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Andrew G. Ferguson, The Rise of Big Data Policing: Surveillance, Race, and the Future of Law Enforcement *(New York, NY: NYU Press, 2017). 272 pp. $28.00 (hardcover), ISBN: 1479892823*

Between 2012 and 2018, New Orleans Mayor Mitch Landrieu contracted with big data analytics firm Palantir, using the company's predictive policing technology to address the city's murder rate, which was the sixth highest in the nation. The partnership between city government and private sector big data provides fertile ground for the public policy questions swirling around the big data, algorithmic bias, and the future of public service work. On the one hand, the partnership was born and lived in secrecy, and the powers of surveillance it granted were out of balance with what is commonly expected for local government. As one critic summed up, "It's almost as if New Orleans were contracting its own version of the NSA to conduct 24/7 surveillance of the lives of its people" (Winston 2018).

By other measures, the program was successful in its aim. New Orleans used Palantir's data and methods to identify the top 1 percent of "violent crime drivers" (34), as well as those most likely to be the victims of homicide. The murder rate in New Orleans fell by nearly 22 percent, and gang-related murders fell by 55 percent, all in a relatively short span between 2011 and 2014. The comparative murder rates during the same period fell nationally by 4 percent, whereas the rate for the regional South was unchanged (FBI 2012, 2015).

Big data is new technology, but some of the questions it poses for public administration are old—how do we craft public policy that is effective, efficient, and equitable? However, simple questions do not suggest simple answers. Framing the New Orleans example with those values in mind, the rapid and significant reduction of homicides is undoubtedly effective, but there are reasons to suspect the big data solution was also an equitable one. Homicides in New Orleans disproportionately victimized black men. An analysis of the sharp drop in homicides between 2012 and 2015 (Asher 2016, 6) shows that "Murder was down citywide almost exclusively because of drops in murder among African Americans." How

should public administration scholars weigh the policy implications of 32 fewer black men killed in 2015 compared to 2012 against the disproportionate impact of big data policing on those who reside in a community targeted for high-risk offenders and victims?

Author and Intent

Andrew Guthrie Ferguson dives into the New Orleans example, as well as numerous other U.S. examples, in his accounting of the use of big data in policing. *The Rise of Big Data Policing* is a substantial contribution to the emerging field of surveillance studies. It is not without limitations, but those limitations are primarily the result of constraints that all scholarship in this area is confronting. Because the big data in question is held privately but proxied through governmental use, research in this area is notably difficult. In Ferguson's conception, this is a form of "black data." The data and algorithms used by companies such as Palantir hide behind patents and other commercial protections and, despite having a tremendous impact on public policy, are not easily forced into the public (and scholarly) view through traditional means, such as the Freedom of Information Act (FOIA).

Ferguson intends to examine the impacts of big data policing. He recognizes that the promise of "smarter" policing is balanced against the "fear of totalizing surveillance" (5) and writes that his aim "is to look at the dangers of black data arising at this moment in history." Ferguson is a professor of law at the University of the District of Columbia, but his legal scholarship background does not limit his critique to merely the constitutional or judicial. He uses case examples across the United States to illustrate his aims and speaks to two audiences with his book—scholars interested in the nexus of technology and criminal justice and police administrators.

For researchers interested in where to begin researching how policing agencies are using big data,

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and by extension how the technologies impact public agencies more broadly, this work covers substantial ground. The text is enjoyable and readable, and given the breadth of big data's expansion into law enforcement, readers are likely to find examples in Ferguson's case studies of the marriage of policing and big data in familiar cities and contexts.

Black, Blue, and Bright Data

Chapters seven, eight, and nine form the heart of Ferguson's conceptualization of big data in policing. Chapter seven focuses on "Black Data," so named because it is opaque, has disproportionate effects on communities of color, and is the latest in-fashion technology. The initial optimism surrounding big data policing solutions promised an unbiased, fresh start. Ferguson argues (133) that the formation of big data, its secretive use, and distorted views on privacy and rights combine to ensure that "big data policing cannot—in truth—escape a long history of racial discrimination."

Chapter eight highlights "Blue Data," or data about the police themselves, and forms Ferguson's answer to the problems he highlights in previous chapters. Blue data can transform policing itself, he argues, by using the same technologies of social surveillance embedded in big data-predictive policing to collect information on police misconduct and racial bias. Regrinding the surveillance lens into a sousveillant one is an optimistic, albeit difficult, policy goal to attain. More commonly, technology adopted to curtail illicit state power is quickly adapted into another tool of state power. In a modern example, body-worn cameras were rapidly adopted in the hope they would reduce unlawful police force but just as quickly became a favored tool by police and prosecutors who used the camera footage to clear officers involved in on-duty shootings (Trimble 2018) and to provide evidence in the officer's favor when subject of a complaint (Newell and Greidanus 2018).

Ferguson's most substantial contribution is his conceptualization of "bright data" in chapter nine. "Risk is severable from remedy" (167), and police use of big data forecasts and analysis of risk need not equate to police action on that risk. A predictive algorithm may point to a rash of vehicle thefts (a case study from Colorado in chapter four), but the social and environmental factors driving the thefts is not necessarily best addressed by temporarily increasing police patrol of the area. The conflation of risk and remedy is familiar ground for policy scholars, who are old hands at separating problem definition from ex-ante solution. Ferguson reveals himself as a big data believer, calling for big data throughout municipal and state offices. Drug overdoses, violence risk, lead pipes, poverty, and mental illness are all theoretically as mappable with big data as are reports of crime,

and bright data can craft "non-punitive methods to address the same social problems" (175).

Public Administration, Big Data, Big Ethics

For public administration scholars, Ferguson's work will be interesting for the connections the author makes between public service and privately held big data. As Ferguson notes (7), we already live in a near-constant state of surveillance, and the watchers are not the state but the companies who "know you because of the data you leave behind," and your data trail "reveals the mosaic of lived experience and has become the currency of the new economy." Big data policing is the near-inevitable move from the state policing apparatus to leverage existent data from commercial sources in pursuit of their agency's mission. Palantir is not a data sourcing company but a data accumulator, collecting a vast array of data from across sources and selling access to that information to law enforcement.

The police administrator, however, is whom Ferguson addresses in the conclusion of his book. The police administrator, whose desk "is simply too small to hold the overflowing policy and legal ramifications" (187), which spring from the move toward policing with big data, needs preparation and support in order to implement and control big data policing successfully. Ferguson's focus on the police administrator underlines the vital role of public administration scholars in big data policy as we straddle the practitioner and scholarly worlds and craft policy answers. Public administration scholars are well-versed in grappling with competing public values of efficiency, effectiveness, and equity, and that balance is tested in the quick turn to big data in policing.

Compared to What?

Without losing sight of the strengths of Ferguson's effort, there are limitations to keep in mind. One shortcoming of the author's approach to the topic is a reluctance to engage in the debate about trade-offs. Every work has its outer limits, and where Ferguson's legal framework leaves off is a useful place for public administration and policy researchers to begin. Public administration scholars may find themselves asking "compared to what?" throughout their reading.

The risk that algorithms will amplify the implicit biases of their human programmers is real, but so is the possibility of reduced explicit biases. New Orleans big data choices have been rightfully and widely critiqued for the decision to hide the program from public sight—but a 20 percent reduction in overall homicides and a 55 percent reduction in gang-related homicides, if replicable, is a tempting outcome for mayors across the country grappling with violent crime. The privacy critiques leveled by Ferguson and others concerned about the disproportionate effects

of increased police surveillance on communities of color are no less salient in public policy debates, but with the New Orleans program titled "NOLA For Life," the focus of practitioners on saving lives must be acknowledged. Big data policing poses risks, but given the history of disproportionate effects of traditional policing on communities of color, it begs the question: Compared to what?

A limit of big data studies, which this book does not overcome, is the lack of broad, detailed, quantitative data. This limit is less a critique of the book than underlining the gap between practice and academic effort. The strength of Ferguson's work for scholars is understanding how wide the gap is, illustrated through a host of examples and case studies. Readers will likely be surprised to discover just how wide-ranging the impact of big data, algorithmic justice, and artificial intelligence has already been in policing. "The big data revolution has arrived," (6) Ferguson writes, and he succeeds in showing just how far behind scholarship has fallen in understanding the impacts.

Ferguson focuses on providing broad coverage of the use of big data by police agencies, which has already occurred, and errors are rare. His discussion of body-worn cameras claims the technology creates a "continuous feed" of officer actions (89) when, in reality, the vast majority of the cameras record on an incident basis and are activated manually by the officer. His claim that combining facial recognition technology with body-worn cameras is "more aspirational than real" is less valid by the day. The largest manufacturer of body-worn cameras only recently announced that the latest generation of the technology is capable of live-streaming (Pasternack 2018) and filed for a patent to combine that capability with facial recognition.

Conclusion

Big data influences how, who, and where we police. The policy questions posed by the rapid rise of big data across public agencies, including police agencies, have been slow to gather the scholarly attention needed to shape the policy answers effectively. In a recent editorial in this journal, Paul Battaglio and Jeremy Hall warn about the expanding gap between the use of technology and public administration values (Battaglio and Hall 2018, 826), with risks to "privacy and performance as decisions are increasingly autonomous, and as technological advances outpace government's ability to regulate them."

The widening of police surveillance tactics risks "transforming police officers' bodies into mobile surveillance tools" (Adams and Mastracci 2017, 321) and is a crucial ethical challenge to be addressed by public administration scholars. Gary Marx (1998) is

admirable for his far-seeing scholarship focused on structuring ethical approaches to surveillance, and his work is well-suited to help public administration scholars address the questions posed by the government's use of big data. While Marx's 29 questions to interrogate the ethics of surveillance are too long to replicate here, his insistence on respecting the dignity of the individual and focusing on the means, context, and conditions of data collection is a useful place to begin policy debates about government and big data.

Ferguson's book provides an excellent review of the sheer breadth of big data's entry into policing, as well as some depth through the case studies he presents. When combined with the theory and research experience of public administration scholars—long practiced at unpicking claims of neutrality in public service—*The Rise of Big Data Policing* is a well-constructed, valuable addition for those interested in how technology and government interact.

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