Article

Making the Body Electric: The Politics of Body-Worn Cameras and Facial Recognition in the United States

Jacob Hood

New York University, USA
jacobhood@nyu.edu

Abstract

This paper explores the rapid deployment of police body-worn cameras (BWCs) and the subsequent push for the integration of biometric technologies (i.e., facial recognition) into these devices. To understand the political dangers of these technologies, I outline the concept of “making the body electric” to provide a critical language for cultural practices of identifying, augmenting, and fixing the body through technological means. Further, I argue how these practices reinforce normative understandings of the body and its political functionality, specifically with BWCs and facial recognition. I then analyze the rise of BWCs in a cultural moment of high-profile police violence against unarmed people of color in the United States. In addition to examining the ethics of BWCs, I examine the politics of facial recognition and the dangers that this form of biometric surveillance pose for marginalized groups, arguing against the interface of these two technologies. The pairing of BWCs with facial recognition presents a number of sociopolitical dangers that reinforce the privilege of perspective granted to police in visual understandings of law enforcement activity. It is the goal of this paper to advance critical discussion of BWCs and biometric surveillance as mechanisms for leveraging political power and racial marginalization.

Introduction

On December 15, 2017, an Austin Police Department (APD) officer opened fire on a stabbing suspect outside of a Central Austin apartment complex. The entire incident was recorded by the officer’s body-worn camera (BWC). Two days later, in an unrelated incident, another APD officer fired at a suspect who, while walking toward the officer, refused to drop a knife. This event was also recorded by the officer’s BWC. Almost immediately, APD began analyzing the BWC footage in order to garner an “objective” viewpoint. Interim Police Chief Brian Manley said that “it was fortunate that our officers that were involved had the body-worn camera because they really did provide a view that we would not have had otherwise,” because prior to the deployment of BWCs in Austin, Texas, he would have had to “just try to put together the best assessment of what had happened” (Wilson 2017).

BWCs have become the technological norm for police departments across the United States, employed with the goal of obtaining a similar third-party perspective as in the incidents in Austin (Sousa, Miethe, and Sakiyama 2015). Police BWCs emerged amid a cultural panic over police violence towards people of color (largely unarmed black people), promising to reduce police misconduct and foster transparency. Yet the growth of interest in these devices has been met with worry regarding their privacy implications as well as overly optimistic hopes that they will reduce police misconduct and improve officer-community relations (Nielsen 2016; Phillips 2016; Thomas 2017; Fan 2018). Accompanying this are evolving efforts to integrate biometric technologies, such as facial recognition software, into existing BWC practices (Harwell 2018; van

Hood, Jacob. 2020. Making the Body Electric: The Politics of Body-Worn Cameras and Facial Recognition in the United States. *Surveillance & Society* 18(2): 157-169.

<https://ojs.library.queensu.ca/index.php/surveillance-and-society/index> | ISSN: 1477-7487

© The author(s), 2020 | Licensed to the Surveillance Studies Network under a [Creative Commons Attribution Non-Commercial No Derivatives license](#)

Schelle 2018). Beyond the legal concerns about these advancements are the normative concerns about using the body as the target of policing. If we consider the history of the physical body as a site of domination for marginalized groups, then practices of making these bodies more visible becomes all the more perilous. The central danger becomes the potential for this new model of policing to (re)define which people's bodies are codified as authorized and unauthorized in terms of criminality. If the proposed duty of police is to investigate, solve, and prevent crime, then the target of policing practice is the "criminal" as defined by their socio-legal transgression(s). Policing becomes more dangerous when individuals are broken down and reinterpreted in terms of the information provided by their body, instead of as agential social beings.

The first section of this article lays out the guiding theoretical framework of "making the body electric" to describe cultural practices of entangling technology with the body. Drawing upon ideas from Simone Browne (2010, 2015), Bryan Pfaffenberger (1992), and Michel Foucault (1975, 1976, 1978), I propose this theory to address the various ways that connecting the physical body with technology contorts social power, particularly around race. The second section of this article describes the development and employment of BWC devices and the subsequent push for integration of biometric capabilities. This section reviews the major literature on the devices' ability to decrease police misconduct, foster department transparency, and arouse public support for their use. In the third section, I build my analysis of the sociopolitical consequences of BWC and biometric technologies, with special attention toward facial recognition analysis, using the lens of making the body electric. This paper merges empirical and theoretical work on BWCs with emerging conceptual, discursive, and technical work on facial recognition to outline the dangers of what may occur if these technologies collide.

Making the Body Electric

This article focuses on the reciprocal relationships between the physical body, state power, and social marginalization. Within the context of social control, the body has long been used to reflect and enact surrounding social hierarchies. As such, the discipline of sociology has increasingly considered the importance of the body in social life and structure (Foucault 1975; Crossley 1995; Witz 2000; Howson and Inglis 2001; Benjamin 2016). In terms of social control, Simone Browne (2010) describes how certain biometric technologies act as exercises of prototypicality, creating dichotomies of "authorized" and "unauthorized" based on digitized understandings of the body. In this way, biometrics fixate on the physical body as a site of profession and truth. Browne (2010: 135) offers us this idea of "digital epidermalization" to think through how biometric surveillance rewrites the "body as evidence" by seeking this truth supposedly embedded within the body. When those doing this data collection and analysis are agents of the state, this information is more likely to be interpreted through hegemonic normativity—the lens of the white, cisgender, heteropatriarchal male. As such, regarding the body as confession exercises certain political hierarchies that translate into material reality for racialized/gendered bodies. My goal in this article is to offer a language for and interrogation of the political nature of the body, outlining the danger of integrating body-worn cameras with facial recognition.

Drawing upon Browne's (2010) understandings of bodies and surveillance, I propose the idea of "making the body electric" to describe cultural practices and processes of identifying, augmenting, and codifying the body through technology. Specifically, I offer this concept to examine how the physical body's entanglement with technology reinforces certain racialized/gendered ways of thinking. The dangers of hegemonic understandings of the body lay in their potential to (re)create oppressions experienced by those who endure the material effects of the marginalized, physiological body. Derived from Walt Whitman's "I Sing the Body Electric," a poem reflecting this fixation on human physicality, "making the body electric" describes how the body is increasingly implicated in technological surveillance regimes. In regard to policing, this concept offers a critically informed framework for understanding how the policing of marginalized bodies through technology upholds hegemonic understandings of the body.

Working within science and technology studies, Bryan Pfaffenberger (1992) describes the concept of a "technological drama" as a series of political discourses shaped by (and through) technological artifacts. In

essence, technology is the material manifestation of political interests (Pfaffenberger 1992). I do not aim here to reimagine the relationship between technology and society, but instead to put Browne's (2010) digital epidermalization into conversation with Pfaffenberger's (1992) technological drama in order to understand the political consequences surrounding the body's implication in technological regularization, adjustment, and reconstitution—to understand the body made electric. While I introduce making the body electric to account for the impact of biometrics, I also use the idea with attention to augmentation of the body with technology, i.e., body-worn cameras, night vision glasses, and bulletproof vests in the context of policing. As the theory recognizes the social and political underpinnings of technology, it incorporates Pfaffenberger's understanding of resistance to technology as a fundamental part of embedded political discourses. In this understanding, technology does not only embody certain politics but also encounters accommodation and opposition from social actors (Pfaffenberger 1992: 299–300). This stipulation is critical for understanding how marginalized groups respond to—and push against—certain technologies: to make the body electric is not to engage in a one-way exercise of power but to open a channel for contestations of power and political agency. Recently, pushback specifically against facial recognition was observed when San Francisco, California became the first major US city to ban facial recognition use by police and other city agencies in May 2019. Further, and of particular importance here, California state lawmakers are also considering banning the use of facial recognition with police body-worn cameras writ large (Dean 2019). This consideration comes on the heels of the first major roadblock to interface between the two technologies: major BWC supplier, Axon, announcing in June 2019 that the company would ban use of facial recognition with their BWCs after repeated requests to make this relationship a reality. Yet this ban does not rule out a future where facial recognition-equipped BWCs are the reality, or the manipulation of loopholes in the meantime, as the Axon ethics board notes that the technology needed is “not *currently* reliable enough” (Warzel 2019; emphasis added). As one of the biggest technological and ethical debates in policing, these challenges to integrating BWCs with facial recognition are important for understanding the culturally situated nature of technology. As a conceptual model, processes of making the body electric account for these varied uses of power surrounding the body's union with technology.

How can we understand the physical body's use-value within policing? And, perhaps more pressing, how does this use-value relate to processes of racialization or subject-making? Simone Browne (2010: 139) reminds us that some of the earliest acts of racialization as social control involved the branding of slaves “as a practice of punishment, accounting and of making the already hyper-visible body legible.” Legibility in the sense of being identifiable by their enslavers, yes, but also in being understood as “commodity, strictly in an economic sense” (Browne 2010: 139). The intimate experiences of occupying a human body became new geographies for mapping social organization and ontologies of race. As an internal logic, racialization relies on the human body as a tool for enforcing racial hierarchy. In that same vein, to understand the body as a database confessing a racial identity is to enforce biological absolutes of race that classify people based on perceived phenotypical difference (read, perceived inferiority). Locating the body as a site of absolute truth also attempts to codify slippery social identities as unassailable, biological realities. What, then, is at stake by using the body to sort identities? I assert that hegemonic political and epistemological forces can use the body made electric, made evidence, to sort, analyze, and identify based on established lines of privilege and normativity. By regarding quantifiable data from the body as infallible, socially constructed categories are projected onto biological bodies, creating orders of authorized/unauthorized, accepted/rejected, human/non-human. Further, the phenomenon of wearable technology in policing presents similar issues of privilege in the exercise of state power. Healey and Stephens (2017) argue that wearable technology, especially cameras, can extend the gaze of the state and align social relationships along established lines of privilege. In the case of BWCs specifically, enhancing the officer's body with recording capabilities subsequently strengthens ties between the physical body and policing, marrying the fleshy reality of power with the enhancements of state technology. As an intervention into this reality, “making the body electric” allows a space to process, critique, and reimagine policing practices outside of pure extraction and misuse of the body. For my purposes here, “misuse” of the body and/or biometric technology can be understood as any use that promotes social inequality or marginalization based on these technological understandings of the body.

To fully understand the importance of the body in policing, we must consider the history of biometrics in law enforcement as well as the politics surrounding the body. Crucially, biometrics are not just the future of policing—they are its past and present. With more well-known methods such as dactyloscopy (fingerprinting), mug shots, and bertillonage—facial recognition’s nineteenth-century precursor that consisted of a cataloguing system of mug shots and body measurements—the body has long been positioned as a tool for identifying and classifying criminality. As a carceral project, practices of knowing the body through its measurements are indebted to histories of colonial sciences seeking to find evidence of racial difference through scientific rationale. As mentioned earlier, blackness was literally branded onto the bodies of enslaved Africans—a way of knowing the body that legitimized social order (Browne 2015: 93). Soon after the introduction of bertillonage systems, criminal convictions based on biometric data (such as fingerprints and DNA) began to pave the way for a new model of policing. Identifying deviance through “increased registration and identification” became a logic of law enforcement and, conveniently, aligned with race, gender, and related “sciences” that terrorized marginalized bodies (Parenti 2003: 51). This individuation of the human body is founded in what Christian Parenti (2003: 186) calls a voyeuristic cultural obsession with “knowing the corporeal; of seeing and experiencing violence and sex.” According to this logic, the body possesses an absolute truth to be uncovered through its measurements. Given the reality of the physical body’s entanglement with surveillance regimes, the concept of biopower is an obvious and relevant concern. Biopower and biopolitics¹ concern the location of the human body as a site of political strategy and power negotiation (Foucault 1978: 16). In essence, biopower is the literal exercise of power over an individual’s body. Based in mechanisms of disciplinary power that regard humans “both as objects and as instruments of its exercise,” biopower individuates its subjects as a logic of social control (Foucault 1975: 170). While a key idea in surveillance studies and sociology more broadly, biopolitics has been critiqued by critical race scholars such as Alexander Weheliye (2014: 14) for its “[occlusion of] race as a critical category of analysis.” Indeed, Foucauldian notions of biopower/politics undertake a Western, essentialist view of humanness and the body that lacks a necessary critical edge for understanding race (specifically blackness) imposed on the body. Weheliye (2014: 12) reconfigures ideas of disciplining the body through “racializing assemblages,” which understand race “as a set of sociopolitical processes that discipline humanity into full humans, not-quite-humans, and nonhumans.” These distinctions are critical as race does not function simply as an axis for discipline but as a method of assigning fungibility, of defining one’s proximity to death. Critical race perspectives on surveillance, discipline, and the body are essential for excavating the full political stakes of making the body electric for racialized populations and for the maintenance of broader racial hierarchies.

In many ways, the disciplining of racialized bodies occurs through abstract constructions of sovereignty. The ideological, social, and cultural forces that govern specific geographic areas also govern the physical human bodies within them. In his lectures on security, territory, and population, Foucault (1978: 32, 34) situates discipline within “the order of construction” that constructs and legitimizes space as within the physical/ideological purview of the sovereign state. Discipline, then, functions as a prescriptive method in that it codifies how individuals should act, orienting itself toward the production of “sufficient single units” (Foucault 1975: 170). Surveillance as population management—as a method of identifying, categorizing, tracking, and authorizing individuals—is facilitated by this fixation on the individual body. If a state can differentiate between members of a social group—be it a nation, city, or neighborhood—then power can operate at maximum efficiency because it is internalized as legitimate by the individual.

Given this connection between race, physical bodies, and social control, the effects of making the body electric become all the more critical. When such body-technologies are used by agents of the state, the bodies of those routinely targeted become even more susceptible to over-policing, over-imprisonment, and other acts of state violence. Recent trends and controversies surrounding BWCs and facial recognition demonstrate the political nature of making the body electric, especially within law enforcement. This

¹ Necropolitics (control over proximity to death) serves as a necessary intervention in discourses encompassing both the body and marginalization (see Mbembe 2003).

framework can help us understand the body made electric in situations such as Michael Brown's family calling for police nationwide to adopt BWCs (Lopez 2014) as well as San Francisco's ban on facial recognition (Dean 2019). Processes of making the body electric fundamentally affect the politics both embedded in and surrounding the technological artifact in multilateral levels. I am particularly interested in that "affect," in how power is negotiated through the body made electric. Through critical analyses of body-worn cameras, facial recognition, and their potential intersections, the remainder of this article will apply this theoretical framework to investigate these technological dilemmas.

The Rise of Police Body-Worn Cameras

BWCs emerged relatively recently as a feature of law enforcement technology. Designed to decrease police misconduct and increase transparency, BWCs quickly became the focus of policymakers and activists in the wake of a series of shootings of unarmed black people, such as Michael Brown in 2014 (Ariel 2017: 731). These cameras, affixed at the officer's sternum or shoulder, are designed to record patrol activities, interactions with suspects, and communication with members of the general public. BWCs purportedly provide an objective, "third-party" perspective on an increasingly scrutinized profession (Sousa, Miethe, and Sakiyama 2015). In a hyper-visible cultural moment of state violence against black people's bodies, BWCs were adopted as a primary solution to the systemic issue of police brutality. The rapid expansion of police surveillance capabilities in a post-9/11, intra-PATRIOT Act era presents a number of justice and privacy concerns regarding what aspects of public life are subject to state-sanctioned surveillance (Bloss 2007). BWCs, as one of these escalated surveillance techniques, possess the potential for First and Fourth Amendment² violations in addition to the personal freedom concerns their misuse presents. At a sociocultural level, public use of BWCs cannot be separated from the racialized, classed, and gendered contexts in which they operate, as BWCs can reorganize (or reinforce) social hierarchies (Ray, Marsh, and Powelson 2017).

Empirical work on BWCs often focuses on the devices' ability to reduce police misconduct. Since the deployment of these devices far outpaced research on their efficiency and social implications, there are only a few studies that assess pre- and post-camera effects on officer use of force and misconduct. Some studies suggest BWCs can foster greater trust between communities and law enforcement agencies, yet their ability to reduce police use of force has not been fully demonstrated (see Ariel, Farrar, and Sutherland 2015; Ready and Young 2015; Ariel 2016; Ariel et al. 2016; Culhane, Boman, and Schweitzer 2016). A national study in 2015 found that 85% of respondents thought that police should wear BWCs, though fewer (66%) believed that BWCs would improve police relations with citizens and even fewer (36%) indicated that the devices could decrease racial tension between officers and communities of color (Sousa, Miethe, and Sakiyama 2015). Human operators also limit the cameras' functionality. Discretionary activation of the cameras, which is a symptom of the larger culture of discretion within policing, could see officers choosing which actions are recorded and which are left out of the footage (Taylor 2016: 130).

Along with these developments in past years is an expressed interest in integrating biometric capabilities such as facial recognition analysis into live video streams, or *post-facto* biometric analysis of stored BWC data (Harwell 2018; van Schelle 2018). As mentioned earlier, Axon banned the use of facial recognition software with their BWCs in mid-2019, yet the possibility of their eventual interface still remains (Warzel 2019). Cultural practices of making the body electric ultimately bring up the concern of how marginalization can be (re)inscribed on physical bodies. At the level of what Foucault (1975: 26) calls "systematic discourse," these "political [technologies] of the body" align existing power differentials along lines of normativity, further defining the body as a battleground for political warfare. The use of biometric analysis in conjunction with rapidly developing BWCs repositions the physiological body as the target of policing practice—not the criminal activity, nor the "criminal" (as a social construction), but the body itself.

² In the US Constitution, the First Amendment guarantees freedoms of religion, speech, press, assembly, and petition, while the Fourth Amendment protects against warrantless searches and seizures.

Entwined with debate over BWCs' functionality is the growing presence of the private sector in the public business of policing. Axon (formerly TASER International), who serves as the main supplier of police departments' BWCs, has drastically enhanced their cameras in recent years to support HD and low-light recording, Wi-Fi streaming, wireless activation (such as recording triggered by opening a patrol car door), and seventy-plus hours of battery life (Axon n.d.a). In addition, Axon operates Evidence.com, which is a cloud server for data collected by law enforcement agencies, including audio and visual data gathered by BWCs (Axon n.d.b). Not only is the database operated by the corporation that has profited considerably from the expansion of BWCs, but this same corporation controls a large portion of facial recognition's ability to eventually interface with BWCs.

As companies such as Axon and Amazon³ gauge the opportunity for facial recognition analysis to become routine in policing practice, BWC policies remain inconsistent across departments (The Leadership Conference on Civil and Human Rights and Upturn 2017; Condliffe 2018; Fan 2018). Concerning the regulation of biometrics, the majority of large police departments have no guidelines in their BWC policies regarding their employment—Baltimore is one of the only large departments to limit BWC data from being used to “create a database or pool of mug shots” in “photo arrays” or “be searched using facial recognition software” (Baltimore Police Department 2018). These gaps in policy—including inconsistencies across departments in footage storage time, public access to footage, and guidelines for camera usage—present critical issues for BWC efficacy. The lack of robust, consistent policy not only presents opportunities for misuse of this technology but also restricts the devices' supposed capability to foster transparency and accountability.

Privilege of Perspective: Facial Recognition and Political Bodies

With an understanding of this paper's guiding theoretical framework and the growth of BWC devices, I turn now to facial recognition as an example of the complex politics inherent in making the body electric. Of course, the use of cameras and images in identifying faces has long been important in policing. While police sketches, daguerreotypes, and mugshots, for instance, rely on certain normative assumptions of the body, the algorithmic nature of facial recognition poses more pressing political dangers. These dangers involve the codification and reproduction of oppressive, normative conceptions of the body by law enforcement technology. I am most interested here in Browne's (2010: 135) understanding of surveillance technologies as “alienating the subject by producing a ‘truth’” and in how facial recognition reinforces racialized/gendered truths. As a biometric technology, facial recognition functions as discursive practice. By this I mean, in its language of “truth-seeking” and “evidence-making,” facial recognition reifies certain societal distributions of power through codified scientific rationality. Yet the actual technology is anything but clear-cut. Facial recognition does not provide one absolute “match,” but instead a list of likely photos with certain similarities, deemed “candidates” for further investigation. The Georgetown Law Center on Privacy and Technology identifies two main purposes of police facial recognition: face verification (where the aim is to confirm an identity) and face identification (where the aim is to identify an unknown face) (Garvie, Bedoya, and Frankle 2016). The strength of a facial recognition algorithm—its ability to correctly verify/identify faces—depends on, among other factors, the size and diversity of its training set, a database of photographs used to “teach” a model how to perform its job. If the training set overrepresents one demographic, such as white male faces, the algorithm will be more adept at identifying white male faces, creating opportunities for the misidentification of other demographics. Factors such as eyeglasses, lighting, make-up, skin tone, environment, and angle can reduce success rates of facial recognition algorithms. Coupling this with excessive motion and battery life issues in BWCs further problematizes the pursuit of live facial recognition and builds a stronger case for banning their interface across all platforms. Indeed, the FBI's facial recognition software produces a list of fifty candidates that contains the accurate suspect only

³ Amazon continues to market its controversial facial recognition software, Rekognition, to police departments.

86% of the time, and a separate FBI study of three commercial algorithms found a 5-10% lower accuracy rate in attempting to identify black faces (Garvie, Bedoya, and Frankle 2016: 67, 54).

The development of facial recognition is based in biased prototypicality that categorizes certain phenotypical traits as authorized and (re)distributes social resources according to these algorithmic classifications. It must be stressed that this form of surveillance in use with BWCs embodies what Introna and Wood (2004: 183) term a “silent technology” that is obscure and embedded in existing surveillance systems. As such, the integration of facial recognition is inherently political—“by its very design, [it] includes certain interests and excludes others” (Introna and Wood 2004: 179). With the integration of this software into BWCs, faces can be scanned, analyzed, and categorized in real-time without the consent (or knowledge) of the recorded subject. This is one of the largest issues with facial recognition as opposed to other forms of biometrics like fingerprinting: as a Remote Biometric Identification (RBI), facial recognition can be conducted from far away without the person’s involvement (Garvie, Bedoya, and Frankle 2016: 10).

Concerns about false positives/false negatives in facial recognition are central in its development. The Face Recognition Vendor Test (FVRT) administered by the National Institute of Standards and Technology (NIST) is designed to evaluate “commercially available and prototype technologies” for deployment by government and law enforcement agencies (Flanagan 2018). NIST began evaluating facial recognition algorithms through the FVRT in 2000 and since then has drastically expanded their evaluation criteria in response to changes in facial recognition technology. The ongoing 2018 FVRT assesses the strength of one-to-many (1:N) facial recognition algorithms, the first since 2013, applied to 2D “cooperative portrait images” such as mugshots (Grother, Ngan, and Hanaoka 2019b: 3). The FVRT computes three main accuracy metrics: false negative identification rate (FNIR), false positive identification rate (FPIR), and selectivity, which assesses how many candidates an algorithm returns above a pre-established threshold (Grother, Ngan, and Hanaoka 2019b: 4). While the first part of the 2018 FVRT, evaluating verification algorithms, assesses the effects of using birthplace (as a functional proxy for race) and age to calculate false non-match rates (Grother, Ngan, and Hanaoka 2019a: 31–36), these tests must occur more frequently and incorporate evaluation of racial, gender, and age bias (Garvie, Bedoya, and Frankle 2016: 69). Given the weaknesses of facial recognition, additional governing bodies must follow suit with Axon in banning interface between BWCs and facial recognition.

The move toward making the body electric through biometrics is occurring at a moment of mass dataveillance and big data, where the individuating location of the body is regarded as consenting database. The body as the site of absolute truth—as already professed confession, to be collected and instrumentalized (Foucault 1976)—is located in similar discourses of eugenics and race science that regard physiology as prescription for social behavior. Obsession over biometric data, like that gathered by BWCs, participates in the redefinition of the body’s ontology as *being* information rather than consisting *of* information. This redefinition allows law enforcement to reinterpret and categorize people based on dehumanized, digitized information that reinforces scientific rationality as legitimate truth. As we consider “what exactly should be filed and stored, to whom it should be made accessible, and for what uses,” the normative implications of biometrics’ entanglement with body cameras must be considered (van der Ploeg 2002: 69). If we regard the body merely as evidence, as database, as confession, then we facilitate the dehumanization of those whose bodies are routinely subjected to state violence. Given that certain demographics/bodies are more likely to be surveilled, the transformation of these groups into data points can reproduce their oppression. Regarding the body as evidence detaches contextual understandings of what it means to inhabit a marginalized person’s body, and what it means to exploit one.

The aesthetics of BWCs (and the more covert, embedded aesthetics of facial recognition technology) are intimately connected to a politics of sight and seeing as a privileged act. In simpler terms, what I call the “privilege of perspective” is granted to police. Policing is as much a practice in image control as social control, leading to, in some instances, the conflation of surveillance aesthetics with increased public safety and security—what Simone Browne (2015) calls “security theater,” which creates the feeling of safety without actually providing it. The use of footage, cameras, and images are central in both public and private

aspects of policing: from video footage used in officer training to the “sousveillance” (Mann 2013: 3) of citizens recording police, often on mobile phones, the optics of law enforcement continue to grow in importance. How, then, can we understand the specific dangers BWCs pose alongside facial recognition? While facial recognition may present more obvious accuracy concerns, what exact issues do BWCs bring about? To understand the politics of the camera, I turn to Paul Frosh’s (2001: 43, 50) argument that photography is not merely a “technology of visual representation” but also a “performance of the exercise of social power through visibility.” Beyond seeking to capture a photographic truth, photography creates power imbalances between the various subjects involved: some will have the power of viewing, some the burden of being viewed, and others will be left out entirely. In the case of body cameras, that power of viewing—the privilege of perspective—is held by police. The privilege of perspective not only occurs in moments of recording but extends through processes of manipulation, analysis, and distribution to also become a privilege of *perception*. Returning to the two stabbing incidents in Austin, Texas mentioned in the introduction, we can understand how the privilege of perspective operates: the power of continuous recording in both incidents was held by APD officers, even allowing the opportunity for some form of later analysis. As an entity of the state, APD’s ability to store, analyze, represent, and interpret the cameras’ footage in order to identify the two suspects extends the privilege of the initial recording to define the power distributions of the entire process. What I urge here is that practices of making bodies more visible—specifically racialized/gendered bodies—through photography and video recording create dichotomies of “self” and “other” that can fall along existing lines of race, gender, and class oppression. By coupling cameras with facial recognition, this privilege gains more political power in being able to identify, track, and authorize the subjects captured in footage. The politics of sight, then, do not just dictate the construction of one body camera but also dictate the broader societal relations of who has the power of watching and who bears the societal burden of being watched.

The politics of recording and being recorded represent foundational ideas in surveillance studies. Surveillance suggests an inherent politics of observation: Steve Mann (2013: 3) describes surveillance as observation by “an entity in a position of power or authority over the subject of veillance.” Policing as spectacle, as the cultural production of the legitimacy of a state’s power, requires the privilege of perspective to be concentrated in the hands of officers. By controlling the visual economy of policing, police are able to maintain a public image of authority. The institutionalization of BWCs—and, as consequence, the reinforcement of the idea that police possess the right to sight in officer-citizen interactions—participates in the aesthetic construction of policing as public performance of power. Within recent decades, however, control over the visual economy of policing has been challenged by the proliferation of cell phones and other recording devices that allow civilians to document and share law enforcement activities almost instantaneously. These challenges to the absolute privilege of perspective held by police attempt to destabilize the authoritarian gaze with the goal of remediating corruption. Just as BWCs are employed to increase department transparency, so too does private citizen recording work to make the actions of officers more visible. Yet the power dynamics of “watching back” require qualification: this sousveillance does not simultaneously revert distributions of power in its reversion of the gaze. Torin Monahan and David Murakami Wood (2018: 332–333) outline some of these limits of sousveillance, such as complicating factors of social privilege and sousveillance’s shaky consideration for “power asymmetries” in watching. If a member of the public records an incident of police brutality, the privilege of perspective is not automatically turned over to this person. To watch from below is to inherently watch from a place of less institutional power. Yet, as Mann and Ferenbok (2013: 32) argue, “widespread adoption” of sousveillance within large social networks can place pressure on one-sided practices of institutional watching.

Further, the proliferation of new media and mobile computing technologies can strengthen the viewing power of those watching from below in order to reach the “critical mass” necessary for sousveillance to trigger institutional change (Mann and Ferenbok 2013: 27). For instance, while the isolated incidents of recording police brutality in the cases of Eric Garner or Philando Castile could not save the lives of these two black men, the cultural impact of the videos’ distributions cannot be ignored (Sanburn 2014; Smith

2017).⁴ Following the virality of these cases came a flurry of mobile applications to increase the collective force of watching police—such as the Legal Equalizer, the ACLU’s Mobile Justice applications, and an iOS shortcut called “Police” that allows users to discreetly record police interactions upon voice activation (Lynn 2017; Brown 2018; ACLU n.d.). These developments represent a crucial contact point between mobile computing, social justice movements, and the visibility of policing. In addition, these technologies represent an understood knowledge of the inherent power and politics of viewing. To look back in isolation is not to shift the fundamental power imbalances of state surveillance, but to open up a “feedback loop” to potentially balance these asymmetries of power (Mann and Ferenbok 2013: 26).

From the perspective of black feminist studies (specifically black feminist cinema studies), bell hooks (1992: 155, 128) outlines the black oppositional gaze as a relational dynamic of resistance: from slaves looking back in an assertion of subjecthood, to black women creating “alternative texts” through oppositional looking relations and practices. For black folks, the denial of an agential, oppositional gaze is critical to the stability of visual regimes of domination, of demarcating who can exercise the power of watching and who can only be watched. It was this white supremacist visual regime that exercised its power over Ramsey Orta—the man who recorded the police murder of Eric Garner—for his audacity to look back, to reverse the gaze, eventually culminating in his own imprisonment (Jones 2019). What, then, can these so-called “black looks” (hooks 1992: 117), these oppositional gazes, these challenges to the absolute privilege of perspective, grant racialized subjects beyond potential pain and violence? If we look to hooks (1992: 131), we find hope in the establishment of resistance, in constructing a “way to know the present and invent the future.” It is this (re)invention of the future that is so central to racial justice movements: through these practices of looking back, resisting, and establishing oneself outside of subjectivity we can begin to unravel racial orders of being and of policing that being.

Policing is fundamentally a practice of visibility. However, policing is also a practice carefully presented and hidden from the public eye, and this is where facial recognition begins to construct a new policing order. Of course, not all facial recognition systems are designed to be hidden, but in the case of live or *post-facto* use with BWCs, embedding this technology within existing surveillance systems presents specific concerns related to privacy, consent, and bodily autonomy. Overt policing activities designed to be seen, such as patrol car sirens or stop-and-frisk searches, differ in their cultural function from covert policing activities, such as suspect interrogation or embedded facial recognition software. The former maintains a cultural dynamic of police as enforcer and legitimate authority, while the latter is where one could say the “real business” of policing occurs. The often-covert use of facial recognition integrated with BWCs’ overt privileging of the officer’s perspective presents a more hidden and constant dataveillance, where information provided by the body—or, rather, the body inscribed as information—can be the target of policing practice long after (or even before) the officer-citizen interaction. Making the body electric is not always a consensual process: to implicate the body in technological regimes is to include certain people’s/bodies’ interests and to exclude others. Facial recognition, as a technology tasked with the enrollment, analysis, and identification of the body’s measurements, is in and of itself a political technology. Coupling this with the political intentions of BWCs—which participate in law enforcement’s image control—must lead us to question what exact purpose this surveillance serves, and how ethical, humane lines are crossed in the process. The dangers of pairing BWCs with facial recognition extend beyond the individual department to policing culture writ large, where the public nature of the body becomes increasingly exploited.

I turn now to two recent cases involving BWCs and facial recognition in order to illustrate practices of making the body electric and, crucially, pushback against these practices. In May of 2019, San Francisco Board of Supervisors member Aaron Peskin introduced the “Stop Secret Surveillance” ordinance to ban use of facial recognition technology by city agencies—specifically law enforcement. As part of a larger crackdown on unregulated police surveillance, Peskin argued that the potential benefits of facial recognition

⁴ In addition, circulation of these videos cannot be disconnected from economies of black pain that exploit these graphic videos as racialized “spectacles” (see Noble 2014).

do not “[outweigh] the potential for government actors to use it for coercive and oppressive ends” (qtd. in *The Washington Times* 2019). Even in policy and legal negotiations surrounding making the body electric, concerns over abuse of power are centered in the employment of biometrics. The board passed the ordinance 8–1 in a landmark vote to become the first major US city to ban use of facial recognition by law enforcement. Beyond the city-wide ban on facial recognition by local agencies, the ordinance also requires departments to disclose the surveillance technologies already in use with the underlying goal of “building trust with the community” (Thadani 2019). The ordinance itself reflects a sensitivity to inherent issues of social and political power embedded within the surveillance of the body, as the authors argue that facial recognition will “exacerbate racial injustice” and “intimidate and oppress certain communities and groups” (Peskin et al. 2019: 2). Crucially, these statements reflect an understanding of the body’s historical positioning as a site for identifying social difference and enacting social oppression, and that to make the body electric—especially through unreliable means—is to further these dangerous ways of knowing the marginalized body. By understanding that pushback and resistance are crucial components of making the body electric, the multilateral contestations of power over the body can be recognized. The body made electric, as through facial recognition, is not made through a one-sided exercise of power, but through overlapping and interacting acts of resistance to state surveillance, intrusion, and the manipulation of the body. Beyond granting agency back to those who are routinely the subjects of over-policing and surveillance, acknowledging cultural pushback in making the body electric can illuminate historical through lines of resistance that connect struggles against biometric surveillance—from a 1920 campaign by Cleveland taxi drivers against mandatory fingerprinting (Parenti 2003: 57) to San Francisco’s city-wide ban on facial recognition by local agencies. What this decision by San Francisco lawmakers, and later statewide proposals against the technology (Dean 2019), represent, then, is a growing national pushback against making the body electric by law enforcement. Even as state agencies maintain a certain level of institutional power over the individual’s body, collective resistance to these actions has the potential to augment—or eradicate—the lived effects of this power.

Turning now to Axon’s recent decision to ban facial recognition interface with their BWCs, we find another critical case of cultural pushback against making the body electric. The decision was released in June of 2019 by Axon’s AI and Policing Technology Ethics Board—an eleven-member board that came to the collective conclusion that the current state of facial recognition is not reliable enough to justify integrating with Axon’s BWC devices. This moratorium is not only important because of Axon’s recent eagerness to join the technology with their cameras but also because Axon is the supplier of body cameras for forty-seven out of the sixty-nine largest departments in the United States (Warzel 2019). As such, the issuance of this ban from a private company rather than a city, state, or federal legislature signals that the debate over facial recognition in BWCs is all but over—in fact, the ban does not limit departments from using third-party facial recognition software like Amazon’s Rekognition with existing BWC footage (Warzel 2019). The forty-two-page report outlines that, under the real-world conditions BWC-employed facial recognition would operate in, the technology “performs quite poorly, both in terms of false positives and false negatives” (Farhadi et al. 2019: 29). The Board cites issues such as unrepresentative training sets, false identifications, and privacy concerns in their conclusions, as well as explicitly naming the race/ethnicity/gender disparities presented by facial recognition. In the still largely unregulated realm of artificial intelligence, the ban forges a path for other ethics boards and governing bodies to restrict the interaction between these technologies. Moreover, the ban inspires a critical consideration for the ethics and efficacy of attempting to enroll, identify, and “accurately” differentiate social identity inscribed onto the body. As the training sets diversify and the technology grows more sophisticated to potentially become “ethically justifiable” (Farhadi et al. 2019: 28), how will distributions of power shift even more when, for instance, a black woman can be identified as such by policing technology? When the logics of interpreting and policing social difference are digitized, coded, and reproduced through a supposed technological infallibility, we move toward a culture where the very fleshy, very human effects of oppression are reinterpreted as scientific rationality. The social construction of the human body—in terms of race, gender, sexuality, etc.—becomes realized through making the body electric: in the pursuit of quantifiable, “scientific” relationships with the body, the social hierarchies underpinning the social nature of our bodies become codified, rationalized, and legitimized.

Conclusion

BWCs are now a routine tool in law enforcement, and future upgrades often seem more of a question of “when” than “if.” However, as actions by both Axon and San Francisco lawmakers demonstrate, the only inevitability in policing technology is pushback and change. As law enforcement agencies, policymakers, and activists consider the use of biometrics and other body technologies for ensuring public safety, they must also consider the political implications of these technologies. BWCs must be situated within the same critical framework as other, arguably more explicit, techniques of social control. At its core, police surveillance is a social justice issue. Indeed, on the Movement for Black Lives’s policy platform, an end to the use of body cameras is listed as one of the crucial points to “end the war on black people.” Body cameras are criticized along with other mass surveillance technologies utilized against black communities such as ISMI-catchers and predictive policing software (The Movement for Black Lives n.d.). Even as we look to address the immediate concerns presented by developing BWC technology, we must also consider the ethics of these devices in a shifting technological/surveillance culture. What making the body electric offers us, then, is a site for analyzing ongoing practices of integrating technology with the body as well as a space for imagining a resistance and social order outside of state control over physical bodies. Making the body electric uses as its grounding point the inherent political nature of the body and the political/economic use-value of the body within reciprocal systems of white supremacy, heteropatriarchy, and racial capitalism. Physical bodies cannot be separated from politics: politics both form and are formed by understandings of the body. Bodies serve as our most intimate aspect, to be protected and sustained, and also our mode of moving through the social world. As Sara Ahmed (2006: 551) puts it in her examination of bodily orientations in space, “the skin connects as well as contains.” In that sense, and in the context of policing, the body is both personally sacred and frightfully public.

While initial moves to restrict facial recognition interface with BWCs are an important first step, more local, state, and federal restrictions must be instituted in order to protect oppressed groups from future technologically mediated oppressions. The political nature of the body will become all the more important as biometric data become a more powerful form of capital, and as policing attempts to contort the public-private boundary of the body. Future research must assess the efficacy of BWCs and facial recognition software, along with critical research investigating their social consequences. Intelligence and data-driven policing are rapidly creating a new reality of data-driven discrimination. Researchers, policymakers, and local communities must stay attuned to the modernizing culture of policing and to how increased surveillance will affect the most vulnerable populations.

References

- ACLU. n.d. ACLU Apps to Record Police Conduct. *American Civil Liberties Union*. <https://www.aclu.org/issues/criminal-law-reform/reforming-police-practices/aclu-apps-record-police-conduct> [accessed July 1, 2019].
- Ahmed, Sara. 2006. Orientations: Toward a Queer Phenomenology. *GLQ: A Journal of Lesbian and Gay Studies* 12 (4): 543–574.
- Ariel, Barak. 2016. Increasing Cooperation with the Police Using Body Worn Cameras. *Police Quarterly* 19 (3): 326–362.
- Ariel, Barak. 2017. Police Body Cameras in Large Police Departments. *The Journal of Criminal Law and Criminology* 106 (4): 729–768.
- Ariel, Barak, William A. Farrar, and Alex Sutherland. 2015. The Effect of Police Body-Worn Cameras on Use of Force and Citizens’ Complaints Against the Police: A Randomized Controlled Trial. *Journal of Quantitative Criminology* 31 (3): 509–535.
- Ariel, Barak, Alex Sutherland, Darren Henstock, Josh Young, Paul Drover, Jayne Sykes, Simon Megicks, and Ryan Henderson. 2016. Wearing Body Cameras Increases Assaults against Officers and Does Not Reduce Police Use of Force: Results from a Global Multi-Site Experiment. *European Journal of Criminology* 13 (6): 744–755.
- Axon. n.d.a. Axon Body 2. <https://www.axon.com/products/body-2> [accessed February 20, 2019].
- Axon. n.d.b. Axon Evidence. <https://www.axon.com/products/evidence> [accessed February 20, 2019].
- Baltimore Police Department. 2018. Body Worn Camera. January 1. [https://www.baltimorepolice.org/sites/default/files/Policies/824 Body Worn Cameras.pdf](https://www.baltimorepolice.org/sites/default/files/Policies/824%20Body%20Worn%20Cameras.pdf) [accessed December 11, 2018].
- Benjamin, Ruha. 2016. Racial Fictions, Biological Facts: Expanding the Sociological Imagination through Speculative Methods. *Catalyst: Feminism, Theory, Technoscience* 2 (2): 1–28.
- Bloss, William. 2007. Escalating US Police Surveillance after 9/11: An Examination of Causes and Effects. *Surveillance & Society* 4 (3): 208–228.

- Brown, Dalvin. 2018. Pulled over While Connected: Siri Can Quietly Video Record the Police. *USA Today*, October 4. <https://www.usatoday.com/story/tech/2018/10/04/siri-shortcut-can-discreetly-record-cops-during-traffic-stops/1509065002/> [accessed July 1, 2019].
- Browne, Simone. 2010. Digital Epidermalization: Race, Identity and Biometrics. *Critical Sociology* 36 (1): 131–150.
- . 2015. *Dark Matters: On the Surveillance of Blackness*. Durham, NC: Duke University Press.
- Condliffe, Jamie. 2018. Amazon Urged Not to Sell Facial Recognition Technology to Police. *The New York Times*, June 19. <https://www.nytimes.com/2018/06/19/business/dealbook/amazon-facial-recognition.html> [accessed January 4, 2019].
- Crossley, Nick. 1995. Merleau-Ponty, the Elusive Body and Sociology. *Body & Society* 1 (1): 43–63.
- Culhane, Scott E., John H. Boman, and Kimberly Schweitzer. 2016. Public Perceptions of the Justifiability of Police Shootings: The Role of Body Cameras in a Pre- and Post-Ferguson Experiment. *Police Quarterly* 19 (3): 251–274.
- Dean, Sam. 2019. California Considers Ban on Facial Recognition's New Frontier: Police Body Cameras. *Los Angeles Times*, June 7. <https://www.latimes.com/business/technology/la-fi-tn-face-recognition-ban-california-police-body-camera-20190607-story.html> [accessed July 1, 2019].
- Fan, Mary D. 2018. Body Cameras, Big Data, and Police Accountability. *Law & Social Inquiry* 43 (4): 1236–1256.
- Farhadi, Ali, Barry Friedman, Christy E. Lopez, Jeremy Gillula, Jim Bueermann, Kathleen M. O'Toole, Mecole Jordan et al. 2019. First Report of the Axon AI & Policing Technology Ethics Board. Axon Enterprise, Inc., June. https://static1.squarespace.com/static/58a33e881b631bc60d4f8b31/t/5d13d7e1990c4f00014c0acb/1561581540954/Axon_Ethics_Board_First_Report.pdf [accessed July 1, 2019].
- Flanagan, Patricia A. 2018. Face Recognition Vendor Test (FRVT). National Institute of Standards and Technology. <https://www.nist.gov/programs-projects/face-recognition-vendor-test-frvt> [accessed February 20, 2019].
- Foucault, Michel. 1975. *Discipline and Punish: The Birth of the Prison*. London, UK: Penguin Books.
- . 1976. *The History of Sexuality*. London, UK: Allen Lane.
- . 1978. *Security, Territory, and Population. Lectures at the Collège De France, 1977-1978*. New York, NY: Picador USA.
- Frosh, Paul. 2001. The Public Eye and the Citizen-Voyeur: Photography as a Performance of Power. *Social Semiotics* 11 (1): 43–59.
- Garvie, Clare, Alvaro M. Bedoya, and Jonathan Frankle. 2016. The Perpetual Line-Up: Unregulated Police Face Recognition in America. Georgetown Law Center on Privacy and Technology. Georgetown Law Center for Privacy and Technology, October 18. <https://www.perpetuallineup.org/> [accessed January 4, 2019].
- Grother, Patrick, Mei Ngan, and Kayee Hanaoka. 2019a. Ongoing Face Recognition Vendor Test (FRVT) Part 1: Verification. National Institute of Standards and Technology. https://www.nist.gov/system/files/documents/2019/11/20/frvt_report_2019_11_19_0.pdf [accessed February 20, 2019].
- . 2019b. Ongoing Face Recognition Vendor Test (FVRT) Part 2: Identification. Gaithersburg, MD: National Institute of Standards and Technology.
- Harwell, Drew. 2018. Facial Recognition May Be Coming to a Police Body Camera near You. *The Washington Post*, April 26. https://www.washingtonpost.com/news/the-switch/wp/2018/04/26/facial-recognition-may-be-coming-to-a-police-body-camera-near-you/?utm_term=.dbd943e565fd [accessed January 4, 2019].
- Healey, Kevin, and Niall Stephens. 2017. Augmenting Justice: Google Glass, Body Cameras, and the Politics of Wearable Technology. *Journal of Information, Communication and Ethics in Society* 15 (4): 370–384.
- hooks, bell. 1992. *Black Looks: Race and Representation*. Boston, MA: South End Press.
- Howson, Alexandra, and David Inglis. 2001. The Body in Sociology: Tensions inside and Outside Sociological Thought. *The Sociological Review* 49 (3): 297–317.
- Introna, Lucas D., and David Wood. 2004. Picturing Algorithmic Surveillance: The Politics of Facial Recognition Systems. *Surveillance & Society* 2 (2/3): 177–198.
- Jones, Cooper. 2019. He Filmed the Killing of Eric Garner and the Police Punished Him for It. *The Verge*, March 13. <https://www.theverge.com/2019/3/13/18253848/eric-garner-footage-ramsey-orta-police-brutality-killing-safety> [accessed July 1, 2019].
- Leadership Conference on Civil and Human Rights, The, and Upturn. 2017. Police Body Worn Cameras: A Policy Scorecard. The Leadership Conference. <https://www.bwcorescorecard.org/> [accessed December 11, 2018].
- Lopez. 2014. Michael Brown's Family Reacts to Grand Jury's Decision to Not Indict Darren Wilson. *Vox*, November 25. <https://www.vox.com/xpress/2014/11/24/7278977/ferguson-grand-jury-decision> [accessed February 20, 2019].
- Lynn, Samara. 2017. Legal Equalizer App May Save Your Life When Pulled Over. *Black Enterprise*, September 28. <https://www.blackenterprise.com/legal-equalizer-app-may-save-your-life-when-pulled-over/> [accessed July 1, 2019].
- Mann, Steve. 2013. Veillance and Reciprocal Transparency: Surveillance versus Sousveillance, AR Glass, Lifelogging, and Wearable Computing. Presented at the 2013 IEEE International Symposium on Technology and Society (ISTAS): Social Implications of Wearable Computing and Augmented Reality in Everyday Life, June 27–29. Toronto, Canada. <http://wearcam.org/veillance/part1.pdf> [accessed December 11, 2018].
- Mann, Steve, and Joseph Ferenbok. 2013. New Media and the Power Politics of Sousveillance in a Surveillance-Dominated World. *Surveillance & Society* 11 (1/2): 18–34.
- Mbembe, Achille. 2003. Necropolitics. *Public Culture* 15 (1): 11–40.
- Monahan, Torin, and David Murakami Wood. 2018. Resistance and Opposition. In *Surveillance Studies: A Reader*, edited by Torin Monahan and David Murakami Wood, 321–323. Oxford, UK: Oxford University Press.
- Movement for Black Lives, The. n.d. End the War on Black People. <https://neweconomy.net/sites/default/files/resources/20160726-m4bl-vision-booklet-v3.pdf> [accessed January 4, 2019].
- Nielsen, Erik. 2016. Fourth Amendment Implications of Police-Worn Body Cameras. *St. Mary's Law Journal* 48 (115): 115–143.
- Noble, Safiya Umoja. 2014. Teaching Trayvon: Race, Media, and the Politics of Spectacle. *The Black Scholar* 44 (1): 12–29.

- Parenti, Christian. 2003. *The Soft Cage: Surveillance in America, from Slavery to the War on Terror*. New York, NY: Basic Books.
- Peskin, Aaron, Norman Yee, Shamann Walton, Hillary Ronen, and Matt Haney. 2019. Stop Secret Surveillance Ordinance (05/06/2019). Electronic Frontier Foundation, May 6. <https://www.eff.org/document/stop-secret-surveillance-ordinance-05062019> [accessed July 1, 2019].
- Pfaffenberger, Bryan. 1992. Technological Dramas. *Science, Technology, & Human Values* 17 (3): 282–312.
- Phillips, Scott W. 2016. Eyes Are Not Cameras: The Importance of Integrating Perceptual Distortions, Misinformation, and False Memories into the Police Body Camera Debate. *Policing: A Journal of Policy and Practice* 12 (1): 91–99.
- Ray, Rashawn, Kris Marsh, and Connor Powelson. 2017. Can Cameras Stop the Killings? Racial Differences in Perceptions of the Effectiveness of Body-Worn Cameras in Police Encounters. *Sociological Forum* 32 (51): 1032–1050.
- Ready, Justin T., and Jacob T. N. Young. 2015. The Impact of on-Officer Video Cameras on Police–Citizen Contacts: Findings from a Controlled Experiment in Mesa, AZ. *Journal of Experimental Criminology* 11 (3): 445–458.
- Sanburn, Josh. 2014. Eric Garner Video: Staten Island Police Chokehold Death. *Time*, July 22. <https://time.com/3016326/eric-garner-video-police-chokehold-death/> [accessed July 1, 2019].
- Smith, Mitch. 2017. Video of Police Killing of Philando Castile Is Publicly Released. *The New York Times*, June 20. <https://www.nytimes.com/2017/06/20/us/police-shooting-castile-trial-video.html> [accessed July 1, 2019].
- Sousa, William H., Terance D. Miethe, and Mari Sakiyama. 2015. Body Worn Cameras on Police: Results from a National Survey of Public Attitudes. University of Nevada, Las Vegas Center for Crime and Justice Policy, July. https://www.unlv.edu/sites/default/files/page_files/27/BodyWornCameras.pdf [accessed December 11, 2018].
- Taylor, Emmeline. 2016. Lights, Camera, Redaction... Police Body-Worn Cameras: Autonomy, Discretion and Accountability. *Surveillance & Society* 14 (1): 128–132.
- Thadani, Trisha. 2019. San Francisco Bans City Use of Facial Recognition Surveillance Technology. *San Francisco Chronicle*, May 15. <https://www.sfchronicle.com/politics/article/San-Francisco-bans-city-use-of-facial-recognition-13845370.php> [accessed July 1, 2019].
- Thomas, Ethan. 2017. The Privacy Case for Body Cameras: The Need for a Privacy- Centric Approach to Body Camera Policymaking. *Columbia Journal of Law and Social Problems* 50 (2): 191–228.
- van der Ploeg, Irma. 2002. Biometrics and the Body as Information: Normative Issues of the Socio-Technical Coding of the Body. In *Surveillance as Social Sorting: Privacy, Risk, and Digital Discrimination*, edited by David Lyon, 57–75. London, UK: Routledge.
- van Schelle, Fernande. 2018. Never Forget a Face? The Rise of “Live” Body-Worn Cameras. *Biometric Technology Today* 2018 (4): 5–7.
- Washington Times, The. 2019. Privacy in Peril. *The Washington Times*, February 20. <https://www.washingtontimes.com/news/2019/feb/20/editorial-unrestrained-technology-threatens-to-mak/> [accessed July 1, 2019].
- Warzel, Charlie. 2019. A Major Police Body Cam Company Just Banned Facial Recognition. *The New York Times*, June 27. https://www.nytimes.com/2019/06/27/opinion/police-cam-facial-recognition.html?em_pos=small&ref=img&nl_art=5&te=1&nl=opinion-today&emc=edit_ty_20190627?campaign_id&instance_id=10513&segment_id=14701&user_id=cf9a5ab3222c6838c7490464928806bd&i_id=17185148emc [accessed July 1, 2019].
- Weheliye, Alexander G. 2014. *Habeas Viscus: Racializing Assemblages, Biopolitics, and Black Feminist Theories of the Human*. Durham, NC: Duke University Press.
- Wilson, Mark. 2017. Recent Officer Shootings Test Value of Austin Police Body Cameras. *Austin American-Statesman*, September 25. <https://www.statesman.com/NEWS/20171223/Recent-officer-shootings-test-value-of-austin-police-body-cameras> [accessed December 11, 2018].
- Witz, Anne. 2000. Whose Body Matters? Feminist Sociology and the Corporeal Turn in Sociology and Feminism. *Body & Society* 6 (2): 1–24.