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**Bonnie Sheehey**

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# Algorithmic paranoia: the temporal governmentality of predictive policing

Bonnie Sheehey<sup>1</sup>

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## Abstract

In light of the recent emergence of predictive techniques in law enforcement to forecast crimes before they occur, this paper examines the temporal operation of power exercised by predictive policing algorithms. I argue that predictive policing exercises power through a paranoid style that constitutes a form of temporal governmentality. Temporality is especially pertinent to understanding what is ethically at stake in predictive policing as it is continuous with a historical racialized practice of organizing, managing, controlling, and stealing time. After first clarifying the concept of temporal governmentality, I apply this lens to Chicago Police Department's Strategic Subject List. This predictive algorithm operates, I argue, through a paranoid logic that aims to preempt future possibilities of crime on the basis of a criminal past codified in historical crime data.

**Keywords** Algorithms · Predictive policing · Power · Ethics · Time

## Introduction

The past decade has seen the emergence of techniques in law enforcement to forecast and prevent future crimes before they occur. In 2009, the National Institute of Justice defined these techniques as predictive policing, which involves “taking data from disparate sources, analyzing them and then using results to anticipate, prevent and respond more effectively to future crime.”<sup>1</sup> Currently, predictive policing software is employed in 25 major police departments in cities across the United States.<sup>2</sup> Two kinds of software systems are used in predictive policing, distinguished according to whether the software targets *places* or *people*.<sup>3</sup> Place-based systems like the Los Angeles Police Department's PredPol program make predictions about *where* and *when* a future crime will occur. Person-based tools like the Strategic Subjects List (SSL), used by the Chicago Police Department, predict *who* is likely to commit or be a victim of crime.<sup>4</sup> Both systems rely on algorithms to generate the predictions central to this new *proactive* style of policing.<sup>5</sup>

The growing prevalence of predictive policing is a contemporary site of concern for a number of civil rights

organizations, activists, and theorists. In their recent work on pre-crime and big data policing, McCulloch and Wilson (2016), and Ferguson (2017) highlight the problems that predictive policing poses to civil liberties in the form of heightened surveillance, racial profiling, and bias.<sup>6</sup> These programs, they argue, problematically rely on historical crime data, which are often inaccurate measures of past rates of crime, to target the places and people of possible future crime.

Many criticisms of predictive policing target the privacy and transparency violations that arise from this novel practice. But largely left out of these accounts is the *power*

<sup>1</sup> Pearsall (2009), p. 16.

<sup>2</sup> Robinson and Koepke (2016).

<sup>3</sup> Ibid., 2.

<sup>4</sup> For a helpful summary of the differences between place-based and person-based predictive systems, see Ferguson (2017). Advocates of place-based programs defend these as less problematic than their person-based counterparts insofar as they target locations of possible crime rather than subjects of future crime. See Beck and McCue (2009). Advocates for person-based systems have argued that these types of programs are more effective as predictive tools for targeting specific kinds of crime in a city.

<sup>5</sup> For a brief pre-history of predictive policing, see Wilson (2018) in Završnik (2018).

<sup>6</sup> Cathy O'Neil provocatively describes predictive policing as a “weapon of math destruction”—a mathematical model that has harmful effects on precarious social groups. See O'Neil (2016), p. 3.

✉ Bonnie Sheehey  
bsheehey@uoregon.edu

<sup>1</sup> University of Oregon, Eugene, OR, USA

exercised by algorithmic predictive policing technologies. By attending to the form of power exercised by predictive policing technologies, I do not wish to deny the importance of the myriad privacy and transparency issues that accompany these technologies. Rather, I worry that critics might miss other concerning features of predictive policing that are irreducible to violations of privacy and trust. On this view, even if the technologies were more transparent, this would not necessarily modify the form of power practiced by these technologies. As I shall argue, a framework of trust and transparency is insufficient for conceptualizing the power of predictive policing algorithms.

In light of a burgeoning body of critical scholarship emphasizing the power of algorithms,<sup>7</sup> I argue that predictive policing exercises power through a paranoid style that constitutes a form of what I call “temporal governmentality.” I deploy the Foucauldian category of governmentality to assess how predictive policing algorithms exercise power. Governmentality refers to an organization of power relations, where power is understood as something *exercised* rather than possessed and as entangled with knowledge. To inquire into the type of power deployed in predictive policing, I bring a focus on temporality to the lens of governmentality in order to produce a hybrid analytical category. By “temporality,” I mean a way of relating to time in terms of the past, present, and future. Together, temporal governmentality refers to the government of time—a way of organizing power through specific temporal relations between the past, present, and future.

While the concept of time has been employed in studying the normativity of algorithms more broadly,<sup>8</sup> it has yet to be developed specifically in relation to the politics of predictive policing. I bring the lens of temporal governmentality to bear upon systems of predictive policing, particularly person-based algorithms like Chicago’s Strategic Subject List, that manage a field of possible actions by targeting and preempting future criminal behavior. Temporality is especially pertinent to the case of predictive policing as it is continuous with a historical racialized practice of organizing, managing, controlling, and stealing time. I argue that the racialized time of predictive policing works to forge a double closure of the past and the future through a paranoid logic that aims to preempt future possibilities of criminal conduct by drawing on a past codified in the form of historical crime data. Paranoia—an affect with a distinct way of relating to time—captures the racialized temporality of predictive policing. That is, if temporal governmentality designates how power functions in predictive

algorithms, then paranoia names the specific temporal operation of power in predictive policing. Focusing on Chicago’s SSL, I illustrate how this predictive algorithm operates in paranoid fashion to create a self-fulfilling prophecy by projecting a criminal future on the basis of a criminal past.

The SSL serves as a fruitful case for examining the temporal governmentality of predictive policing for three reasons. First, it is the most popular person-based predictive system that is presently used. Not only has this program received national critical attention in a range of news and magazine articles, it is also increasingly referenced in scholarship on predictive and big-data policing.<sup>9</sup> Second, the Chicago PD uniquely combines the SSL with a Custom’s Notification program to notify and warn subjects on the list with high risk scores that they have been flagged and will face increased legal penalties if they engage in criminal activity. This is interesting just insofar as the SSL does not disambiguate between potential *victims* or *perpetrators* of violent crime such that both are subjected to heightened surveillance and attention. Finally, the Chicago PD’s fraught history of racial profiling and unjust policing tactics make the SSL a useful case for exploring the racialized practice of temporal governmentality at work in predictive policing. The risk scores generated by the SSL reflect this fraught legacy insofar as it relies on historical crime data and assigns higher risk scores to subjects identified as non-white males.<sup>10</sup>

This argument makes two interventions in the existing literature on predictive policing. First, while some scholars have noted the preemptive logic at work in predictive policing algorithms, a logic continuous with what Amoore (2013) calls the “politics of possibility,” I argue that preemption only partially captures the temporal governmentality of predictive policing.<sup>11</sup> Predictive policing does not simply detach itself from the past as McCulloch and Wilson (2016) contend, but problematically uses and reinforces a racialized past to generate its preemptive power. This point leads to what I see is the central contribution of this paper as it analyzes *how* racism functions temporally in the case of the SSL, rather than simply pointing out *that* the SSL is racially fraught. While critics have pointed out the problematic racial politics of this technology, it is not always clear how this politics is entangled with the way these algorithms work temporally. Where scholars have tended to focus separately on the temporality of algorithmic prediction and

<sup>7</sup> See Amoore (2013), Gillespie (2014), Introna (2016), and Beer (2009, 2017). For a connected discussion of algorithms as value-laden, see Friedman and Nissenbaum (1996), Kraemer et al. (2011), and Mittelstadt et al. (2016).

<sup>8</sup> See Amoore (2013), Esposito (2015), and Ananny (2016).

<sup>9</sup> See McCulloch and Wilson (2016), Robinson and Koepke (2016), O’Neil (2016), and Ferguson (2017).

<sup>10</sup> See <https://www.justice.gov/opa/file/925846/download> and <https://mijente.net/2017/12/04/chicago-gang-database-targets-black-latin-o-men-infographics/>.

<sup>11</sup> See Zedner (2007), p. 262, Lyon (2014), p. 6. McCulloch and Wilson (2016), p. 3.

on the politics of race in predictive policing algorithms, I contend that the power of predictive policing must be understood in light of what Mills (2014) calls the “racialization of time.” This concept refers to the way racism works on and through time. While predictive policing has been celebrated by programmers, researchers, and law enforcement officers as “blind to race and ethnicity,” the practice cannot be extricated from the racial politics of governing time, especially when “doing time” in this country is disproportionate between whites and non-whites.<sup>12</sup>

The paper proceeds with a review of recent literature on the politics of algorithms in the first section as a frame for addressing how predictive policing algorithms exercise power. Following Gillespie (2014, 2016), it proves useful to think of algorithms as “sociotechnical assemblages” that refer to a whole network of actors both human and non-human. Thinking of algorithms as sociotechnical assemblages makes them readily compatible with Michel Foucault’s notion of governmentality. In the following section, I develop the concept of temporal governmentality and explain its utility for analyzing predictive policing. Finally, the last section develops an account of the paranoid operation of temporal governmentality in Chicago’s SSL.

## The politics of algorithms

Algorithms are notoriously ambiguous as objects of study.<sup>13</sup> They often refer to several things at once: in a technical sense, they represent automated procedures or “recipes” composed in a series of programmable steps designed to efficiently achieve some desired outcome; in an epistemic sense, algorithms signify objectivity, consistency, impartiality, legitimacy, and authority in the production of knowledge; in a sociotechnical sense, they refer to an ensemble of actors both human (programmers, coders, designers, data miners, users, etc.) and non-human (models, data, target goals, applications, software, hardware, etc.).<sup>14</sup>

Keeping in mind the potential risks of conceptualizing algorithms as sociotechnical ensembles,<sup>15</sup> it is nevertheless useful for inquiring into the power exercised by algorithms.

Following Foucault’s insightful idea that power is always *exercised* in a distributed network rather than a capacity *possessed* by (exclusively) human agents, we can attend to the power conducted by algorithms as sociotechnical ensembles.<sup>16</sup> Thinking of algorithms as sociotechnical assemblages makes them compatible with Foucault’s concept of governmentality since this idea signals a heterogeneous set of interdependent actors (human and nonhuman) that are connected in historically specific power arrangements.<sup>17</sup>

In his 1978–1979 lectures at the *Collège de France*, published in English as *The Birth of Biopolitics*, Foucault deploys the concept of governmentality as an analytical category for studying the emergence of a particular type of political rationality.<sup>18</sup> Scholars working on governmentality tend to define the concept as a political rationality that forms the “‘conditions of possibility’ for thinking and acting in a certain way.”<sup>19</sup> As many have argued, Foucault’s notion of governmentality resonates with his other well-known category of knowledge/power.<sup>20</sup> As such, governmentality remains analytically tied to the co-constitutive relation of knowledge and power.<sup>21</sup> Foucault describes this co-constituting relation in *Discipline and Punish*: “We should admit...that power and knowledge directly imply one another; that there is no power relation without the correlative constitution of a field of knowledge; nor any knowledge that does not presuppose and constitute at the same time power relations.”<sup>22</sup> By analyzing the entanglement of power and knowledge in his genealogies from the 1970s, Foucault shows how the arrangements (*dispositifs*) of disciplinary power and biopower emerged in the eighteenth and nineteenth centuries respectively.<sup>23</sup>

This focus on governmentality and knowledge/power relations informs the work of a growing body of research on algorithms. Introna (2016) applies Foucault’s notion of governmentality to conceptualize the performative nature of algorithms.<sup>24</sup> For Beer (2017), the idea of the algorithm “is evoked to influence and convince, to suggest things and to envision a certain approach, governmentality and way of ordering.”<sup>25</sup> As these and other scholars argue, algorithms

<sup>12</sup> See O’Neil (2016), p. 86 and Alexander (2012). A range of scholars emphasize the mutually constitutive relationship between policing and race in the U.S., noting the way in which policing has been historically central for the formation and maintenance of racial hierarchies. Coramae Richey Mann, for instance, argues that policing in the U.S. has its roots in slavery, with slave patrols constituting the first state-sponsored police forces. See Mann (1993), pp. 165, 195. See also Adamson (1983), Russell (1998), and Bass (2001).

<sup>13</sup> See Ziewitz (2016), p. 10.

<sup>14</sup> See Gillespie (2016), pp. 19–22 and Ananny (2016), p. 97.

<sup>15</sup> See Gillespie (2016), pp. 19, 26.

<sup>16</sup> Foucault (1997), p. xx.

<sup>17</sup> See Introna (2016), p. 19.

<sup>18</sup> Foucault (2004/2008), pp. 12–13.

<sup>19</sup> See Collier (2009), p. 96.

<sup>20</sup> See Gordon (1991), Lemke (2001), and Rose et al. (2006).

<sup>21</sup> See Foucault (2004/2008), p. 19.

<sup>22</sup> Foucault (1975/1997), p. 27a.

<sup>23</sup> See Foucault (1975/1997, 1976/1978).

<sup>24</sup> Introna (2016), p. 28. Foucault refers to the exercise of power as a “conduct of conducts” (*conduire des conduites*) in a 1978 essay translated from the French as “How is Power Exercised?” See Foucault (1978, 2000), p. 341.

<sup>25</sup> Beer (2017), p. 9.

are part of a knowledge apparatus that governs computational judgment, associational relationships, prediction, probabilistic risk-assessment, and processes of decision-making.<sup>26</sup> This knowledge apparatus contributes to the specific power dynamics of algorithmic ensembles. That is, because algorithms produce knowledge, we should expect that they thereby produce power. Thus, if their mode of knowledge has been specified,<sup>27</sup> what remains to be analyzed is the mode of power correlative to such an epistemology.

Pursuing this, scholars have recently accounted for the mode of power exercised by algorithms by applying familiar Foucauldian typologies of power such as sovereign power, disciplinary power, and biopower to the study of cybernetic categorization, Facebook's EdgeRank algorithm, and e-Borders algorithms.<sup>28</sup> In the case of algorithms used in predictive policing, we might be inclined to see the power enacted in this practice as continuous with the techniques of surveillance deployed through the exercise of disciplinary power.<sup>29</sup> Foucault's famous discussion of Bentham's Panoptic architectural schema offers a potential heuristic for analyzing the technology of power deployed in predictive policing. The architectural arrangement of Bentham's Panopticon consists in a circular structure with a central watchtower and a shorter annular building along the periphery.<sup>30</sup> As Foucault explains, Bentham's Panopticon functions as an apparatus of surveillance, inducing in the subject (e.g. an inmate) a "state of conscious and permanent visibility that assured the automatic functioning of power."<sup>31</sup> The Panopticon thus organizes conduct through a schema of constant, yet unverifiable visibility.

While one might apply the disciplinary schema to account for how predictive policing governs, this approach risks obfuscating what may be unique, singular, or new to predictive policing as a contemporary practice made possible by the knowledge/power of algorithmic ensembles. Rather than assume that older forms of power simply proliferate and appear in new contexts, we should attend first to the specific strategies, goals, relationships, and processes at work in a contemporary technology of power, a point I adopt from Koopman (2013, 2014). Taking this approach, what is striking about the exercise of power in predictive policing is the explicit aim of governing and controlling *time*. What is thus needed is an analytic of temporality, as distinct from

an analytic of disciplinary visibility, for specifying the governmentality of predictive policing algorithms.<sup>32</sup>

## Temporal governmentality

As scholars like Esposito (2015) and Amoore (2013) have recently shown, a focus on time is useful for understanding the function and politics of predictive algorithms.<sup>33</sup> Time is relevant just insofar as these algorithms aim at predicting and even producing a desired future. To conceptualize this type of power at work in predictive algorithms like the SSL, this section develops an analytic of *temporal governmentality*. This concept refers to the way predictive policing algorithms exercise power by controlling and governing time. I will suggest, moreover, that an understanding of the temporal governmentality at work in predictive policing helps illuminate the racialized dimensions of the politics of these algorithms.

Temporal governmentality depends on a distinct conception of time as something made, constructed, created, and negotiated rather than as something given in advance. Against the desire to think of time as ready-made and determined, it proves fruitful to think of time as a performative consequence of an ensemble of actors and actions.<sup>34</sup> That is, while we tend to understand time in spatialized terms as an external frame of reference in which events take place, I am proposing that we regard time as an artifact or product of the actions and interactions of different actors. Consider, for instance, the way Amazon's recommendation algorithm generates a future when consumers purchase a product suggested to them. Here the algorithm, in concert with the consumer, is not just acting on time, but is actually creating a future that is different from the consumer's present insofar as they do not yet have the item. Hence, to understand how algorithms can be productive of a future,

<sup>26</sup> See Harcourt (2007), Amoore (2013), Gillespie (2014), and Beer (2017).

<sup>27</sup> See Gillespie (2014).

<sup>28</sup> See Cheney-Lippold (2011), Bucher (2012), and Amoore (2013), respectively.

<sup>29</sup> Foucault (1975/1997).

<sup>30</sup> Foucault (1975/1997), p. 200.

<sup>31</sup> Ibid., 201.

<sup>32</sup> I follow scholars like Bucher (2012) and Ananny and Crawford (2016) who have shown the limits of an analytic of visibility and an accompanying ethics of transparency to the critical study of algorithms. Bucher (2012) shows how the Facebook EdgeRank algorithm works differently from the Panoptic form of surveillance insofar as it imposes a 'threat of invisibility' on users. Ananny and Crawford (2016) explore the limits of the ideal of transparency for understanding governing algorithmic systems and for holding these systems accountable.

<sup>33</sup> See Esposito (2015), pp. 93–94 and Amoore (2013), p. 9. Where these scholars tend to focus on the temporality of predictive algorithms more generally, my own analysis is more attentive to how temporality is racialized in the specific case of predictive policing algorithms like the SSL.

<sup>34</sup> This performative understanding of time is inspired by Bruno Latour. See Latour (1988), pp. 50, 165.

we must conceptualize time as something that can be made or produced.

If we combine this focus on temporality with the concept of governmentality described above, we get a hybrid analytical category I call “temporal governmentality.” This category is meant to give inquirers a grip on *how* algorithmic power works—a way of governing conduct through the mode of time. Predictive algorithms, specifically those used in predictive policing software, exercise power by setting up, organizing, and managing specific temporal relations between the past, present, and future. This control over time (and temporal relations) constitutes the core of temporal governmentality.

The idea of temporal governmentality helps clarify how predictive policing exhibits the fraught politics of what Charles Mills calls “the racialization of time.” This idea refers to “particular dispositions and allocations of time that are differentiated by race.”<sup>35</sup> It is clear to most scholars that predictive policing is riddled with problematic racialization. But what the concept of temporal governmentality helps us see, in conjunction with Mills’ work, is that the racializing function in predictive policing depends on a specific kind of algorithmic technology that previous kinds of police work did not have access to.

The racialization of time contributes to racial political work that not only *takes* time away from people, but *transfers* time from “one set of lives to another.”<sup>36</sup> The future is thus held open for whites on the very basis that it is closed off from a set of racialized subjects who are relegated to a “futureless past.”<sup>37</sup> Through the representational production of white time, whites self-position themselves as the “masters of their own time,” and differentiate themselves from those who are “mastered by time.”<sup>38</sup> This imposed practice of racializing time sets up a problematic hierarchical division between those (whites) who master, manage and appropriately *use* time and those (non-whites) who *squander*, waste, and are managed by time. On this account, the racialization of time refers to a management of possibilities—a way of organizing, allocating, and fixing possible actions through the racial separation of a “white time” of the open future and a “non-white time” of the futureless past.

As I now show, the temporal governmentality of predictive policing consists in the racial political work of closing the past and the future for non-whites through a paranoid logic that aims to preempt future possibilities of criminal conduct on the basis of a racialized criminal history.

<sup>35</sup> Mills (2014), p. 28.

<sup>36</sup> Ibid.

<sup>37</sup> Ibid., 31.

<sup>38</sup> Ibid., 31.

## Predictive policing and temporal governmentality

The above two sections have offered an outline of an analytic for conceptualizing the specific shift involved in predictive policing. I argue that this analytic enables us to see the shift in policing tactics from a *reactive* practice to a *proactive* one in terms of time. As a reactive practice, policing consists in responding to crimes *after* they have been committed.<sup>39</sup> Reactive policing depends upon a temporal vision that is backward looking—it focuses on counteracting crimes that have *already occurred*. Here the time of crime is relegated to the recent past.<sup>40</sup> Reactive policing regards the temporality of crime as already given or determined because the delinquent action has already taken place. This style of temporal governmentality—governing conduct through time—differs from the one at work in *proactive* policing both insofar as reactive policing relies on a divergent conception of time—as given in advance, as already passed—and insofar as it involves a distinct temporal pattern that aims to police *past crimes* in the *present*.

To grasp the temporal difference between reactive and proactive policing, we can consider the problem to which predictive policing offers a solution. In the first symposium on predictive policing sponsored by the National Institute of Justice, researchers and law enforcement leaders describe the proactive function of predictive policing in terms of forecasting, anticipating, and preventing future criminal activity.<sup>41</sup> How does one prevent some possible crime *in advance* of its uncertain occurrence? For Charles Beck, chief of the Los Angeles Police Department (LAPD), the question is “how to effectively deploy resources *in front* of crime, *thereby changing outcomes*.”<sup>42</sup> According to Beck, one of the greatest advantages of predictive policing is the discovery of new or formerly unknown patterns related to crime. Beth Pearsall adds, “Just as Walmart found increased demand for strawberry Pop-Tarts preceding major weather events, LAPD has found its own subtle patterns when examining data that have helped the department accurately anticipate and prevent crime.”<sup>43</sup>

*Anticipation* and *prevention* of future crime are the two primary objectives of proactive policing tactics. These

<sup>39</sup> See Maguire (2000).

<sup>40</sup> This reactive style of policing is at work in disciplinary power, which proactively shapes the prisoner *only after* it first situated them as a prisoner by reacting to their crime. Disciplinary power thus does not capture the temporal governmentality of predictive policing insofar as it is reactive to crime where predictive policing is proactive.

<sup>41</sup> See NIJ (2009), pp. 3–4 and Bratton et al. (2009), pp. 1–4.

<sup>42</sup> Beck and McCue (2009), pp. 20, italics added.

<sup>43</sup> Pearsall (2009), p. 17.

objectives are not quite separable from one another, nor are they identical, but they are coordinated in the following way: the prevention of future crime relies upon the anticipation of future crime, which is anticipated only so that it can be prevented. This coordinated activity contributes a temporal rhythm to policing's predictive practice. To prevent an anticipated future in the present, the future has to be acted on *as if it will have happened*. How to prevent something that may or may not happen? Act as though it will happen in advance of its (possible) happening.

One can witness this preemptive temporality at work in Chicago's controversial SSL or "heat list." Developed in collaboration with the Illinois Institute of Technology (IIT) after receiving a \$2 million grant from the NIJ in 2009, the Chicago Police Department's (CPD) SSL is a person-based predictive algorithm that generates a ranked ordered list of subjects according to their risk of being involved in a violent crime, as either a victim or perpetrator. These risk scores are calculated and positioned on a scale ranging from 0 (extremely low risk) to 500 (extremely high risk), with 250 being the minimum score warranting "heightened police attention."<sup>44</sup> Scores are available to law enforcement personnel through their dashboard, a database used to obtain information including dates of arrest, warrants, and crime history.<sup>45</sup> Since its initial deployment by CPD in late 2013, the algorithm has been applied to hundreds of thousands of subjects.<sup>46</sup> According to Special Order S09-11, the purpose behind the SSL is to "develop a subject-based prediction model to proactively identify and address crime problems."<sup>47</sup>

While the algorithm is protected as proprietary technology of the CPD, they were forced to release a version of the dataset in 2017 after a prolonged legal dispute with the *Chicago Sun-Times*.<sup>48</sup> Developed between August 1, 2012 and July 31, 2016, this dataset includes a list of some 400,000 de-identified subjects.<sup>49</sup> According to Chicago's Data Portal online site, eight variables contribute to the calculation of risk scores in former iterations of the SSL. These variables include: (1) "number of times being the victim of a shooting

incident;" (2) "age during latest arrest;" (3) "number of times being the victim of aggravated battery or assault;" (4) "number of prior arrests for violent offenses;" (5) "gang affiliation;" (6) "number of prior narcotic arrests;" (7) "trend in recent criminal activity;" and (8) "number of prior unlawful use of weapon arrests."<sup>50</sup> These variables are differently weighted for the production of a risk score and are continually being revised as the SSL gets updated. For instance, factors like gang affiliation and number of prior narcotic arrests have been removed in the latest iteration of the SSL because they have been found to not significantly impact the score.<sup>51</sup> Other variables, such as age at most recent arrest and recent shooting incidents, are given more weight since these are observed to have more impact on the overall score.<sup>52</sup>

SSL scores can be used as "an investigative resource" for the patrolling and inspecting of crime by police professionals.<sup>53</sup> While the SSL is not explicitly used to arrest persons on the list, the system works in concert with CPD's "Customs Notifications" program as part of its Violence Reduction Initiative.<sup>54</sup> Established in 2013, this program "identifies potential criminal actors and victims associated with the continuum of violence."<sup>55</sup> Once the potential criminal is identified, they are "notified of the consequences that will result should violent activity continue."<sup>56</sup> This program operationalizes the SSL to identify those subjects most at risk of "victimization or engagement in criminal activity" and provide them with access to social services.<sup>57</sup> Working with social workers and community leaders, the CPD delivers a letter in person to high-risk individuals to warn them of the "arrest, prosecution, and sentencing consequences they may face if they choose to or continue to engage in public

<sup>50</sup> Ibid.

<sup>51</sup> <https://southsideweekly.com/predictive-policing-long-road-transparency/>. See also [https://www.nytimes.com/2017/06/13/upshot/what-an-algorithm-reveals-about-life-on-chicagos-high-risk-list.html?\\_r=0](https://www.nytimes.com/2017/06/13/upshot/what-an-algorithm-reveals-about-life-on-chicagos-high-risk-list.html?_r=0).

<sup>52</sup> Ibid. See also <http://directives.chicagopolice.org/directives/data/a7a57b85-155e9f4b-50c15-5e9f-7742e3ac8b0ab2d3.html>.

<sup>53</sup> See Chicago Police Department, Special Order S09-11 (2016), p. 1.

<sup>54</sup> Ibid., 1–2.

<sup>55</sup> Chicago Police Department (2015), p. 1, available at <http://directives.chicagopolice.org/directives/data/a7a57bf0-1456faf9-bfa14-570a-a2deebf33c56ae59.html>.

<sup>56</sup> Ibid.

<sup>57</sup> Ibid. The Custom Notifications directive does not disambiguate between what counts as "victimization" or "engagement" in criminal activity, but rather treats these as equal in the process of notifying subjects. Between 2013 and 2016, the CPD delivered roughly 1400 custom notifications. See Martinez (2016), <http://chicago.cbslocal.com/2016/05/31/going-inside-the-chicago-police-departments-strategic-subject-list/> and Posadas (2017), <https://medium.com/equal-future/how-strategic-is-chicagos-strategic-subjects-list-u-turn-investigates-9e5b4b235a7c>.

<sup>44</sup> See <https://chicago.suntimes.com/chicago-politics/what-gets-people-on-watch-list-chicago-police-fought-to-keep-secret-watchdogs/> and <https://medium.com/equal-future/how-strategic-is-chicagos-strategic-subjects-list-u-turn-investigates-9e5b4b235a7c>.

<sup>45</sup> See Kaplan (2017), available at <https://southsideweekly.com/predictive-policing-long-road-transparency/>.

<sup>46</sup> See <https://data.cityofchicago.org/Public-Safety/Strategic-Subject-List/4aki-r3np>.

<sup>47</sup> Chicago Police Department (2016), p. 1, available at <http://directives.chicagopolice.org/directives/data/a7a57b85-155e9f4b-50c15-5e9f-7742e3ac8b0ab2d3.html>.

<sup>48</sup> See <https://medium.com/equal-future/how-strategic-is-chicagos-strategic-subjects-list-u-turn-investigates-9e5b4b235a7c>.

<sup>49</sup> <https://data.cityofchicago.org/Public-Safety/Strategic-Subject-List/4aki-r3np>.



violence.”<sup>58</sup> The letter incorporates known factors about an individual’s prior arrests, associates, as well as potential sentencing outcomes for future criminal behavior. If a custom notification recipient is later arrested for any crime, the “highest possible charges will be pursued” by the district commander.<sup>59</sup> Thus, the SSL functions together with the Customs Notification program to anticipate and forewarn the subject’s possible involvement in criminal violence.

The SSL works to preempt the future possibility of criminal violence by assessing, inferring, and flagging *who might be* subjects of crime. In doing so, the SSL conflates potential victims with potential perpetrators, treating such subjects equally as possible criminal actors. The SSL thus allows law enforcement personnel to act on the basis of who subjects might become as prospective actors involved in violent crime. To prevent some possible unfolding of gun violence in the city, law enforcement must anticipate this future in the present, acting presciently as though the crime were an inevitability.

This preemptive activity maps onto the temporal functioning of risk-assessment algorithms in general. According to Amore (2013), all such algorithms operate through a preemptive temporality, which makes a future uncertainty actionable in the present.<sup>60</sup> This style of temporal governmentality looks at a possible crime from the perspective of the future perfect participle—the crime *will have happened* from the decisional standpoint of the present. It turns a future possibility into a momentary inevitability so as to act in advance of the crime’s eventual unfolding.<sup>61</sup>

Predictive policing closes off the open possibilities of the future by preempting their unfolding in the present. Yet, where this preemptive activity can also be found in other predictive algorithms, it is distinctly racialized in the case of predictive policing.<sup>62</sup> That is, policing algorithms like the SSL do not close off the uncertain future for all subjects

equally, but for a certain set of racialized subjects. While critics have pointed out the problematic racial politics of this technology, it has not always been made clear how this politics is entangled with the way these algorithms function temporally. On my analysis, the racial politics of predictive policing cannot be understood without clarifying how their algorithms govern temporally.

The preemptive, racialized temporality of Chicago’s SSL highlights what Ta-Nehisi Coates calls the “paranoid style of American policing.”<sup>63</sup> The concept of paranoia helpfully captures the temporal governmentality of predictive policing. As Sedgwick (2003) notes, paranoia works temporally through anticipation to stave off threats and other “bad surprises.”<sup>64</sup> It is linked to preemption insofar as it strives to act as though the worst will have happened to prevent its actual happening. That is, paranoia closes off the future from contingency and turns it into an inevitability. Sedgwick remarks, “No time could be too early for one’s having-already-known, for its having-already-been-inevitable, that something bad would happen. And no loss could be too far in the future to need to be *preemptively* discounted.”<sup>65</sup> As a paranoid practice, predictive policing seeks to dispel possibilities deemed ‘dangerous,’ ‘bad,’ ‘threatening,’ or ‘criminal’ by treating them as necessary and certain. Unlike reactive policing, which reacts too late to crime that has already occurred, proactive policing can never be too early to respond to crime that has not yet occurred.

Consider first the CPD’s visitations to subjects with high risk scores under the Customs Notifications program. The CPD warns these subjects of violent crimes that they are predicted to be involved in but that have yet to occur. Rather than wait for the occasion of crime, law enforcement officers act in front of the crime as though it were always, already known. This way of relating to criminal activity is paranoid insofar as it suspects the threat of crime as though it always will have been. RAND Corporation’s external evaluation of the SSL’s first iteration has demonstrated that subjects on the SSL may be more likely to be arrested for a shooting.<sup>66</sup> Indeed, when gun violence escalated in Chicago in May 2016, CPD made nearly 200 arrests of people on the heat

<sup>58</sup> Chicago Police Department, Special order S10-05 (2015), p. 2.

<sup>59</sup> Ibid., 3.

<sup>60</sup> Amore links this preemptive activity of risk-assessment algorithms with the strategy of juridical decision associated with sovereign power. See Amore (2013), pp. 41, 82–83.

<sup>61</sup> While the continual revision of the SSL might seem to challenge this preemptive activity, it is ultimately updated in order to improve the algorithm’s predictive power, and hence to better preempt future crime. The idea here is that preemption contributes to the aim of predictive policing technologies and guides their revisions even when (or especially when) they are not successful in preempting crime.

<sup>62</sup> This marks a difference between Amore’s account of preemption in predictive algorithms and my own insofar as I understand preemption to be racialized in the case of policing algorithms like the SSL. While Amore presents preemption as a general feature of risk-assessment algorithms that appears to apply equally to all subjects, my own view is that preemption is differentially applied to racialized subjects, and thus cannot be fully understood without considering how it is entangled with a racial politics of time.

<sup>63</sup> See Coates (2015). Coates is here mimicking the title of Richard Hofstadter’s influential 1963 essay “The Paranoid Style in American Politics.” See Hofstadter (1965).

<sup>64</sup> Sedgwick (2003), p. 130, italics added.

<sup>65</sup> Ibid., 131, italics added.

<sup>66</sup> Saunders et al. (2016), p. 364. This study also found that “at-risk individuals were not more or less likely to become victims of a homicide or shooting as a result of the SSL, and this is further supported by city-level analysis finding no effect on the city homicide trend.” (Ibid.)

list.<sup>67</sup> This highlights the way in which the SSL functions to raise police suspicion toward subjects placed on the list with higher risk scores. Furthermore, this heightened paranoia is racialized insofar as the public dataset from 2012 to 2016 reveals that more than half of the subjects with risk scores over 250 are identified as Black and roughly 90% of the 154 subjects with scores of 500 (the highest score) are identified as Black.<sup>68</sup>

Consider next how predictive policing algorithms like the SSL use historical crime data to calculate risk scores. The CPD notes, “The software is generated based on empirical data that lists attributes of a person’s criminal record, including the record of violence among criminal associates, the degree to which his criminal activities are on the rise, and the types of intensity of criminal history.”<sup>69</sup> Some of the variables used for prior iterations of the SSL include previously collected data about subjects’ criminal history, arrest records, contact with law enforcement, and gang affiliation.<sup>70</sup> As argued by Moses and Chan (2016), O’Neil (2016), and Ferguson (2017), using past crime data is problematic because this data does not necessarily offer an accurate depiction of criminal activity within a given area. It is often limited by “what individuals choose to report and what law enforcement officers directly observe.”<sup>71</sup> Furthermore, crime data hides the racially fraught processes that went into its collection and classification. In other words, data is by no means “raw,” but comes already processed, worked over, or “cooked.”<sup>72</sup> Even if race is not expressly considered in predictive algorithms like the SSL, they can still produce or intensify discriminatory outcomes insofar as they rely on input data that is entangled in historically biased policing practices. Ferguson argues, “While race would never be included as part of the algorithm, many of the variables (police contacts, prior arrests, gang affiliations) directly correlate with racially discriminatory law

enforcement practices. If the data is colored black, it means that the predictive policing systems (using that data) could generate biased results.”<sup>73</sup> Hence, the collection, categorization, and use of historical crime data cannot be easily disentangled from the legacy of discriminatory policing practices.

The temporal danger with the use of historical crime data is that the data codifies and stabilizes the past, turning it both into something that is *bound to repeat* in the future and into something that can be *securely acted on* in the present. This codification of the past in the form of data functions to close the past off from possibilities of what could have been. No longer open or negotiable, the past gets preformed and packaged in the shape of data as something already given.<sup>74</sup> Hence, the pre-crime tactic of predictive policing does not simply detach itself from the past as some scholars have argued, but depends upon a process whereby the past takes the form of usable and storable data.<sup>75</sup> Predictive policing techniques not only remain anchored in the past through their reliance on historical crime data, they projectively extend this data in the future to generate risk scores. That is, they use and reinforce the past in the form of historical crime data to produce their preemptive power.

The most pressing worry presented by the SSL’s use of the past is that it potentially replicates a problematic history of discriminatory policing tactics. If the data that goes into the algorithm was collected and produced in a racially biased fashion, then the predictions that are generated by the algorithm will reflect these biases.<sup>76</sup> This creates a troubling self-fulfilling prophecy whereby the past foretells who will be likely of being involved in a crime on the basis of a subject’s past contact with police. Since police contact remains racially disproportionate in major cities like Chicago, the algorithm forecasts young men of color as subjects with the highest risk scores.<sup>77</sup> This self-fulfilling prophecy results in the practice of overpolicing, producing a harmful,

<sup>67</sup> Ferguson (2017), p. 40 and Davey (2016) available at <https://www.nytimes.com/2016/05/24/us/armed-with-data-chicago-police-try-to-predict-who-may-shoot-or-be-shot.html>.

<sup>68</sup> See <https://data.cityofchicago.org/Public-Safety/Strategic-Subject-List-Dashboard/wgnt-sjgb>. Another study found that over 50% of Black men in Chicago between the ages of 20–29 have an SSL score. See Kunichoff and Sier (2017), available at <http://www.chicagomag.com/city-life/August-2017/Chicago-Police-Strategic-Subject-List/>. While the SSL algorithm does not explicitly use race to calculate risk scores, the publically available data set from 2012 to 2016 identifies subjects with demographic variables like race and gender.

<sup>69</sup> Chicago Police Department, Special order S10-05 (2015), p. 2. Available at <http://directives.chicagopolice.org/directives/data/a7a57bf0-1456faf9-bfa14-570a-a2deebf33c56ae59.html>.

<sup>70</sup> See <https://data.cityofchicago.org/Public-Safety/Strategic-Subject-List/4aki-r3np>.

<sup>71</sup> Moses and Chan (2016), p. 4.

<sup>72</sup> See Gitelman (2013), p. 2.

<sup>73</sup> Ferguson (2017), p. 47.

<sup>74</sup> As historian Daniel Rosenberg reminds us, ‘data’ is the plural form of the Latin ‘datum,’ the past participle of the verb ‘dare’—to give. Hence, the plural ‘data’ and the singular ‘datum’ literally mean “something given” or “something taken for granted.” See Rosenberg in Gitelman (2013), p. 18.

<sup>75</sup> See McCulloch and Wilson (2016), p. 2, Lyon (2014), p. 6, and Zedner (2007), p. 262.

<sup>76</sup> As Barocas and Selbst observe in connection with data mining, “Data mining can reproduce existing patterns of discrimination, inherit the prejudice of prior decision makers, or simply reflect the widespread biases that persist in society.” See Barocas and Selbst (2016), p. 674.

<sup>77</sup> According to a 2017 investigation by the Department of Justice Civil Rights Division, patterns of racially discriminatory conduct pervade the Chicago Police Department. See USDJ Civil Rights Division 2017, 15, available at <https://www.justice.gov/opa/file/925846/download> and <https://data.cityofchicago.org/Public-Safety/Strategic-Subject-List-Dashboard/wgnt-sjgb>.

self-perpetuating feedback loop as the existing data draws police into areas they are already policing, thereby producing further crime data that further justifies and fosters increased police presence in those areas.<sup>78</sup> The temporal rhythm of such a practice can be captured by the circular process of reproducing a racially discriminatory past in the future as an inevitability. The SSL thus “burrows both backward and forward” in the words of Sedgwick, informing law enforcement of who to police, surveil, and caution in the future on the basis of who has been policed in the past.

The Strategic Subject List exemplifies the temporal governmentality of predictive policing algorithms that simultaneously stabilize and transform the past into a prophecy of future risk, which is preemptively avoided by turning this possible future into an inevitability. The paranoid rhythm of predictive policing consists in a double-closure of the past and the future such that the past becomes functional insofar as it is codified in historical crime data that is used to generate and preempt future criminal behavior. Predictive policing depends on a closed, racialized past and produces a closed, racialized future. This temporal racialization splits the future into two racially distinct times—a (white) time that is futurally open and a (non-white) time that is futurally closed. Thus, following Mills, whites perpetuate a racial historical practice of mastering and transferring time—the time non-whites “would have had”—from “one set of lives to another.”<sup>79</sup> This practice of mastering time is a quintessential exercise of power in the way Foucault defined it in 1982—as a “conduct of conducts” and “a management of possibilities.”<sup>80</sup>

## Conclusion

The paranoid temporality at work in the practice of predictive policing constitutes a form of temporal governmentality that, as I have argued, must be understood in relation to the racial politics of time. In *Between the World and Me*, Coates testifies to a profound truth of being “drafted into the black race:” “It struck me that perhaps the defining feature of being drafted into the black race was the inescapable *robbery of time*.”<sup>81</sup> This robbery of time occurs not only through the racialized closure of the past whereby non-whites are relegated to the prehistorical past of (white) European “civilization,” but also through the racialized closure of the future which can be witnessed in predictive policing tactics like Chicago’s SSL. Much like how geography and space can function as proxies for race (as we see in discriminatory practices like redlining), time can

also problematically function as a proxy for race, such that, as Brittney Cooper emphasizes, “If time had a race, it would be white. White people own time.”<sup>82</sup>

The racialized government of time described by Coates and Cooper does not, of course, depend on algorithms. Rather, algorithms are a newer iteration in a tragically long history of the racialized government of time. These technologies reproduce the racialized closure of the past and future that can be witnessed in other practices like imprisonment. Yet, they also reproduce it in new ways and with a newfound presumption of innocence. We often like to think of new technologies as neutral conduits that merely reflect back the problems and politics of humans. Instead of wielding algorithms as if they are ethically neutral, we might be more conscious of the ways they perpetuate existing injustices and contribute to the making of new ones.

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<sup>78</sup> See Završnik (2018), p. 12.

<sup>79</sup> Mills (2014), p. 28.

<sup>80</sup> Foucault (2000), p. 341.

<sup>81</sup> Coates (2015), p. 91, italics added.

<sup>82</sup> See Cooper (2017), available at [https://www.ted.com/talks/brittney\\_cooper\\_the\\_racial\\_politics\\_of\\_time](https://www.ted.com/talks/brittney_cooper_the_racial_politics_of_time).

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