is developing and exercising moral powers, such as learning how to form, revise, and rationally pursue conceptions of the good life individually and in association with others.<sup>382</sup> Part of living in a free society and trusting those around us not to harm us depends on our treatment of individuals as responsible moral agents, capable of respecting shared social norms.<sup>383</sup> Treating individuals as autonomous moral agents thus requires society to foster the development and exercise of their moral powers,<sup>384</sup> and to trust individuals with sovereignty over their own decisions.<sup>385</sup> It is only because we believe individuals have the capacity for self-governance that we value democratic institutions designed to reflect that philosophy of self-rule.<sup>386</sup>

Naturally, autonomy can have both intrinsic and instrumental value.<sup>387</sup> Assuming, however, that the intrinsic value of autonomy remains relatively stable (every person values the capacity for autonomy equally), then the instrumental value of autonomy may exert greater influence over the prediction-autonomy tradeoff. In other words, a state deciding where to direct its scarce protective resources may choose to protect the types of autonomy that have the highest instrumental value. How is instrumental value measured? Firstly, as discussed in sub-section A of this Part of the Article, the instrumental value of a particular form of autonomy may be partially dependent on the moral value of its expected use. For example, voter autonomy may be regarded as having a higher instrumental value than defendant autonomy because voters are expected to contribute to the

<sup>&</sup>lt;sup>379</sup> See Hurka, supra note 37, at 371–72.

<sup>&</sup>lt;sup>380</sup> See id. at 364.

<sup>&</sup>lt;sup>381</sup> See Robert Young, The Value of Autonomy, 32 PHIL. Q. (1950-) 35, 39 (1982).

<sup>&</sup>lt;sup>382</sup> See James E. Fleming, Securing Deliberative Autonomy, 48 STAN. L. REV. 1, 18–19 (1995).

<sup>&</sup>lt;sup>383</sup> See id. at 22–23.

<sup>&</sup>lt;sup>384</sup> See id. at 35–36.

<sup>&</sup>lt;sup>385</sup> See STEVEN WALL, LIBERALISM, PERFECTIONISM AND RESTRAINT 206 (1998). If individual A and individual B lead equally good lives, but A's life is the result of A's decisions and B's life is the result of someone else's decisions, and we value B's life less as a result, then autonomy is intrinsically valuable.

<sup>&</sup>lt;sup>386</sup> See Gerald Dworkin, The Theory and Practice of Autonomy 10 (1988).

<sup>&</sup>lt;sup>387</sup> See WALL, supra note 385, at 130.

formation of democracy (a moral good), and defendants are (unfairly) expected to recidivate.

Secondly, the instrumental value of a particular form of autonomy may be tied to the number of people who are expected to benefit from its expected use ("the greatest good for the greatest number").<sup>388</sup> Again, voters are advantaged: because there are more voters than criminal defendants (who represent only a small fraction of the overall population), the autonomy interests of voters take numerical priority. In contrast, the liberty interests of a minority of the population (criminal defendants) appear to have less instrumental value than the interests of the broader community in public safety. In short, the priority afforded to a particular form of autonomy (and its insulation from preemptive state action) may be partially explained by its perceived instrumental value, measured both morally and numerically. In short, the state is more likely to protect the autonomy of the majority than the minority.

Contractualists like T. M. Scanlon and Johann Frick would criticize this process of "interpersonal aggregation," or the evaluation of the rightness or wrongness of an action by summing its effects on different individuals, and calculating the net benefit or loss.<sup>389</sup> Contractualists favor a more individualistic approach to harm evaluation, which respects the "separateness of persons" and views an action as morally right if a principle licensing the action could not be reasonably rejected by any individual for personal reasons.<sup>390</sup> In the specific case of recidivism prediction, a contractualist would argue that the community's aggregate interest in public safety cannot be used to justify the preventive detention of an individual for possible future crimes. The burden borne by the public (of living in a slightly "riskier" community) is not as onerous as the deprivation of liberty experienced by the defendant, especially if less restrictive alternatives are available to achieve the same outcome.

Based on the foregoing analysis, a strictly utilitarian view of autonomy may partially explain the normative legitimacy of recidivism prediction, and the normative illegitimacy of vote prediction.

### VIII. SOCIAL TOLERANCE OF ALGORITHMIC ERROR

A third potential reason for our differential treatment of vote prediction and recidivism prediction is variance in social tolerance of algorithmic error, or the kind of error that is difficult to reduce by computational means. Even if a computational model is well-calibrated and displays a high degree of accuracy, there is still a chance that its prediction will be wrong, in part because the model will overlook predictive factors that resist quantitative

<sup>&</sup>lt;sup>388</sup> See John Stuart Mill, On Liberty 12 (1859).

 <sup>&</sup>lt;sup>389</sup> Johann Frick, *Contractualism and Social Risk*, 43 PHIL. & PUB. AFFS. 175, 175 (2015).
 <sup>390</sup> See id. at 176.

measurement.<sup>391</sup> Based on this logic, a predictive algorithm could never fully capture the complexity and spontaneity of a voter's decision-making process, and thus might generate inaccurate predictions.

Consider, for example, Republican voters whose personal data strongly suggests that they would vote for Donald Trump in November 2024, based on their demographic, behavioral, and psychological characteristics. The computational model designed to predict political votes could be regularly updated with new voter information to ensure that its predictions achieve the highest degree of accuracy. But if the voters have a last-minute change of heart (perhaps they have a heated conversation with a liberal relative on election day) and the model is not updated with this new information, the model's prediction will be wrong. Votes could be erroneously cast. Errors of this kind are inherent in predictive modeling because there are certain features of the human experience-emotional interiorities, traumas, moral capacities-that affect the outcome being predicted but resist quantification.<sup>392</sup> Since these emotional drivers cannot be incorporated in a predictive model (except with great difficulty and imprecision), the model will struggle to predict cases in which these emotional drivers represent the dominant cause of the outcome being predicted.<sup>393</sup>

The knowledge that predictive computational models struggle to incorporate emotional drivers for action would not faze philosophers who subscribe to a rationalist conception of autonomy. They would argue that actions driven by emotional whims are not autonomous actions at all, because they do not engage our capacity for reason and self-reflection.<sup>394</sup> From their perspective, crimes committed under the influence of passion, for example, are considered less morally blameworthy (because they are less autonomous) than crimes committed in the cold light of day.<sup>395</sup> Christine Tappolet argues, however, that emotional motivations are consistent with autonomy where they reflect the agent's most central cares.<sup>396</sup> An agent's cares, or their emotional dispositions towards certain people or things, are part of the real self of the agent, in addition to capacity for reason.<sup>397</sup>

<sup>397</sup> See David W. Shoemaker, *Caring, Identification, and Agency*, 114 ETHICS 88, 113 (2003); Harry Frankfurt, *Freedom of the Will and the Concept of a Person*, 68 J. PHIL. 5, 14 (1971); HARRY G. FRANKFURT, THE IMPORTANCE OF WHAT WE CARE ABOUT: PHILOSOPHICAL

<sup>&</sup>lt;sup>391</sup> See Mireille Hildebrandt, *Privacy as Protection of the Incomputable Self: From Agnostic to Agonistic Machine Learning*, 20 THEORETICAL INQUIRIES L. 83, 92 (2019).

<sup>&</sup>lt;sup>392</sup> See Katrina Geddes, The Death of the Legal Subject, 25 VAND. J. ENT. & TECH. L. 1, 25–26 (2023); Cass R. Sunstein, Incommensurability and Valuation in Law, 92 MICH. L. REV. 779, 784–85 (1993).

<sup>&</sup>lt;sup>393</sup> See Hildebrandt, supra note 391, at 101; MELANIE FEINBERG, EVERYDAY ADVENTURES WITH UNRULY DATA (2022); Harry Surden, Artificial Intelligence and Law: An Overview, 35 GA. ST. UNIV. L. REV. 1305, 1326 (2018); Grill, supra note 172, at 19.

<sup>&</sup>lt;sup>394</sup> See Christine Tappolet, Autonomy and the Emotions, 2 EUR. J. ANALYTICAL PHIL. 45, 47 (2006).

<sup>&</sup>lt;sup>395</sup> See id. at 46.

<sup>&</sup>lt;sup>396</sup> Id. at 58.

The agent identifies with, and endorses, these emotional investments or the volitional necessities that derive from central cares.<sup>398</sup> This care account of autonomy emphasizes the motivational structures that may shape agents' preferences and guide their actions, even against their better (rational) judgment.<sup>399</sup> To the extent that what an agent genuinely wants to do in a particular situation depends on what they care about the most, then free agency is grounded in care.<sup>400</sup> At any rate, given the minimal demands placed on deliberative autonomy by the U.S. electoral system, votes motivated largely by emotions will nevertheless be treated as autonomous. In the political context, the dominant form of autonomy that must be respected is sovereignty (having the last word on a particular decision) rather than non-alienation (having one's decisions reflect one's deepest values and commitments).<sup>401</sup>

If a primary driver of social resistance to predictive voting is the sense that computational models could never capture the emotional complexity and spontaneity of a voter's decision-making process, why do we use the same models to predict recidivism? If we are aware of the risk of error associated with the incomputability of emotional drivers, why do we distribute sentence enhancements based on algorithmic predictions of recidivism? Individual defendants may choose (not) to recidivate based on a variety of emotional drivers that are not captured by computational models, and the costs of error in prediction are significant. If a high-risk recidivist is falsely flagged as low-risk and released into the community early without sufficient supervision (a false negative), society pays a high price in terms of crimes that could have been prevented. Conversely, if a low-risk recidivist is falsely flagged as high-risk (a false positive) and is subject to additional incarceration, the defendant experiences an unjustified deprivation of liberty, the criminal justice system suffers a loss of credibility, and the community experiences greater difficulty re-integrating the defendant after their extended absence.402

So why we do tolerate the risk of such errors in criminal sentencing but flinch at the idea of forming a Congress based on predicted votes? What marks democratic elections as such a sacred site of decisional autonomy that computational error cannot be tolerated to any degree? A few potential reasons come to mind. First, there is the overriding sense that defendant autonomy is less "worthy" of protection than voter autonomy

ESSAYS 91 (1988); Nomy Arpaly & Timothy Schroeder, *Praise, Blame and the Whole Self*, 93 PHIL. STUD. 161, 172 (1999).

<sup>&</sup>lt;sup>398</sup> See Tappolet, supra note 4, at 51.

<sup>&</sup>lt;sup>399</sup> See id. at 51.

<sup>&</sup>lt;sup>400</sup> See id. 52–53.

<sup>&</sup>lt;sup>401</sup> See Enoch, supra note 271, at 156.

<sup>&</sup>lt;sup>402</sup> See Eaglin, supra note 5, at 92.

for the reasons outlined earlier. Second, the specter of "preventable crime" looms so large in the public imagination that society is willing to bear the cost of preventively incarcerating a low-risk recidivist. More precisely, the communities with political power to shape criminal policy are often not the communities who bear the costs of false positives.<sup>403</sup>

Third, the priority afforded by the state to a particular form of autonomy (in this case, voter autonomy) may be partly a function of the degree of proximity between the exercise of that autonomy and the existence of the state. Where the state represents the primary source of protection for personal autonomy (because it controls the operation of elections, and the administration of justice), its prioritization of voter autonomy may be partially explained by self-interest. The state has a strong interest in protecting voter autonomy in political elections because the distribution of political votes represents the source of its authority to govern.<sup>404</sup> Accordingly, the state may be reluctant to delegate decisionmaking to an algorithm when that process determines the state's very existence.<sup>405</sup> In contrast, the state is less existentially concerned with whether criminal defendants receive sentence enhancements based on predictions of recidivism. This issue, while important to defendants, does not bear directly on the existence of the state. Accordingly, the degree of proximity between the exercise of voter autonomy and the existence of the state may partially explain this reduced tolerance for error in democratic elections.

#### IX. EXPECTATIONS FOR AUTONOMY

#### A. Differences in Historical Treatment

A fourth possible reason for the normative legitimacy of recidivism prediction, and the illegitimacy of vote prediction, is differences in the historical treatment of voters and defendants that have produced different expectations for autonomy. In Western democracies, individuals expect to be able to participate directly in the electoral process by casting a vote for their preferred party or candidate free from unwanted interference.<sup>406</sup> In this expectation environment, to deprive voters of opportunities for participation (by creating a system of predictive voting) would undermine the legitimacy of the electoral process.<sup>407</sup>

<sup>&</sup>lt;sup>403</sup> See Andrew D. Selbst, *Disparate Impact in Big Data Policing*, 52 GA. L. REV. 109, 121 (2017); Matthew DeMichele & Peter Baumgartner, *Bias Testing of the Public Safety Assessment: Error Rate Balance Between Whites and Blacks for New Arrests*, 67 CRIME DELINQUENCY 2088, 2105, 2108 (2021); FARRALL, JACKSON & GRAY, *supra* note 321.

<sup>&</sup>lt;sup>404</sup> I am grateful to Meir Yarom for pointing this out.

<sup>&</sup>lt;sup>405</sup> See supra text accompanying note 331.

<sup>&</sup>lt;sup>406</sup> See Lovett & Zuehl, supra note 20, at 38–39; Enoch, supra note 271, at 156.

<sup>&</sup>lt;sup>407</sup> See Paulo & Bublitz, supra note 20, at 64.

In contrast, the criminal justice system offers few opportunities for defendants to exercise meaningful autonomy over the adjudicative process. Ninety-five percent of defendants never go to trial, and of those who do, very few testify.<sup>408</sup> Plea bargains and ritualized plea colloquies effectively suppress defendant speech.409 This maintains the ignorance of institutional actors who rarely hear the stories of the people they punish and the deficiencies of the system they serve.<sup>410</sup> In this low-expectation environment, defendants may be unsurprised to learn that, rather than having the choice to recidivate or not to recidivate upon serving a retributivelydefined minimum sentence, "high-risk" defendants will be preemptively incarcerated for an additional period of time, to prevent them from reoffending.<sup>411</sup> Such treatment is consistent with how the criminal justice system has historically disempowered criminal defendants. Accordingly, because of differences in voter and defendant expectations for autonomy, participatory defects may appear less fatal to the administration of criminal justice than to the administration of political elections.

Another factor that distinguishes defendants and voters is their ability to enforce their expectations for autonomy. Voters who identify parties or candidates engaged in voter suppression, for example, can theoretically alert the press and vote them out of office. Similarly, candidates who suggest that votes be algorithmically predicted, rather than individually cast, may be removed from office. In contrast, criminal defendants who feel disempowered by the adjudicative process often have very little recourse to increase their participation in this process. For example, when Eric Loomis contested his algorithmic classification as a "high-risk" recidivist the Supreme Court of Wisconsin held that Loomis' ability to verify his responses to the algorithm's questionnaire provided sufficient protection of his due process right to be sentenced on the basis of accurate information.<sup>412</sup> Similarly, when Willie Allen Lynch appealed his conviction for the sale of crack cocaine, alleging that he had been misidentified by a facial recognition algorithm, the District Court of Appeal of Florida affirmed his conviction on the basis that the trial result would not have been different if Lynch had had access to the other photographs in the facial

 <sup>&</sup>lt;sup>408</sup> See Alexandra Natapoff, Speechless: The Silencing of Criminal Defendants, 80 N.Y.U.
 L. REV. 1449, 1450 (2005).

<sup>&</sup>lt;sup>409</sup> See id. at 1463.

<sup>&</sup>lt;sup>410</sup> See id. at 1499.

<sup>&</sup>lt;sup>411</sup> See generally Auerhahn, supra note 312, at 726–29 (concluding selective incapacitation is too inaccurate to effectively reduce crime by reviewing incapacitation literature); Andrew von Hirsch, *The Ethics of Selective Incapacitation: Observations on the Contemporary Debate*, 30 CRIME DELINQUENCY 175 (1984) (concluding predictive sentencing is difficult to justify against justice concerns); BERNARD E. HARCOURT, AGAINST PREDICTION: PROFILING, POLICING, AND PUNISHING IN AN ACTUARIAL AGE (2006) (critiquing actuarial methods applied to sentencing).

<sup>&</sup>lt;sup>412</sup> State v. Loomis, 2016 WI 68, ¶ 55, 371 Wis. 2d 235, 881 N.W.2d 749.

recognition database.<sup>413</sup> The prevalence of felony disenfranchisement laws also means that communities most affected by incarceration have limited capacity to vote for judges and legislators who share their concerns about the administration of criminal justice.<sup>414</sup> Instead, criminal policy tends to be most responsive to the preferences of high-income communities who have more power to influence the election of judges and legislators.<sup>415</sup>

### B. Meeting Expectations for Autonomy

We have established that one possible reason for the illegitimacy of vote prediction (and the relative legitimacy of recidivism prediction) is differences in the expectations for autonomy held by defendants and voters, as well as differences in their capacity to enforce those expectations. We have also established that a voter's expectation for autonomous participation in the electoral process is unlikely to be satisfied by delegation of their vote to a computational model, even if they would be comfortable delegating their vote to a trusted human proxy. But is this also the case for defendants? Would defendants' lower expectations for autonomy be met by greater participation in the epistemic process by which their risk of recidivism is calculated?

Criminal justice scholars have engaged extensively with the idea of community participation in the design of predictive models.<sup>416</sup> This scholarship forms part of a broader movement towards "design justice," or the notion that technology cannot reflect the needs and values of the communities in which it is deployed unless those communities have actively participated in its design.<sup>417</sup> Simply diversifying the technology workforce is insufficient because even diverse design teams tend to center the needs of the dominant social group.<sup>418</sup>

Jessica Eaglin argues that the normative judgments embedded in the construction of risk assessment tools should be made by affected

<sup>418</sup> See id. at 76.

<sup>&</sup>lt;sup>413</sup> See Lynch v. State, 260 So. 3d 1166, 1166–67, 1172 (Fla. Dist. Ct. App. 2018).

<sup>&</sup>lt;sup>414</sup> See Ngozi Okidegbe, The Democratizing Potential of Algorithms?, 53 CONN. L. REV. 739, 765–66 (2021).

<sup>&</sup>lt;sup>415</sup> See Samuel R. Wiseman, Fixing Bail, 84 GEO. WASH. L. REV. 417, 475–76 (2016).

<sup>&</sup>lt;sup>416</sup> See Jocelyn Simonson, Democratizing Criminal Justice through Contestation and Resistance, 111 Nw. L. REV. 1609, 1609 (2016); K. Sabeel Rahman & Jocelyn Simonson, The Institutional Design of Community Control, 108 CALIF. L. REV. 679, 735–36 (2020); Jocelyn Simonson, The Place of "the People" in Criminal Procedure, 119 COLUM. L. REV. 249, 297 (2019); Dorothy E. Roberts, Democratizing Criminal Law as an Abolitionist Project, 111 Nw. L. REV. 1597, 1604 (2016); Eaglin, supra note 5; Janet Moore, Democracy Enhancement in Criminal Law and Procedure, 2014 UTAH L. REV. 543, 584 (2014).

<sup>&</sup>lt;sup>417</sup> SASHA COSTANZA-CHOCK, DESIGN JUSTICE: COMMUNITY-LED PRACTICES TO BUILD THE WORLDS WE NEED 96, 99 (2020) (explaining that community-driven design not only redistributes technical knowledge and skills, but promotes community uptake of, and engagement with, technology, thus increasing the likelihood that technology will deliver its intended benefits).

communities rather than private corporations.<sup>419</sup> These judgments include whether to measure "recidivism" in terms of arrest or conviction, and how to define "low" and "high" risk categories. When tool developers make construction choices that conflict with a state's sentencing policies, or rely on predictive factors that disproportionately disadvantage minority communities, the lack of democratic accountability in tool construction is particularly stark.<sup>420</sup> Accordingly, Eaglin advocates for democratic accountability measures that facilitate public engagement with tool design to ensure that the normative choices embedded in these tools reflect the value judgments of the communities in which they will be applied.<sup>421</sup>

Ngozi Okidegbe goes further, advocating for community control over the construction, implementation, and maintenance of risk assessment tools, including those used in pre-trial detention.<sup>422</sup> She argues that the exclusion of affected communities from the design of predictive models leads to the prevalence of racially disparate inputs (such as prior arrests) that are unreliable proxies for criminality, as well as the systematic neglect of the harms associated with pretrial detention (for example, loss of child custody, or the overextension of kinship networks).<sup>423</sup> Building off the success of community bail funds in disrupting the racialized effects of cash bail practices, Okidegbe argues that bail commissions consisting of members of affected communities should be able to decide if, and on what basis, to pursue pretrial algorithmic governance.<sup>424</sup>

Despite their normative appeal, Okidegbe's proposals seem politically infeasible.<sup>425</sup> In an unusually transparent process, Pennsylvania's Sentencing Commission held nineteen public hearings to solicit public input on the development of its risk assessment instrument for post-conviction sentencing.<sup>426</sup> In response to community concerns, the Commission substantively revised the instrument several times, including the removal of arrest data and county of origin as predictive variables

<sup>&</sup>lt;sup>419</sup> Eaglin, *supra* note 5.

<sup>&</sup>lt;sup>420</sup> Whether society will allow Black defendants to "disproportionately bear the burden of additional supervision flowing from actuarial risk assessments is a normative decision." Eaglin, *supra* note 5 at 98; John Monahan, *A Jurisprudence of Risk Assessment: Forecasting Harm Among Prisoners, Predators, and Patients*, 92 VA. L. REV. 391, 397 (2006).

<sup>&</sup>lt;sup>421</sup> Eaglin, *supra* note 5 at 59, 66; Richard A. Bierschbach & Stephanos Bibas, *Notice-and-Comment Sentencing*, 97 MINN. L. REV. 1, 40 (2012).

<sup>&</sup>lt;sup>422</sup> Okidegbe, *supra* note 414, at 778.

<sup>423</sup> Id. at 759, 766.

<sup>&</sup>lt;sup>424</sup> See id. at 774–75.

<sup>&</sup>lt;sup>425</sup> John Rappaport, *Some Doubts About "Democratizing" Criminal Justice*, 87 UNIV. CHIC. L. REV. 711, 761 (2020).

<sup>&</sup>lt;sup>426</sup> See Asli Bashir, *Pennsylvania's Misguided Sentencing Risk-Assessment Reform*, REGUL. REV. (Nov. 5, 2020), https://www.theregreview.org/2020/11/05/bashir-pennsylvania-misguidedsentencing-risk-assessment-reform/ [https://perma.cc/467A-S88E].

due to concerns about racial disparities.<sup>427</sup> Nevertheless, the Commission retained full decision-making authority at all times, and was never bound or obliged to incorporate community feedback.<sup>428</sup> In September 2019, the Commission voted to adopt the risk assessment instrument, despite strong resistance from community members and advocacy groups concerning persistent racial disparities, and the anti-retributive logic of risk-based sentencing.<sup>429</sup>

Given the historically low expectations for defendant autonomy, a predictive model constructed with some degree of community input might go some way towards correcting the asymmetry of power that characterizes the administration of criminal justice.<sup>430</sup> In contrast, it is unlikely that a hypothetical system of predictive voting could satisfy voters' expectations for autonomous participation in the political process, given the much higher expectations for participation (and more equal distribution of power) in democratic elections. This discrepancy in power and expectations may partially explain our differential treatment of recidivism and vote prediction.

### X. DIFFERENTIAL UTILITY

A fifth possible reason for our differential treatment of recidivism and vote prediction is the sense that society derives substantial utility from preemptively incarcerating high-risk recidivists (in the form of enhanced public safety) but would derive little utility from a system of predictive voting. Measuring the expected utility of a predictive practice requires an examination of its utility for different stakeholders. For example, supporters of a minority party may perceive minimal utility in a system of predictive voting trained on historical data, whereas supporters of an incumbent party (that currently enjoys a representative majority) may perceive substantial utility in deploying a system of predictive voting that reproduces historical voting patterns. Similarly, there is mixed empirical evidence about the effectiveness of sentence enhancements in reducing crime rates, but risk-averse communities may nevertheless perceive substantial utility in preemptively incarcerating "high-risk" recidivists, particularly when they do not bear the costs of false positives.<sup>431</sup> The relative utility of recidivism prediction is set out in the table below.

<sup>&</sup>lt;sup>427</sup> See Eaglin, supra note 5, at 117; Okidegbe, supra note 414, at 770.

<sup>&</sup>lt;sup>428</sup> See Okidegbe, supra note 414, at 773.

<sup>&</sup>lt;sup>429</sup> See Elizabeth Hardison, After Nearly a Decade, Pennsylvania Sentencing Commission Adopts RiskAssessment Tool over Objections of Critics, PA. CAPITAL-STAR (Sept. 5, 2019), https:// www.penncapital-star.com/criminal-justice/after-nearly-a-decade-pa-sentencing-commissionadopts-risk-assessment-tool-over-objections-of-critics/ [https://perma.cc/D4BE-JV7U].

<sup>&</sup>lt;sup>430</sup> See Okidegbe, supra note 414, at 772.

<sup>&</sup>lt;sup>431</sup> See FARRALL, JACKSON & GRAY, supra note 321, at 237-40.

**Table 1**: The stakeholder-specific utility of enhancing criminal sentences

 using algorithmic predictions of recidivism.

Stakeholder	Utility of prediction-based sen- tence enhancements	Disutility
The state	<ul> <li>Prevention of future crime (mixed empirical evidence)</li> <li>Political support generated by "tough on crime" approach</li> <li>Judicial decisions legitimated by use of "objective" tools</li> </ul>	<ul> <li>Cost of prison maintenance (often outsourced to private sector)</li> </ul>
The majority of the public (mini- mal direct contact with criminal jus- tice system)	<ul> <li>Prevention of future crime (mixed empirical evidence)</li> <li>Perception of enhanced community safety</li> </ul>	
A minority of the public (communities directly affected by sentence enhancements)	<ul> <li>Prevention of future crime (mixed empirical evidence)</li> <li>Perception of enhanced community safety</li> </ul>	<ul> <li>Family separation and disintegration</li> <li>Persistence of social disparities due to extended incarceration of income-earners</li> <li>False positives erode trust in criminal justice system</li> </ul>

As seen in Table 1, the stakeholders with the greatest power to influence the distribution of prediction-based sentence enhancements are also those who derive the greatest utility from this preemptive measure. The state enjoys the political support generated by its "tough on crime" approach, as well as the perception that it has "solved" judicial bias by introducing "objective" decision aids in the form of computational models.<sup>432</sup> The majority of voters feel that their communities are safer because "highrisk" recidivists are physically incapacitated from committing future crime by virtue of their extended incarceration (although empirical evidence of this effect is mixed).<sup>433</sup> In contrast, the communities which experience the greatest disutility from sentence enhancements (those directly affected by the extended incarceration of "high-risk" recidivists) are poorly placed to advocate against this policy because they represent a minority of the voting public. As a result, defendant autonomy remains vulnerable to predictionbased preemption.

<sup>&</sup>lt;sup>432</sup> Auerhahn, *supra* note 312, at 724–25, 729; John Blackmore & Jane Welsh, *Selective Incapacitation: Sentencing According to Risk*, 29 CRIME DELINQUENCY 504, 505–06 (1983).

<sup>&</sup>lt;sup>433</sup> Owens, *supra* note 334, at 552; Useem, Piehl & Liedka, *supra* note 334, at 1; Papachristos, *supra* note 334, at 76, 83–84; Hilke, *supra* note 334, at 70, 79, 90.

As seen in Table 2, a system of predictive voting would offer substantial utility to chronic non-voters and to voters who would prefer to delegate their vote to a computational model, rather than vote in person. It would also offer substantial utility to a government that is interested in maintaining political power with minimal effort. A computational model trained on historical data (without new data from new elections) would predict the reelection of the incumbent government even if they failed to deliver on their campaign promises. The incumbent party could simply rely on historical voting data to justify its continued authority to govern. In contrast, a system of predictive voting would offer no utility to minority or fringe political parties seeking to disrupt the status quo, or to active voters who expect to be able to participate directly in the process of choosing their political representatives. The latter group would strongly object to the formation of a Congress based on predicted votes. Despite the potential utility offered by a system of predictive voting to an incumbent government seeking reelection, the perceived illegitimacy of reelection by a computational model would likely undermine the party's authority to govern and threaten regime stability.

Stakeholder	Utility of predictive voting	Disutility
The political party currently in power	• The model is likely to predict the reelection of the incumbent party because it is trained on historical data	<ul> <li>Reduced democratic legitimacy; weaker mandate to govern</li> </ul>
Political parties who do not currently en- joy a representative majority		• The model is unlikely to predict the victory of a party that has historically underperformed
Active voters	<ul> <li>Relieved of the burden of having to vote in person or by mail</li> </ul>	<ul> <li>Risk of error (the model may incorrectly predict the party they would have voted for)</li> <li>Reduced sense of ownership over political process</li> <li>Reduced democratic legitimacy</li> </ul>
Chronic non-voters or voters who would prefer to delegate their vote to a compu- tational model rather than vote in person	<ul> <li>Their political preferences are captured by their personal data, despite not voting</li> </ul>	<ul> <li>Risk of error</li> <li>Loss of expressive rights associated with deliberate abstention designed to express dissatisfaction with the political system</li> </ul>

**Table 2:** The stakeholder-specific utility of forming a Congress based on algorithmically predicted votes.

In both cases (recidivism and vote prediction), the use of a predictive practice turns on its (dis)utility for the dominant social group. In the case of recidivism prediction, since the majority of the public perceives substantial utility in the extended incarceration of "high-risk" recidivists (in the form of enhanced public safety), sentence enhancements continue to be distributed based on predictions of recidivism. In the case of vote prediction, since most voters would perceive the formation of a Congress based on predicted votes as democratically illegitimate, voter autonomy continues to be protected from prediction-based preemption. Accordingly, the perceived (dis)utility of recidivism and vote prediction may partially explain our differential treatment of these predictive practices.

### XI. HOHFELDIAN RIGHTS

A sixth potential reason for our differential treatment of vote prediction and recidivism prediction is the difference between the liberties that lie at the core of voter autonomy (the right to vote), and defendant autonomy (the presumption of future innocence). To understand the differences between these liberties, we can turn to Wesley Hohfeld's infamous typology of correlative jural relations: rights or claims (duties), privileges (no-rights), powers (liabilities), and immunities (disabilities).<sup>434</sup>

How should we conceptualize the right to vote that lies at the heart of voter autonomy? We could view it as a liberty right, on the basis that the exercise of political authority restricts the liberty of individuals, and therefore, individuals should have a say in who exercises such authority.435 Viewing the right to vote as a negative right to liberty places it in the same category as other civil and political rights, which are regarded as freedoms from interference, rather than rights to receive certain resources from the state.<sup>436</sup> To characterize the right to vote as purely a negative freedom, however, would be to overlook the numerous positive obligations that must be fulfilled in order to secure its exercise.<sup>437</sup> The right to vote cannot be exercised by simply leaving a voter alone. It also requires the installation and maintenance of voting infrastructure, the counting of ballots, and the peaceful removal of political officials on the basis of voting outcomes.<sup>438</sup> This requires governments to take positive actions, not merely to refrain from interference.<sup>439</sup> Jeremy Waldron explains that there is no "neat delineation" between positive and negative rights because "even the most negative right is capable

<sup>&</sup>lt;sup>434</sup> Hohfeld, *supra* note 337, at 28–32.

<sup>&</sup>lt;sup>435</sup> See Waldron, supra note 335, at 47.

<sup>&</sup>lt;sup>436</sup> See id. at 46.

<sup>&</sup>lt;sup>437</sup> Waldron, *supra* note 335 at 48.

<sup>&</sup>lt;sup>438</sup> See id.

<sup>&</sup>lt;sup>439</sup> See id. at 48.

of generating duties other than the duty not to interfere with a certain action."<sup>440</sup> Instead, Waldron advocates for recognition of the right to vote as a Hohfeldian power, rather than a claim or liberty, because its joint exercise alters the assignment of political rights and responsibilities.<sup>441</sup> The vote gives each individual citizen—at least in theory—equal power over the authority and tenure of political officials, and thus equal control over their government.<sup>442</sup>

In contrast, how should we conceive of the liberty that lies at the heart of defendant autonomy? For the purposes of this Article, we have focused specifically on the use of algorithmic prediction in postconviction sentencing. At this point in the criminal justice process, the defendant has already been convicted of a specific crime, thus rebutting the presumption of past innocence. What remains at issue is whether the defendant should be incarcerated beyond some retributively-defined minimum in order to prevent them from committing future crimes. In other words, what is at stake is the presumption of *future* innocence. Should the defendant be preventively incarcerated for uncommitted future crimes, or should they be permitted to reenter society without presuming that they will recidivate? The liberty that lies at the heart of this form of defendant autonomy is the presumption of future innocence. How should we conceptualize this liberty, and what distinguishes it from the Hohfeldian power to vote?

When a judge is deciding whether to enhance the length of a sentence based on a defendant's risk of recidivism, there are two factors at play, in Hohfeldian terms: the judge's power to extend the defendant's sentence, and the defendant's immunity against preventive incarceration by virtue of the presumption of future innocence.<sup>443</sup> Clearly, given the judge's unfettered discretion to distribute sentence enhancements, the judge's power takes priority over the defendant's immunity. Could this, then, be the distinguishing feature between voters and defendants—that voters possess a higher-priority power, whereas defendants only possess a weak immunity against preventive detention? Is this why defendant autonomy, but not voter autonomy, is vulnerable to algorithmic prediction?

The assumption underlying this line of reasoning is that the state (as ultimate protector of autonomy, given its monopoly on coercive power) distributes its autonomy-protective resources in line with public opinion. Accordingly, if the majority of the public is relatively unconcerned about defendant autonomy, but very concerned about voter autonomy, then voters (but not defendants) will be shielded from the autonomy-eroding

<sup>&</sup>lt;sup>440</sup> Waldron, *supra* note 335, at 46–47.

<sup>&</sup>lt;sup>441</sup> *Id.* at 49.

<sup>442</sup> See id. at 48-49.

<sup>&</sup>lt;sup>443</sup> Hohfeld, *supra* note 337, at 53–56.

effects of prediction. However, if popular intuitions are guiding our understanding of the (im)permissibility of certain forms of prediction, then it is highly unlikely that the public is comparing different forms of autonomy (in Hohfeldian terms). Accordingly, differential characterization within Hohfeld's taxonomy of jural relations only weakly explains our differential treatment of recidivism and vote prediction.

### XII. A THEORY OF AUTONOMY IN THE AGE OF AI

A society that values autonomy is not only bound by negative duties of non-interference, but also positive duties to secure for individuals the minimum conditions required to lead autonomous lives.<sup>444</sup> This includes fostering internal capacities for autonomy (cognitive and emotional capacities), external capacities (including physical health and safety), and an adequate range of options from which to choose.<sup>445</sup> These positive and negative autonomy-based duties will require the state to refrain from preemptive interference on the basis of prediction. Stephen Darwall explains that what is objectionable about paternalism is not that "those who seek to benefit us against our wishes are likely to be wrong about what really benefits us," but that it represents a failure to respect and "to recognize the authority that persons have to demand, within certain limits, that they be allowed to make their own choices for themselves."<sup>446</sup> Members of a shared moral community must hold one another accountable for complying with this claim to autonomy.<sup>447</sup>

Given the encroachment of computational prediction upon a growing number of decision-making processes, individuals may wonder how much decisional autonomy they will retain in the data-rich worlds of the future. Based on the foregoing analysis, there are at least six factors that may influence whether an individual will retain autonomy over behavior *x*, or whether that behavior will be subject to prediction-based preemption:

- Whether that individual (or category of individuals) is regarded by society as "deserving" autonomy over behavior *x*, or whether they are regarded as having compromised their right to such autonomy by virtue of their historical behavior;
- 2) What society views as the instrumental value of autonomy over *x*, measured by the moral value of its

<sup>&</sup>lt;sup>444</sup> See RAZ, supra note 27, at 408; Hurka, supra note 37, at 364–65; Young, supra note 381, at 38.

<sup>&</sup>lt;sup>445</sup> See RAZ, supra note 27, at 407–08.

<sup>&</sup>lt;sup>446</sup> Stephen Darwall, *The Value of Autonomy and Autonomy of the Will*, 116 ETHICS 263, 268 (2006).

expected use, and the number of people who are likely to exercise such autonomy;

- Whether society is willing to bear the costs of predictive error in this decisional context, or whether the costs of error are too high;
- Whether there are strong historical expectations for autonomy over *x*, and whether this category of individuals has sufficient collective power to enforce those expectations;
- 5) Whether there is substantial perceived utility in predicting and preempting behavior *x* rather than allowing individuals to retain autonomy over *x*; and
- 6) Whether autonomy over *x* ranks highly in Hohfeldian terms.

Unsurprisingly, the conclusion from this six-factor analysis is that the individuals (or category of individuals) who are most likely to retain decisional autonomy in the future are those who wield the most collective political power (for example, voters). This perspective assumes that the state will continue to be the primary guardian of personal autonomy, given its monopoly on coercive power. Of course, there are decisional contexts where corporations may be the primary guardians of autonomy, in which case the individuals most likely to retain decisional autonomy are those who wield the greatest economic power, however that is not the focus of this Article.<sup>448</sup>

This Article hopes to contribute a framework for thinking about when and why we value decisional autonomy, so that when predicting human behavior feels easy, we have tools for critically assessing what will be gained and lost from that intervention. Why does predictive voting feel normatively illegitimate, when society has normalized the use of computational prediction in criminal sentencing? For communities who are considering the deployment of predictive technologies, how much weight should be assigned to the protection of individual autonomy? Is autonomy just one good among many others, or does it count vastly more than other goods, so that increases in those goods will never justify a diminution of autonomy? When autonomy is threatened, whose autonomy matters? These are the questions that require consideration before we uncritically deploy predictive technologies.

<sup>&</sup>lt;sup>448</sup> In decisional contexts where corporations are responsible for respecting individual autonomy, our normative commitments to autonomy will be even more important, given the fewer legal limits on the pre-emptive power of the private sector, relative to the state. *See, e.g.*, Hong, *supra* note 125, at 1–2, 5, 8–9.

### CONCLUSION

The unappealing prospect of forming a democratic legislature on the basis of algorithmically predicted votes is designed to interrogate the core commitments of politico-legal institutions. Given how far we have progressed along the spectrum of behavioral prediction, it is not difficult to imagine a future in which political parties rise and fall, not upon the embodied act of voting, but upon the correlations observed in large datasets. If computational models can now predict our employment potential, our gender identities, and our criminal propensities, what would stop them from predicting our political votes? In the absence of technological and legal constraints on prediction, our normative commitments to autonomy will be increasingly important. Accordingly, it is important to understand the assumptions that motivate our respect for individual autonomy.

This Article therefore examines six potential reasons why a system of predictive voting seems normatively illegitimate, despite the normalization of computational prediction in other settings: a desert-based conception of autonomy, the instrumental value of voter autonomy, social intolerance for error in democratic elections, strong historical expectations for (and capacity to enforce) voter autonomy, minimal perceived utility in a system of predictive voting, and the priority of the right to vote as a Hohfeldian power. This list of reasons is not exhaustive and may not be applicable to decisional contexts outside of democratic elections. However, it does suggest that an individual's claim to autonomy is both deeply morally ascribed and highly dependent on their power relation with the institution from whom they are demanding respect for their autonomy. This conclusion should make us wary of the uncritical deployment of predictive technologies and the attendant losses of autonomy associated with ex ante intervention. When prediction is cheap, allowing individuals to retain decisional autonomy will feel increasingly costly.