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# Security and technology

*Carolina Frossard and Rivke Jaffe*

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## Introduction

Within urban anthropology, scholars working on fear of crime have shed light on how measures taken in the name of security shape contemporary cities and the experiences of their inhabitants. Walls and gates, alongside other markers of socio-spatial separation, have featured prominently in the literature concerned with urban insecurity. Drawing on our research in the cities of Kingston, Jamaica, and Recife, Brazil, this chapter aims to add to these debates by focusing on another kind of materiality: the various technological devices implemented in the name of security that have come to characterize urban landscapes across the world. Exploring the anticipated and actual uses of surveillance cameras, microphones and analogue radios, we draw on insights from science and technology studies to understand how such devices can work as border objects that connect state and non-state security providers for policing objectives. More broadly, we problematize framings of technology as neutral fixes to urban insecurity, highlighting the politics in which they are embedded.

The chapter starts with a brief discussion of urban anthropological research on security, and on technology. We go on to explain how these issues are relevant to contemporary urban life, given the sense of insecurity that is pervasive in many cities, but also in light of the tendency of many urban governments to introduce technological solutions for complex sociopolitical problems. Following a discussion of our methods, we present our findings from Kingston and Recife, focusing on technological devices as boundary objects and on the political economy of technology. In the concluding section, we reflect on the theoretical and societal significance of studying urban security using ethnographic research and utilizing concepts from science and technology studies.

## Cities, security and technology

In our analysis of security and technology in Kingston and Recife, we build on two largely unconnected debates in urban anthropology. In this section, we discuss, first, influential work on urban security and policing, and second, recent discussions of the role of technology in contemporary cities. In our analysis of security technology in our case studies, we seek to connect

insights from these distinct bodies of work to understand how such technologies connect state and non-state actors in a highly political fashion.

A number of anthropologists have been influential in analyzing how security concerns shape urban life and specifically urban space. Working in São Paulo, Teresa Caldeira (2000) studies how the transformation of urban space is connected to a pervasive fear of crime. Specifically, she outlines the emergence of “fortified enclaves”: privatized residential, professional and leisure environments that are sealed off from the rest of the city. These security-oriented enclaves have changed the nature of public life in the city, turning previously lively streets into “residual space” populated only by those who cannot afford to spend their lives in walled-off private spaces. In addition, the reliance of these enclaves on private security changes the nature of citizenship, as residents no longer look to the state for their basic protection. Based on research in New York City and San Antonio, Setha Low (2003) focuses on similar spatial transformations, examining how gated communities are socially constructed by their residents as “nice” places. While informed by a desire for security, she demonstrates how the proliferation of gated communities is also connected to a longing for community. Urban fear serves as a shared language through which to speak, in a more coded fashion, about concerns related to social change. Low emphasizes the racial dimension of these enclaves: their physical boundaries often serve to police social boundaries, which are not just classed but also raced. The type of nostalgia-driven community formation that the walls enable relies on “purified” social spaces. Residents retreat into gated communities in order to seal themselves off in a middle-class White bubble, in imaginary isolation from the increasing diversity of US urban life.

Where Caldeira and Low focus on how security-related interventions in the built environment reinforce urban inequalities, Daniel Goldstein (2004, 2012) emphasizes the multiple types of policing that have emerged in response to urban crime and fear. Based on research in the Bolivian city of Cochabamba, Goldstein shows how residents of low-income, indigenous neighborhoods feel abandoned by the police to crime and violence. In these marginalized urban areas, the state is an “absent presence” (Goldstein 2012: 83) that fails to protect residents, but criminalizes the forms of “self-help” security (including forms of vigilante justice) they develop. Urban space, then, is increasingly policed by a range of state and non-state security actors, including state security forces, vigilante groups, neighborhood watches and private security companies. Anthropologists who study this “pluralization” of securitization emphasize that the lines between what is “public” and “private” security provision tend to be blurred, to the extent that we can speak of hybrid arrangements (e.g., Jaffe 2013; Diphooorn 2016).

Other anthropologists have focused on the role of technology and materiality in contemporary cities. Specifically, they have tended to look at infrastructure as a material site for studying technology and politics (see, e.g., Larkin 2013). Studying attempts to reform collective heating systems in post-socialist Russia, for instance, Stephen Collier (2011) shows how this urban infrastructure connected industrial boilers, companies and households. This infrastructure, constructed without individual heating meters or controls, provided heat according to predetermined, externally set norms. As neoliberal reforms have dismantled much of the Soviet era’s collectivist systems, efforts to reorganize the urban heating system towards individual consumption and pricing have been thwarted by the need-based construction of the infrastructure. Antina von Schnitzler (2013) presents a somewhat similar case in her study of prepaid water and electricity meters in postapartheid South Africa. This small technical device, she argues, has played a central role in ethical and political projects across different eras. She traces the history of the meter to its invention in Victorian Britain, where it was intended to contribute to the moral uplift of the urban working classes. In contemporary townships, the technology becomes the material site for power

struggles between residents, who attempt to tinker with the device in order to access electricity and water without paying, and engineers, who try to make it tamper-proof.

While this research emphasizes that technology is both produced in specific political contexts and productive of other politics, there is a widespread tendency to think of technology as neutral or apolitical. This tendency is perhaps even more marked in the case of digital technology; in the urban context, proponents of “smart city” development see digital sensors, apps and algorithms as promising easy fixes to complicated urban problems, from pollution to crime control. Evgeny Morozov (2013) describes the recent embrace of “big data” and the digital quantification of behavior as the solution to a broad range of social problems. These “complex social situations [are recast] either as neatly defined problems with definite, computable solutions or as transparent and self-evident processes that can be easily optimized – if only the right algorithms are in place!” (2013: 5). Morozov calls this optimism “technological solutionism”, arguing that digital technology presents highly efficient but dehumanizing solutions for phenomena that are either not a problem at all or much too complex for an easy fix. He also points to the shift in power that results when digital technology is pitched as the solution to everything: technology companies, rather than elected governments, will shape the future of our cities and societies.

These various authors, then, underline that our analysis of specific technological solutions should pay attention to their political, moral and ethical contexts and consequences. By connecting such fine-grained analyses of technology to anthropological research on security, we gain new ways of understanding changes in policing. How does security technology connect to the pluralization of policing? When do technological solutions to the problem of insecurity act as depoliticizing strategies that deflect our attention from historically shaped urban power structures? Through our analysis of security technology in Kingston and Recife, we hope to contribute a new approach to such questions.

## Why study security technology?

Research on urban security and technology is important for a number of reasons. First of all, security is a major concern in many cities, with crime and fear impacting the lives of urban inhabitants negatively. More effective forms of policing can lead to safer cities, but it is important to ensure that residents have equal access to protection. This becomes a concern especially when public security forces are not able to control crime, and protection is available only to those who can afford private security. In addition, the practices of both police and non-state security professionals may result in the reproduction of urban inequalities – for instance, through racial profiling of suspects.

In addition, it is important to examine the “technological turn” in security critically. It is more difficult to reform a police force or to organize a neighborhood watch than it is to install CCTV cameras or biometric access control. Smart city strategies that incorporate security concerns promise that the use of digital technology will result in not only safer but also cleaner and greener cities. While such technological solutions are often presented as neutral and impartial, they have their own politics. In many cases, the control of technological systems lies in the hands of corporations, contributing to the privatization of urban governance. This corporate ownership also means that the adoption of urban technological solutions is informed more by profit than by the interests of residents. Security issues in general tend to be complex social problems that are not solved by a simple “technological fix”.

Our research in Kingston and Recife draws attention to these issues, examining the politics of security technology in relation to urban inequalities and the privatization of policing. Our

focus on cities where most security interventions are relatively low-tech also contributes a new perspective to discussions that often concentrate on European and North American “smart cities” and high-tech digital solutions.

## Methodology

Our fieldwork in Kingston and Recife relied on a mix of methods. In Kingston, the capital of Jamaica, Rivke conducted long-term research in one inner-city neighborhood on the power of criminal organizations. Relying mainly on “deep hanging out” with residents in the public space of the street, this more traditional type of ethnographic research helped her understand interactions between the city’s most marginalized inhabitants and the police. These residents also make up the majority of the low-paid private security labor force. Living in wealthier areas in Uptown Kingston, and teaching at Jamaica’s University of the West Indies, enabled an understanding of how more privileged Kingstonians construct security and social difference. Beyond this type of participant observation, Rivke led a research project on security privatization and security mobilities that involved interviewing owners and managers of Jamaica’s private security companies, private security guards, government officials and foreign embassy personnel involved in security-and-development projects. In order to understand how security is imagined by different groups of Jamaicans, she also relied on media analysis, studying newspaper and television reporting as well as reggae and dancehall lyrics.

In Recife, the capital of the Brazilian state of Pernambuco, Carolina conducted 11 months of fieldwork, during which she resorted to an array of qualitative methods. In order to investigate how the pluralization of security provision impacts the imagination and enactment of citizenship, she conducted ethnographic research in three different neighborhoods of Recife’s South Zone. There, she interviewed and spent time hanging out with residents, as well as different actors within the city’s security constellation, from state to non-state, and formal to informal. Her interest in the technologies that compose public-private arrangements of security in Recife also led her away from the neighborhoods themselves, and into command centers where information captured by surveillance cameras and civilians is translated into security responses.

## Ethnographic findings

We discuss our ethnographic findings here through a focus on two dimensions of security technology in Kingston and Recife. The first subsection analyzes technological devices as a form of boundary objects, and drawing on two cases of analogue radios, discusses how these objects can work to both connect and make distinctions between public and private security professionals. In the second subsection, we critically interrogate the assumption that security technology is neutral and less prone to error or corruption than security and policing strategies where human agents play a more visible role. Here, we point to the solutionism that informs proposals to enhance security by introducing microphones and cameras in our two urban case studies.

### *Boundary objects*

Recent studies of security technology often focus on high-tech solutions, such as software that draws on algorithmic formulas to identify purportedly suspicious behavior. However, more traditional types of technology remain at least as important in connecting and constructing different kinds of security providers, clients and threats. Here, we focus on the use of analogue radios and their frequencies. We analyze them as “boundary objects” that are intended to bridge the

divide between the state and the corporate sector by connecting public and private security professionals.

A boundary object is an adaptable epistemic artifact that exists in an array of intersecting social worlds, and can satisfy the information requirements of each of them (Star and Griesemer 1989). We can think of such objects as bridging knowledges, working to link two, or more, occupational communities for a particular objective. In the cases we discuss in this section, analogue radios mediate communication between private and public security professionals, who are envisioned as sharing the goal of a safer city. However, in spite of the connective capacity of such objects, put in place to enable a common goal, the use of boundary objects does not result in seamless, apolitical, technological fixes (Harvey and Chrisman 1998). As Koster (2014: 129) puts it, although these very artifacts enable different groups to understand each other, “it is in relation to these objects that their differences are performed most vividly.” By containing what is shared, as well as what divides the users they mediate, boundary objects clue us into what actually happens when two or more communities of practice, or occupational categories, click together for security objectives.

In Kingston, the number of private security guards is estimated to be at least twice that of the number of police officers employed by the Jamaica Constabulary Force (JCF). While these guards are formally responsible only for the safety of circumscribed private property or persons therein, they will often witness crimes or security threats in public space. Jamaica’s Ministry of National Security sought to tap into these eyes and ears on the street, connecting security guards to the JCF through the use of a dedicated radio communications channel. This channel would allow guards who witnessed anything while on duty to access the police directly through their own radios, without going through the (notoriously dysfunctional) emergency telephone number 119.

Plans were being made by the Ministry of National Security and the commercial security sectoral organization JSIS (Jamaica Society for Industrial Security) to implement this communication technology. However, during this planning phase, a new minister took over the national security portfolio and – perhaps in an attempt to generate positive publicity – announced the development of the shared public-private security communications channel.

In an interview, private security company managers described the problems this caused for guards.<sup>1</sup> A first manager explained,

[The new minister] didn’t understand the confidentiality, and he went on the national TV and on the radio and said that they are hoping to sign a memorandum of understanding with the security companies, where the security guards will inform the Ministry or the police of anything that is taking place. And the security guards couldn’t go home, because the people in the community know.

This mention of “people in the community” was a reference to the fact that many security guards live in low-income, urban areas where criminal organizations have a strong presence. In these neighborhoods, where criminal organizations enforce the rule that *informer fi dead* (informers must die), talking to the police can mean running the risk of being killed. A second manager explained that the minister, in his enthusiasm, had suggested that security guards would also report on general crimes: “Because he went further than just the location [where the guards work], you know. Because you live in these volatile areas you see things, men walking up and down with the guns.”

The proposed use of a public-private radio channel – a useful technology allowing the police to access information that would otherwise elude them – ended up posing a threat to the lives of

security guards whose low-pay, high-risk jobs already placed them in a vulnerable position. To protect their labor force, the industry group JSIS had to formally deny that they were engaged in any such partnership with the JCF.

Manager 1: It was a way of getting information and we had to scrap it.

Manager 2: It was a way of getting information and we had to come out with our [JSIS] president . . . and say absolutely not, it was discussed, but we have decided not to.

Manager 1: It was jeopardizing the lives of the security guards. And let me tell you, there's a possibility, you know, that with time probably something else can be introduced. But in Jamaica you have to be very, very careful. Because we will jeopardize the lives of the security guards and even something can happen, you know, in the community, and the police respond to it, and the guard who lives there has nothing to do with it and they will kill him and his family.

In other contexts, a shared radio frequency connecting private security guards and the police would not necessarily lead to such controversy. The analogue radios were envisioned as boundary objects that could seamlessly connect the thousands of security guards dispersed throughout Kingston to the JCF, translating their observations into actionable police information. However, the *informer fi dead* rule that is prevalent in and beyond Jamaica's inner-city neighborhoods politicizes this technology to the extent that it could be a lethal boundary object.

In Recife, a somewhat comparable program materialized, with radios connecting state security to doormen. Resulting from a partnership between Pernambuco's Secretariat of Social Defense and the private real estate sector's trade union Secovi, the *De Olho na Rua* (With an Eye on the Street) program connects the gaze of condominium employees to the Pernambuco state government's Integrated Center of Social Defense Operations (CIODS, in the Portuguese acronym) for urban security purposes. At any given time, in a little room located in the CIODS headquarters, in central Recife, a pair of uniformed *De Olho na Rua* (DOR) employees can be found on the receiving end of a network composed of hundreds of analogue radios, located in the lobbies of residential and commercial condominiums scattered around the state capital and neighboring municipalities. Under the slogan "Safer neighborhood, safer state", the program aims to connect doormen's fields of vision, and familiarity with their surroundings, to formal policing practices. Trained to see and walkie-talk like a cop – by making use of efficient, security-focused communication tactics – doormen taking part in DOR are expected to report on activities deemed suspicious, both within and beyond condominium walls.

In an interview, a military police officer involved in DOR since its creation in 2004 framed the program's rationale through a quote attributed to a former secretary of social defense: "I do not have the means to put a pair of policemen on every street corner, but I am sure that, on every street corner, there is a good citizen willing to contribute to security."<sup>2</sup> Within DOR, however, the "good citizens" involved are condominium employees, for whom analogue radio usage for urban safety is one more task. Those behind the program's coordination argue that DOR makes the working conditions of those staring at the streets from the lobbies of private buildings safer, by providing them with an alternative connection to public security – one that is, in theory, more efficient than the emergency lines available to the general public.

The police officer interviewed lauded the technical characteristics of the analogue radio.<sup>3</sup> According to him, unlike mobile phones, the radios do not depend on the coverage of service providers, or create space for private conversations unrelated to the program's objectives. DOR's radio network is one among three ways that security information is fed, by civilians, into CIODS; video-monitoring and telephone hotlines are the other two. Even though DOR brings in the smallest number of tips, according to a police officer based at CIODS, "the information generated

has quality.”<sup>4</sup> He explained this “quality” by pointing to the lack of prank calls, prevented by DOR’s non-anonymous structure, and to the training participants received: “We [police] teach them [condominium staff] to talk to us.”

Within the socio-technical network through which DOR operates, the analogue radio functions as a boundary object. The in-depth knowledge doormen have of their surroundings complements law enforcement’s necessity for “quality information”, which is even better if it is efficiently communicated. The radio as a boundary object enables both sides to click together in complementary coherence. However, it also highlights important differences between the parts involved: disruptive “off-script” usages of the technology; the differentiated risks implicated in the partnership; and the mismatched expectations that frame many of their interactions.

The program’s official narrative of the partnership between the commercial real estate sector and state security is usually one centered on seamless flows of “quality information”. The everyday practice of the program, though, was slightly different. One of DOR’s managers and main advocates once stated that, with the program, doormen are no longer alone in their posts, alluding to the perpetual connection to the radio network. However, for the workers at hand, such a connection enabled other uses than only supplying security-relevant information to local law enforcement.

At the start of DOR,<sup>5</sup> two radio channels were available to the program participants: one connecting them directly to local police officers, and another linking neighboring condominiums. The latter was often used for casual conversations among doormen, organizing social events and so on. While, from a security perspective, these talks were inappropriate, useless noise, for the doormen the network provided ways to connect with each other. These “off-script” usages of the technology, however, led to the disciplining of the network, which now goes through a 24-hour command central, where two DOR employees have access to everything that is shared through the program’s radio frequency. Even though Bible passages are occasionally shared through the network, the casual conversations were silenced by the control center, which also mediates the communication between doormen and state security.

For the program’s proponents, the radio network makes the working conditions of those starting out at the streets from the lobbies of private buildings safer, connecting them to the police more efficiently than the public emergency lines can. However, as in Jamaica, for ordinary civilians, having a direct link to police forces – and speaking police language – has its risks. Ordinary commercial security services and technologies are indicated very visibly to potential threats, when employed by condominiums and the like.<sup>6</sup> In contrast, DOR membership is secret, in order to protect the doormen-informants on whom the program relies. Within this partnership, it is clear that the risks are differentiated: those whose eyes are on the street are more vulnerable than those taking calls.

Even though both ends of the program click together, due to the shared objective of making “the neighborhood” and thus “the state [of Pernambuco]” safer, different expectations of how to achieve this goal have been known to cause friction. From the position of the doorman-informant, picking up the radio to communicate a threat should result in visible and immediate police presence. From the police’s point of view, being there is not always the intent. As one police officer stated in an interview, one of the perks of the program is the possibility of assessing and resolving an issue through no more effort than communication with the DOR command central. And, even with a shortcut to police response, a policeman responding to every condominium occurrence is as likely as a policeman on every street corner. With the overworked and understaffed status of Pernambuco’s law enforcement, that means: not very likely.

Through these illustrations from Kingston and Recife, we want to suggest that focusing on technological boundaries can be a fruitful entry point into the blurred reality of pluralized urban



security. A focus on technologies as boundary objects allows an engagement with instances of security practice that blur public and private divides, but it also goes beyond the acknowledgment, or naming, of hybridity, or a fuzzy public-privateness. Although acknowledging blurriness and complexity is a good starting point, it is often not a satisfactory conclusion, and delving into the material enablers of hybrid arrangements may offer routes for disentanglement. Also, this approach to boundary objects provides a way to engage technology without being seduced into assuming that it is neutral and efficient, an assumption that – as we show in the following section – can feed a depoliticizing form of technological solutionism.

### *The politics of technology*

Many governments, companies and citizens are disappointed by the ability of public and private security forces to act effectively. Often, human fallibility – inattention, lack of training, corruption – is seen as the cause for this lack of effectiveness. The assumption that technology eliminates this human element underlies the optimistic turn to quick-fix solutions, with hopes and dreams of safer cities projected on a range of high-tech and low-tech devices. Here, we focus on the promotion of microphones and cameras as ways to “solve” the enduring problem of violence in Kingston and Recife. We highlight the extent to which technological solutions not only obscure the complex politics of the problems they will purportedly solve but also emerge themselves through specific confluences of political and economic interests.

In Jamaica, one example of this hopeful technological solutionism emerged in discussions surrounding the purchasing of so-called shot spotters. These are small microphones placed in various locations across urban space that can identify sounds as gunshots, and through spatial triangulation can pinpoint exactly where a shot was fired, and communicate this location to security forces. On its website, the company ShotSpotter promised that its “gunshot detection and location technology” would help “law enforcement to save lives and improve community safety”.<sup>7</sup>

In an interview, an official from the US embassy in Jamaica explained that his office, which procured and funded security-related equipment and training for the Jamaica government, had been lobbied to purchase this technology.<sup>8</sup> The Americans declined, because they considered gunshot detection a very low priority compared to other issues plaguing Jamaican law enforcement and criminal justice, such as police brutality and witnesses’ fear of testifying. In addition, the US official explained, while the Jamaican government often lobbied them to fund technological solutions, it often lacked the financial and human resources to utilize and maintain the equipment:

The police and the government . . . will attend conferences all over the Caribbean and the United States, and they will come back with all kinds of ideas: “We want this, we want that and all this technology” . . . The difficulty is the answer is not in the technology, because you have to have training and also the resources to support it.

Soon after, however, items began to appear in the media with various politicians and senior police officers promoting the technology and arguing that it had significant potential to lower the island’s homicide rates. The then commissioner of police extolled its praises, explaining that he had “personally visited and toured police jurisdictions in America where it is used”.<sup>9</sup> It was also reported that the Ministry of National Security was asking a local telecom company to develop a business plan to take to funding agencies to raise the US\$6.4 million the shot spotter technology would cost. One of the telecom company’s managers argued that “the aim is to win

back the areas from the gangs.” The company itself would be contracted to install covert microphones throughout inner-city neighborhoods, linked by radio and fiber-optic cables.<sup>10</sup>

The public response to the media features was largely enthusiastic, with many citizens echoing the commissioner’s hopeful claim that these “electronic ears” could decrease the annual murder rate by 40%–60%. On online forums, some citizens expressed discomfort with the fact that the microphones would be able to pick up voices as well as gunshots. Other voices were more skeptical, predicting that savvy criminals would destroy the technology or shoot the technicians who came to install or repair them.<sup>11</sup> Rivke’s participant observation in inner-city areas suggested that such predictions were not unrealistic, as residents proved extremely capable of subverting technology meant to prevent electricity and water theft, and were not opposed to harassing technicians sent by the utility companies.

In the end, Jamaica did not introduce the gunshot detection and location technology, with or without financial assistance from foreign donors. However, the case both highlights the widespread hope placed in technological solutions and – more cynically – shows how political and economic interests influence the popularity of such solutions. Foreign embassies and aid agencies usually have to adhere to stringent procurement regulations that promote purchasing goods and services from their own countries over those produced elsewhere. For vendors and producers from North America and Europe, these foreign affairs budgets can be a lucrative proposition. They invest significant energy and funds in lobbying not only the donor agencies but also local politicians and companies that, in turn, will exert pressure on donors to acquire a specific product. The lobbyists influence these local actors by offering them educational trips to the US to witness product effectiveness, or a cut of the profits. Meanwhile, these political and economic interests were not necessarily evident to the Jamaican citizens who enthusiastically supported local adoption of the shot spotter technology following its promotion in the media.

In Recife, a more conventional technological fix for urban insecurity was implemented. Commercial security stickers indicating the presence of video surveillance are not a novelty in Recife, where privately secured condominiums and shopping malls can be easily spotted throughout the city. However, a partnership between a technology company and the Pernambuco state government brought video surveillance into police battalions and CIODS (the operational headquarters of Pernambuco state’s security division). Since 2009, signs bearing the logos of Pernambuco’s state government and security policy can be spotted on Recife’s lampposts, indicating 24-hour camera coverage. The signs display a stylized dome camera and the words “Prevention against crime, in defense of the citizen”.

The expectations of what should follow the insertion of state-of-the-art electronic eyes into Pernambuco’s state security apparatus were effectively summarized by an article that lauded the foresight of the entrepreneurs who saw local insecurity as a business opportunity.<sup>12</sup> The piece presents an illustrative scenario where a man with bad intentions wanders through Recife’s dark streets, when a video-surveillance camera spots him. A camera operator informs local police forces, who make it to the site even before it becomes a crime scene. The storyline describes a capacity that many people project onto video surveillance and other security technologies, including “shot spotters”: the ability to trigger a seamless process, based on objective, neutral readings of crime, often before it even materializes. This linear crime-prevention narrative, however, seductive as it is, is upset by the routine practices that actually take place in the video-surveillance command centers, where employees watch and process footage captured by state security cameras.

In contrast with condominium staff, whose familiarity with their surroundings is the asset that grounds their security role in the DOR program, video-surveillance operators start their workdays

by being randomized into their stations. At the start of every six-hour-long shift, each uniformed civilian hired to monitor images generated by public security cameras takes a number out of a bag. The luck of the draw is what determines the area to be covered. Leaving the chair on which a camera monitor sits to chance is a way to minimize, or prevent entirely, the possibility of corruption through collusion with criminals on the streets. In contrast with the neutrality often assumed of a surveillance camera's electronic gaze, in practice, the humans behind the screens are suspected of being corruptible and intentionally turning a blind eye to security threats.

Tamed by the corruption-prevention measure described, the flexibility of the operators' gaze is also enacted by incentives put in place to keep them sharp and alert. The encouragement comes in the form of a quantifiable scoring system, which results in monthly awards. Identifying crimes such as aggression, theft, homicide, drug trafficking, illegal possession of weapons, and vandalism earns the operators the most points. If the recorded occurrence results in an immediate arrest, or is at least registered and confirmed by state policing, it is worth ten points for the monitor who catches it. Where the surveilled event is not translated into police confirmation and action, the operator is awarded five points. At the end of each month, the highest scores can be translated into meal tickets, or an extra day off.

These strategies to discipline the video monitors – either away from infractions, or towards a more dedicated attitude to their often tedious tasks – suggest a recognition of the significance of human judgment in the processes enabled by the technological fix. Far from being neutral extensions of the lenses pointed at the streets, the eyes that look into the camera screens are malleable and all too human. The subjective readings they produce of what is surveilled can be molded by factors as trivial as being bored, or distracted.

It is also important to place these surveillance technologies, and the humans they connect to, within a broader network of security, with distinct nodes that do not always work together seamlessly. In Pernambuco, having the police respond immediately to a call is not part of citizens' experiences: "Let's call 190 now, and see how long it takes for them to arrive,"<sup>13</sup> an interlocutor from Recife's South Zone suggested cynically to Carolina, to underline their lack of faith in police responsiveness. Resident-led petitions to have cameras installed in their neighborhoods illustrate how the insertion of a video-surveillance node into state security can renew citizens' hopes for a more efficient state security apparatus.<sup>14</sup> However, the technological fix alone cannot solve local law enforcement's structural problems: an occurrence generated by a video-monitoring operator will ultimately face the same understaffed, and underfunded, security forces as a citizen with a phone, or a doorman with an analogue radio.

## Conclusion

By approaching security arrangements through a focus on the technologies that connect different actors together in the name of urban safety, this chapter has attempted to bridge debates within contemporary urban anthropology that are seldom in dialogue. Our analysis of security technology in Kingston and Recife draws on insights from in-depth ethnographies of security practices, which highlight the role of both state and non-state security professionals. In contemporary cities, security is produced by a plurality of actors, and as nuanced approaches to what happens "on the ground" have shown, it is often difficult to fully distinguish the state from the non-state. However, rather than focusing primarily on the blurriness of the lines between public and private security actors, we have concentrated on technology as an important material enabler of such security arrangements. In addition to understanding such technological devices as boundary objects, it is equally important to take them seriously in terms of the politics in which they are embedded. Drawing on critical anthropological literature on urban techno-politics, we

have interrogated the packaging of these security objects as neutral and efficient fixes of complex urban issues.

In our analysis of “shot-spotting” microphones in Kingston, video surveillance in Recife, and analogue radio networks in both cities, we have critically engaged with instances of “technological fixes” that fall short of tackling the complexities surrounding urban crime and insecurity. Through our explorations of how such boundary objects are framed and utilized for safety, we have sought to upset the plotlines they were introduced to enact: seamless and efficient networked processes that result in crime reduction. The proliferation of security devices and technologies in urban environments, illustrated by these case studies, shapes the lived experiences of city dwellers and the everyday politics of urban life, not only in high-crime cities such as Recife and Kingston but across the world. An anthropological engagement with the politics of security and technology, then, may be not only urgent but also inevitable.

## Notes

- 1 Interview by Rivke Jaffe and Tessa Diphoorn with security company managers in Kingston, August 2014.
- 2 Interview by Carolina Frossard with military police officer, May 2015.
- 3 Interview by Carolina Frossard with military police officer, May 2015.
- 4 Interview by Carolina Frossard with military police officer, June 2015.
- 5 As narrated in an interview with military police officer, May 2015.
- 6 For instance, easily recognizable G4S stickers.
- 7 See [www.shotspotter.com](http://www.shotspotter.com), accessed May 2, 2016.
- 8 Interview by Rivke Jaffe and Erella Grassiani with US embassy official, August 2014.
- 9 See “Commish Makes Another Appeal for ‘ShotSpotter’ Technology”, *Jamaica Observer*, October 24, 2013.
- 10 See Paul Rodgers, “Technology That Could Cut Gun Crime by 40%”, *Jamaica Observer*, July 30, 2012.
- 11 See, for example, the thread titled “Technology That Could Cut Gun Crime by 40%” on the Tech Jamaica forum: <http://www.techjamaica.com/forums/showthread.php?108322-Technology-that-could-cut-gun-crime-by-40&s=73ad61650f082806f8689ce37c9a8594>.
- 12 See “Se Gotham City conhecesse a Avântia, jamais precisaria do Batman” [“If Gotham City knew Avântia, it would never need Batman”], *Endeavor Brasil*, March 26, 2016.
- 13 Interview by Carolina Frossard with Recife resident, June 2015.
- 14 As took place in a low-income neighborhood of Recife’s South Zone, in 2015.

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