Surveillance and violence from afar: The politics of drones and liminal security-scapes

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Abstract
As surveillance and military devices, drones—or 'unmanned aerial vehicles'—offer a prism for theorizing the technological politics of warfare and governance. This prism reveals some violent articulations of US imperialism and nationalism, the dehumanizing translation of bodies into 'targets' for remote monitoring and destruction, and the insidious application of militarized systems and rationalities to domestic territories and populations. In this article, we analyze the deployment of drones within warzones in Afghanistan, Iraq, and Pakistan and borderzones and urban areas in the USA. What we call 'the drone stare' is a type of surveillance that abstracts people from contexts, thereby reducing variation, difference, and noise that may impede action or introduce moral ambiguity. Through these processes, drones further normalize the ongoing subjugation of those marked as Other.

The corporeal politics of space, place, and identity are powerfully inflected by technological systems of remote surveillance and violence. This is especially evident with drones, or unmanned aerial vehicles (UAVs), which the US and other governments have been deploying with greater frequency across a diverse range of territories (CNN, 2010; Lewis, 2010). Drones have garnered recent media attention as remote-controlled, kill-at-a-distance technologies, which allow soldier 'pilots' stationed potentially thousands of miles away to collect military intelligence, identify targets, and fire missiles at suspected

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enemies. In addition to being used in warzones in Afghanistan, Iraq, and northern Pakistan, UAV systems are being used for managing emergencies caused by natural disasters (Dean, 2007), spying on foreign drug cartels (Padgett, 2009), finding criminal activity in urban and rural areas (Lewis, 2010; Public Intelligence, 2010), and conducting border control operations (Walters and Weber, 2010).

While drones appear to affirm the primacy of visual modalities of surveillance, their underlying rationalities are more nuanced and problematic. As complex technological systems, drones are both predicated upon and productive of an actuarial form of surveillance. They are employed to amass data about risk probabilities and then manage populations or eliminate network nodes considered to exceed acceptable risk thresholds. In part, drones are forms of surveillance in keeping with the precepts of categorical suspicion and social sorting that define other contemporary surveillance systems (Gandy, 1993; Murakami Wood et al., 2006; Lyon, 2007; Monahan, 2010). Drones may perform predominately in the discursive register of automated precision and positive identification of known threats, but in practice, these surveillance systems and their agents actively interpret ambiguous information that continuously defies exact matches or clear responses. In the process, UAV systems may force homogenization upon difference, thereby reducing variation to functional categories that correspond to the needs and biases of the operators, not the targets, of surveillance. All surveillance and dataveillance systems are prone to errors that have harsh ramifications for the subjects whose flawed 'data doubles' haunt them (Haggerty and Ericson, 2006). Drone-based surveillance systems are no exception, as witnessed by verified cases of 'collateral damage' caused by drone strikes (Bergen and Tiedemann, 2010).

Drones also illustrate some key dynamics in the relationship between surveillance and militarization. These devices are woven up in myths of technological superiority, objectivity, and control that help support their adoption. By means of their supposed accuracy and precision, drone systems may encourage the hostile targeting of threats in military settings while further inuring people to invisible monitoring in domestic spheres. However, drones reveal important dissonances in militarization processes. The narrative of rationalization is interrupted in telling ways—by technological and human errors that kill innocent people, by emotional affect experienced by drone operators who may feel closer to their targets than they would like, by innovative uses of camouflage and monitoring of drone feeds by so-called enemies, and by media broadcasts of these and other instabilities in drone systems. Thus, although general trends can be discerned in the application of drones across territories, UAVs—like all systems of surveillance and violence—are neither monolithic nor static; they are always multiple, contingent, and negotiated. As such, analysis of drone systems requires us to acknowledge the violent or dehumanizing potentials of such technologies, and be sensitive to the active mediation of such logics by people and organizations in local contexts.

To that end, in this article we discuss UAVs as they circulate in combat zones in Afghanistan, Iraq, and Pakistan and in territorial borderzones and urban areas in the USA. These different geographies can be understood as liminal 'security-scapes' (Gusterson, 2004), where the practices of everyday life are unstable and insecure and where bodies are subjected to routine surveillance and violence. By focusing on these different sites, we begin to deconstruct the politics of drones and to theorize actuarial forms of surveillance and social control taken to the extreme.

Technological politics and cosmic control

In the contested arenas of organized warfare and international immigration, drones extend the control logics that have long characterized modern warfare (Haggerty, 2006). Paul Virilio (1986, 1997) argues that western society is defined by its quest for faster and more mobile technologies—from transportation vehicles such as the car and airplane to information technologies such as the television and computer. For Virilio (1986, 1997), the western obsession with technological development is first and foremost linked to warfare and militaries, and secondarily to the political desire to control people and their movements. By identifying those who control the various technologies of speed in a given society we can also identify the victors. Unequal mobility and speed corresponds with what Eyal Weizman (2007) has called the politics of verticality, which he has written about in the context of the Israeli occupation of Gaza. For it is not technological speed alone that assures control over the enemy, but also the ability to achieve higher elevations in order to gain an observational advantage. The extraterrestrial satellite epitomizes the desire for dominance through verticality (DeNicola, 2006), but the hill, rooftop, and airplane are also technologies of verticality frequently deployed in practices of state control.

Since the Second World War, US politicians, military leaders, and citizens have claimed that their security is best protected through the techno-scientific mastery of the skies, or of 'air space' (DeNicola, 2006). Modern aerial strategy hinges on belief in a cosmic view of air power in which aerial military technology can successfully identify, unify and fix diverse populations on the ground (Kaplan, 2006). With modern fighter jets and massive bomber planes, this cosmic view promises to offer security to nations through the power of aerial mobility (Kaplan, 2006), in which state superiority is asserted through technologies that enable state militaries to unleash upon enemies a barrage of violence from the skies.

Since the attacks on 11 September 2001, Al Qaeda and other non-state violent networks have challenged the cosmic control premise of a clearly identifiable and geographically bounded enemy (Kaplan, 2006). A discourse of rival flexibility has emerged whereby national security is threatened by decentralized, mobile, and unpredictable terrorist networks that camouflage their members by blending in within civilian, not military, environments (Kaplan, 2006). But military strategies and technologies are themselves constantly changing in response to the tactics of enemy others. Drones are a combination of the new and the old: a new aerial surveillance and killing system with capabilities previously not offered by conventional air power, coupled with an older cosmic view of air mastery through technological speed, verticality, and vision. Indeed, contemporary discourses about UAVs often mention how drones can hover higher and for longer periods of time than most surveillance planes can and are more mobile in their transportation and operational capabilities. UAV systems are designed for greater operational flexibility than the bulky, albeit faster and more destructive, fighter jets and bombers that have been the cornerstones of modern aerial strategy. This functionality also lends itself to international immigration control and border security, where, for instance, South and Central American migrants attempt to traverse dangerous deserts while crossing militarized national borders patrolled by piloted and pilotless aircraft (Andreas, 2003). Therefore, the development and increasing obsession with drones in the service

of national security can be seen as a strategic technological response to the decentralized networks of non-state terrorism, and in the case of international immigration, the fluid maneuverings of undocumented others.

Drones in the war on terror

The use of drones has increased steadily in recent years. Under the eight-year presidency of George W. Bush, there were approximately 45 drone attacks—or 'targeted killings'—against suspected foreign combatants (CNN, 2010). Under the Obama administration, targeted killings by drones increased significantly, especially in Afghanistan and Pakistan. There were 51 UAV missile attacks in 2009 and 29 in the first four months of 2010 (CNN, 2010). A large portion of recent drone attacks have been covert CIA 'black ops' in Pakistan, which the US government initially denied but eventually admitted to without disclosing many details. Accompanying this increase in drone violence is a controversial widening of acceptable targets for drone killing; originally the targets had to be clearly identifiable and *known* terrorists, but this changed under Obama to include *suspected* terrorists whose actual identities are not necessarily known (Cloud, 2010). In the words of CIA director Leon Panetta, drones are 'the only game in town in terms of confronting or trying to disrupt the al Qaeda leadership' (CNN, 2009).

Although the US government operates a variety of UAV models, the MQ-1 Predator and the newer, more advanced MQ-9 Reaper drones are most frequently mobilized in the war on terror and subsequently have brought the most public attention to UAVs. On one hand, even though Predators often are armed with missiles, they have typically been used as technologies of surveillance. They were the primary US drone operated in Iraq and Afghanistan before the Reaper was developed in 2006. Reapers, on the other hand, have been labeled the first 'hunter-killer' UAVs that are 'designed to go after time-sensitive targets with persistence and precision, and destroy or disable those targets with 500-pound bombs and Hellfire missiles' (US Air Force website, 2006). According to General T. Michael Moseley of the US Air Force, 'We've moved from using UAVs primarily in intelligence, surveillance and reconnaissance roles before Operation Iraqi Freedom, to a true hunter-killer role with the Reaper' (US Air Force website, 2006). The General observed that the name Reaper was suggested by members of the US Air Force and that this name 'captures the lethal nature of this new weapon system' (US Air Force website, 2006).

Yet this remote-controlled violence against designated enemies of the US state depends upon intensive aerial surveillance of bodies and movements on the ground below. An unnamed, senior military official explained: 'Predators and other unmanned aircraft have just revolutionized our ability to provide a constant stare against our enemy' (Barnes, 2009). As one drone operator stated, 'We spend 70 to 80 percent of our time doing this, just scanning roads' (Drew, 2009). During 2007 and 2008 in Iraq and Afghanistan, Predator and Reaper drones flew 10,499 missions and fired missiles in 244 of those missions (Drew, 2009). In this same time frame, Predator and Reaper drones were conducting '34 surveillance patrols each day in Iraq and Afghanistan' which is purportedly 'up from 12 [a day] in 2006' (Drew, 2009). These drone surveillance missions currently amass '16,000 hours of video each month' and sometimes relay this intelligence footage to US soldiers on the ground (Drew, 2009).

A new program dubbed the Gorgon Stare—named after the Greek mythological figure whose gaze could turn victims into stone—will reportedly increase the single video feed capable of being transmitted and recorded by standard drones to first 12 and in due course to 65 video feeds (Barnes, 2009). A primary goal of drone surveillance is to collect overhead imagery that might prove tactically useful for US commanders and soldiers. As one journalist writes, 'By capturing images, the drones help soldiers determine how many houses there have power, for example, or where roads are, and other "quality of life" data' (Lubold, 2010). In the words of an anonymous intelligence officer: 'For Afghanistan, for example, every day we're analyzing imagery that includes the need to distinguish between normal agriculture and poppy production, and in Iraq to distinguish between plastics production or concrete batching and homemade explosives production' (Lubold, 2010).

The desire for omniscience through total vision is a common motif in theoretical treatments of surveillance (e.g. Foucault, 1977). It is also a product of an Enlightenment rationality that aspires toward reason and progress through the cold, objective pursuit of knowledge. As feminist science-studies scholars remind us, these longings for pure knowledge, which seek to eviscerate bias and politics, are nonetheless 'marked' forms of knowledge that simply deny the values and prejudices inherent in their modes and addresses of production (Haraway, 1988; Harding, 1991; Monahan and Fisher, 2010). These rationalities of so-called objective knowledge valorize the status quo while enforcing an exclusionary politics that denies or subjugates alternative ways of knowing. In the case of drone surveillance in combat settings, the exclusionary politics of omniscient vision not only harm ethnic and cultural others with great prejudice, but they also instigate an additional violence of radically homogenizing local difference, lumping together innocent civilians with enemy combatants, women and children with wanted terrorist leaders. From the sky, differences among people may be less detectable, or—perhaps more accurately—the motivations to make such fine-grained distinctions may be attenuated in the drive to engage the enemy. When these mechanisms and logics of surveillance are imported to non-combat settings, such as borderzones and civilian territories, they may in turn further the violent dehumanization and non-differentiation of people while expanding the scope of who could be included in the drone's gaze. It is to these non-combat geographies and their populations that we next turn.

Policing migrants, drugs, and citizens

By meshing aerial reconnaissance with aerial bombardment, drones function primarily as technologies of war. Yet UAVs are also being used as technologies of state surveillance and policing and are deployed in security-scapes other than military combat zones. For instance, in the USA drones are increasingly being used to police foreign migrants in relationship to its territorial borderzones, particularly by locating people who are attempting to enter the country illegally. In addition, as we will detail below, some police departments are now conceiving of drones as surveillance devices that might prove useful in the routine policing and monitoring of domestic territories.

Soon after President Obama announced in May 2010 that 1200 National Guard soldiers (Werner and Billeaud, 2010) would be deployed to the already heavily militarized

and surveilled US–Mexico border (Dunn, 1996; Pallitto and Heyman, 2008), conservative Arizona Governor Jan Brewer wrote a letter to Obama urging him to send also what she referred to as 'aviation assets', specifically military UAVs and helicopters (Lach, 2010). Brewer asserted that drones have proven effective in US military campaigns overseas and that they would therefore assist in securing the US border:

> I would also ask you, as overseas operations in Iraq and Afghanistan permit, to consider wider deployment of UAVs [unmanned aerial vehicles] along our nation's southern border. I am aware of how effective these assets have become in Operations Iraqi and Enduring Freedom, and it seems UAVs operations would be ideal for border security and counter-drug missions.
>
> (Quoted in Lach, 2010)

This appeal for drones at the border obscures the fact that UAVs have already been providing aerial surveillance over US border regions (Shachtman, 2005; Gilson, 2010). Since 2006, the USA has spent approximately $100 million for UAVs on both the southern and northern US borders as part of its efforts to create a so-called virtual fence (Canwest News Service, 2007). As of 2010 the US Customs and Border Protection (CBP) was operating six unarmed Predator drones for overhead surveillance missions along the US–Mexico border, five of which were based in Brewer's state of Arizona (Gilson, 2010). Since late 2007 or early 2008, the CBP has been testing drones in US/Canada border regions (Canwest News Service, 2007). CBP officials credit their drones with 'helping bust 15,000 lbs of pot and 4,000 illegal immigrants' (Gilson, 2010). In the words of a defense executive: 'It is quite easy to envision a future in which (UAVs), unaffected by pilot fatigue, provide 24–7 border and port surveillance to protect against terrorist intrusion … Other examples [of possible uses] are limited only by our imagination' (McCullagh, 2006).

Clearly, drones have been enlisted in efforts to restrict illegal immigration and combat the war on drugs. The notion of 'drug drones' has become fashionable in international drug enforcement, especially for use in maritime operations (Padgett, 2009). For instance, under the name 'Monitoreo', which is Spanish for monitoring, the US Southern Command recently conducted a drone 'testing project' that mobilized an Israeli-made $6.5 million Heron drone from El Salvador's Comalapa Air Base to track down suspected drug cartel members who were allegedly using the open waters to smuggle drugs into the USA (Padgett, 2009; see also Shachtman, 2009). By remaining thousands of feet in the air for up to 20-hours while being equipped with a 'set of sensors better suited for spotting the subs [mini-submarines] that have become so popular among narco-cartels' (Shachtman, 2009), this particular Heron drone promises to be a longer endurance technology than conventional planes commonly used in drug surveillance. As *Time* magazine journalist Tim Padgett (2009) writes,

> If battlefield drones like the Predator can scan and bomb Taliban targets in the mountains of Afghanistan, the logic goes, a similar drone like the Heron should be able to find the 'go fast' boats and submarines used by drug cartels in the waters of this hemisphere.

UAVs are also currently flying in the skies over some cities in both the USA and United Kingdom. As reported in 2006,

one North Carolina county is using a UAV equipped with low-light and infrared cameras to keep watch on its citizens. The aircraft has been dispatched to monitor gatherings of motorcycle riders at the Gaston County fairgrounds from just a few hundred feet in the air—close enough to identify faces—and many more uses, such as the aerial detection of marijuana fields, are planned.

(McCullagh, 2006)

In 2007, the Houston Police Department in Texas controversially tested the use of unarmed surveillance drones, with the eventual objective of monitoring traffic, aiding evacuations during natural disasters, helping with search and rescue operations, and assisting with other 'tactical' police incidents (Dean, 2007). The Executive Assistant Police Chief admitted that UAVs over the skies of Houston 'could include covert police actions' and that the police force was 'not ruling out someday using the drones for writing traffic tickets' (Dean, 2007). In another example, a confidential document revealed that the Las Vegas Police Department may have been using UAVs above the city of Las Vegas as early as 2007 (Public Intelligence, 2010). The document further outlines a plan for UAVs to help monitor special events and discusses ways in which the Las Vegas UAVs are integrated into Department of Homeland Security (DHS) 'fusion centers' to assist with the investigation of suspicious activity reports (Public Intelligence, 2010). As noted in other work on the militarization of cities, the application of drone technologies to urban areas promises to extend the surveillance networks within which people are caught (Murakami Wood, 2007) and intensify the policing of cultural difference and political dissent that have historically marked cities as vibrant, democratic spaces (Graham, 2010).

Within the current political and cultural milieu, this particular movement of military technology to civilian spheres reveals a symbiotic relationship between the war on crime and war on terror. Jonathan Simon (2007: 11) persuasively argues that in some respects the war on terror is an unacknowledged continuation of the war on crime, sharing with it similar discourses and institutional arrangements. When the rationalities and technologies of the war on terror are applied to other domains and other perceived threats, there is a heightened danger that existing legal protections and rights will be vitiated in the process, thereby ratcheting up cultures of control that already disproportionately harm marginalized populations (Wacquant, 2009). For instance, DHS fusion centers may have originated as organizations to share data on terrorist threats, but they have since been linked to spying on non-violent anti-war protesters, environmentalists, students at historically black colleges, and others (Monahan, 2011).

In contemporary cultures of control, all populations may be called upon—or be responsibilized—to manage risk in highly individualized ways and through increasingly privatized means (Rose, 1999), but this in no way indicates a diminished role for the state, or state-corporate apparatuses, in extending discipline and control into domestic territories (Garland, 2001; Monahan, 2010). The use of drones in non-combat settings may symbolically transform those sites to arenas of agonistic engagement and further militarize domestic police departments and government agencies to the detriment of individual liberties and the public good.

The drone stare and its limits

Drone systems necessarily objectify, and most likely dehumanize, people targeted by them. The ongoing informatization of warfare leads to increased mediation of combat experiences (Robins and Levidow, 1995; Haggerty, 2006; Monahan and Wall, 2007) and this is definitely the case for many UAV 'pilots' who 'sit at 1990s-style computer banks filled with screens, inside dimly lit trailers' (Drew, 2009) and 'kill enemy fighters with a few computer keystrokes. Then, after their shifts are over, they get to drive home and sleep in their own beds' (Lindlaw, 2008). Taken together, the techno-scientific mediation of modern-day weapons systems and the symbolic mediation of television and computer screens allow drone pilots and the general public to view war 'from a distance' while making way for organized state violence to be seen as virtuous (Der Derian, 2001)—that is, clean, precise, and noble. In this context of computerized 'postmodern warfare' (Gray, 1997), it seems reasonable to assert, as Kevin Robins and Les Levidow (1995: 120) did in the aftermath of the Gulf War of 1991:

> Killing is done 'at a distance', through technological mediation, without the shock of direct confrontation. The victims become psychologically invisible. The soldier appears to achieve a moral dissociation; the targeted 'things' on the screen do not seem to implicate him in a moral relationship.

The technological mediation vital to what we call 'the drone stare' is most often framed by advocates of UAV systems as an unproblematic ability to see the truth of a particular situation (see Rattansi, 2010) or to achieve a totalizing view of the 'object' under cosmic control. In the words of Robins and Levidow (1995: 121): 'Enemy threats—real or imaginary, human or machine—became precise grid locations, abstracted from their human context.' To the extent that this description is accurate, it would appear to hold true for the use of drones in combat as well as non-combat settings.

Journalist Noah Shachtman (2005), who observed drone operators monitoring the US–Mexico border, betrays through his description the dehumanizing tendency of drone-mediated perceptions: 'Everyone looks like germs, like ants, from the Hunter's 15,000-foot point of view. Especially when the ant hill breaks apart, and everybody scatters in a dozen different directions.' But this particular articulation makes no distinction between 'illegal immigrants', political refugees, or Mexican-American citizens. In this sense, the drone system radically homogenizes these identities into a single cluster of racialized information that is used for remote-controlled processes of control and harm. Bodies below become things to track, monitor, apprehend, and kill, while the pilot and other allies on the network remain differentiated and proximate, at least culturally if not physically.

In the case of the use of military drones for 'precision' killing, the practical action of firing a Hellfire missile is translated and transformed by the informational system into a computerized checklist of 'things to do'. As one journalist writes concerning US Air Force drones, 'Now, pilots say, it takes up to 17 steps—including entering data into a pull-down window—to fire a missile' (Drew, 2009). In this respect, as Kevin Haggerty (2006) has pointed out, the speed and mobility of informatized warfare is perforce slowed by attendant complex systems of control, which is a generalizable finding that presents

an important caution against overdetermined conclusions about inevitable increases in the velocity of war technologies. But this step-by-step process of entering 'data' into a computer system nonetheless propagates a dehumanizing abstraction when living human beings are rendered into mere spatial or tactical coordinates. As Avital Ronell (1992: 75) puts it: 'the cyborg soldier, located in command and control systems, exercises on the fields of denial'. Killing transpires not only at a distance but through the routine, banal computerized procedure of typing and clicking. UAV systems, according to one military drone operator, are 'pretty simple' to operate but,

> the challenge is taking all the information available and fusing it into something that's usable and then practicing and exercising the constraint or the lethal power to either preserve life or to prosecute an attack. And that is where the challenge really is, honing that warrior spirit— knowing when to say when.
>
> (Rattansi, 2010)

But as we have discussed, this 'knowing when to say when' is not a 'decision' that is made in a vacuum but is rather a sovereign act shaped by social and political norms, which are encoded in both the institutional practices and technological systems of drone warfare.

The state killing enacted by UAV systems exists in a discursive and symbolic context where a steadfast belief in precision technology helps justify the techno-scientific violence of the West (Shaw, 2005). Central to common representations of virtuous warfare, and especially aerial warfare, is the idea that the USA is technologically superior to other countries in its war capabilities, particularly because of its reliance on 'smart bombs' and 'precision-guided missiles' that distinguish between legitimate and illegitimate targets (Der Derian, 2001). This, in turn, brings about an expectation that militaries should go to great lengths to use their violence in discriminatory ways that target combatants while avoiding civilians (Beier, 2003). Militaries in technologically advanced countries such as the US embrace this rhetoric to assert that they have the capacity to conduct war in more legal and moral ways than less technologically advanced countries (Beier, 2003).

Of course, claims to technological sophistication are always relative ones that can invite hubris on the part of those parties presuming superiority. This was revealed when it was discovered in 2009 that Iraqi insurgents had accessed unencrypted video footage from US Predator drones (Gorman et al., 2009). This example, while embarrassing for US military officials, illustrates a paradox in the construction of the enemy other. Insurgents were apparently presumed too backward and unsophisticated to tap unencrypted signals broadcasted by the USA. By intercepting these signals with apparent ease using '$26 off-the-shelf software' (Gorman et al., 2009) and storing the feeds on laptop computers, the enemy effectively elevated its own symbolic legitimacy as civilized peoples, in large part because in the West technological achievement and ability are often equated with civilization (Adas, 1989). The enemy moreover demonstrated its agency and its refusal to become a legible and docile object for western control.

People who are aware of adversarial monitoring from the skies also engage in tactics to evade the drone stare. Specifically, subjects of drone surveillance have tried to be stealthier and camouflage themselves better than they have in the past. In the North

Waziristan region of Pakistan where drone surveillance and violence has been heavily concentrated, the standard ways in which militants have traditionally traveled, slept, and communicated has been significantly altered by the aerial gaze of UAVs, according to some local sources (Perlez and Shah, 2010). Combatants have allegedly abandoned 'satellite phones and large gatherings in favor of communicating by courier and moving stealthily in small groups' while also establishing hide-outs in mountainside tunnels and relying more on civilian-looking transportation as opposed to 'all-terrain vehicles' (Perlez and Shah, 2010). In addition, if past ruses of camouflage and spatial deception employed by undocumented immigrants along US border regions are good indicators, undocumented migrants seeking entrance to the USA will find new ways of subverting and disappearing from the gaze of UAVs (Corchado, 2003).

Still, discourses of technological accuracy and hegemonic control persist. According to one drone operator:

> unlike all the other weapons systems out there, I can control collateral damage to a much greater degree in this and I can minimize it and negate it because if I see a high-value individual—one of those jackpot guys—that I want to prosecute an attack on I'm not limited by gas. I'm not limited by the physiological constraints of the air crew. I'll swap another air crew out. I'll bring another plane out and have them run in there … and I will stay with that individual until the time is right by my making.
>
> (Rattansi, 2010)

But the discourse of discriminatory precision bombing is primarily a fantasy because civilians are still the most common victims of aerial warfare (Tanaka and Young, 2009). In addition, 'accuracy' is a social construction, even in the context of advanced missile delivery systems (MacKenzie, 1993). Although the extent to which US drone missile attacks have killed foreign civilians is highly contested, it is widely recognized that Hellfire missiles have killed people who were not 'legitimate targets' (Bergen and Tiedemann, 2010). Official Pakistani sources claim that approximately 700 civilians were killed in 2009 alone, and in a study of US drone attacks in Pakistan from 2004 to early 2010, the New America Foundation found that around 32 percent of drone-induced deaths during this time were civilians (Bergen and Tiedemann, 2010).

Clearly, the privilege of having a cosmic view distances drone operators from retaliatory violence. With the drone pilot potentially thousands of miles away, drones actualize a 'risk-transfer war' (Shaw, 2005), wherein the goal is to reduce or eliminate the deaths of 'our own' while still producing significant casualties for the enemy. In this sense, drone operators engage in a semi-voyeuristic manipulation or destruction of distant others:

> Digital footage from the robot planes is now routinely sent everywhere the military's network extends, which means soldiers far removed from the front lines finally get to see a little action in real time. 'It's like a video game', says one analyst who served at U.S. Central Command headquarters in Camp As Sayliyah in Qatar. 'It can get a little bloodthirsty. But it's fucking cool'.
>
> (Shachtman, 2005)

But some military drone operators, who have also flown combat missions in 'manned aircraft' such as F-16 fighter jets, say that the technological mediation of UAV systems is more visceral and phenomenologically complex than a video game experience, in large part because of the advanced camera systems of the drones. With UAVs, one particular pilot claimed to feel:

> more connected with the ground fight than I ever did when I was flying over the top at 20,000 feet, the reason being that I am much [more] involved in coordination and contact with those ground forces that are taking fire than I ever was in a F-16 … it comes together to create a much more tangible, much more real event … then [*sic*] I experienced when I was dropping bombs from F-16s.
>
> (Rattansi, 2010)

Similarly, another former F-16 pilot comments that when flying an F-16, 'you come in at 500–600 miles per hour, drop a 500-pound bomb and then fly away, you don't see what happens', but when remotely piloting Predator drones 'you watch it all the way to impact, and I mean it's very vivid, it's right there and personal. So it does stay in people's minds for a long time' (Lindlaw, 2008). Yet another drone pilot said, 'When you're on the radio with a guy on the ground, and he is out of breath and you can hear the weapons fire in the background, you are every bit as engaged as if you were actually there' (Drew, 2009).

Although we should be skeptical of this claim of 'realistic' experiences created through interactions with drone systems, there have been some reports that drone operators have expressed emotional and psychological difficulties due to this mediated intimacy and physical distancation. As one drone pilot explains, 'It is quite different, going from potentially shooting a missile, then going to your kid's soccer game' (Lindlaw, 2008). Even after the missiles have been fired and flesh ripped apart, the drone stare is often ordered to linger in the air to record and observe the destruction produced by the UAV system. As another drone operator states:

> You do stick around and see the aftermath of what you did, and that does personalize the fight … You have a pretty good optical picture of the individuals on the ground. The images can be pretty graphic, pretty vivid, and those are the things we try to offset [through psychiatric treatment and psychological and spiritual counseling].
>
> (Lindlaw, 2008)

Previous analyses of the psychological effects of killing suggest that killing is easier to do from a distance and becomes progressively more difficult the closer one is to one's victim (Grossman, 2009). In the case of UAVs, however, the pilots may be on the other side of the globe yet nonetheless feel proximate to those with whom they engage. This may create the possibility for a re-personalization of distant, technologically mediated attacks, wherein pilots register some experiences of trauma and responsibility. This phenomenon could vitiate some of the dehumanizing tendencies of remote warfare or, at the very least, render the experiences visceral for those viewing the monitors, whether they are pilots or the public.

The technological politics of drone systems hinge upon the productive capabilities of these devices, which extend beyond their use for missile strikes. By means of the drone

assemblage of aircraft, cameras, missiles, communication technology, and distant pilots, people 'down below', whether migrants, insurgents, or citizens, are abstracted from their local social, political, and geographical contexts. The targets of drone surveillance are thereby translated into objectified representations of risk and value, but, as Jacques Derrida (1981) would remind us, there is always a remainder that exceeds neat binary equations of semiotic meaning. The remainders here include forms of collateral damage, whether innocent people wrongfully targeted or inadvertently killed, or civil liberties and human rights sidelined or oppressed through the ongoing militarization of borders and domestic spaces. Other remainders are psychological effects experienced by drone pilots; by allies, neutral parties, supposed enemies on the ground; and by distant witnesses to drone warfare, which may include anyone in the world with access to the relevant media streams. Finally, there is the important and nagging remainder of the agency of the Other, who refuses to be petrified and immobilized by the drone stare, who exploits the technological hubris and vulnerabilities of the West, and who devises new tactics of camouflage and mobility to evade the reach of surveillance and violence from above.

Conclusions

As surveillance and military devices, drones offer a prism for theorizing the technological politics of warfare and governance. This prism reveals some violent articulations of US imperialism and nationalism, the translation of bodies into 'targets' for remote monitoring and destruction, and the insidious application of militarized systems and rationalities to domestic territories and populations. In this article, we analyzed the deployment of drones primarily within two different liminal security-scapes: warzones in Afghanistan, Iraq, and Pakistan and borderzones and urban areas in the USA. While we readily acknowledge profound variation and diversity both within and across these security-scapes, extant resonances and dissonances, especially with the use of drones, reveal broader patterns in forms of state operations. Notably, the drone stare depends upon processes that seek to insulate pilots and allies from direct harm while subjecting targets to 'precision' scrutiny and/or attack. The drone stare further abstracts targets from political, cultural, and geographical contexts, thereby reducing variation, difference, and noise that may impede action or introduce moral ambiguity. In combination, these processes further normalize the ongoing subjugation of those marked as Other, those targeted for discriminatory observation and attack, those without comparable resources to contest the harmful categories within which they are placed.

Whether the forms of drone surveillance and violence operate in discursive, representational, and/or physical registers, they are always articulations of identity and scripted assertions of value that are far from objective or benign. UAVs may reside within a paradigm of cosmic control that seeks strategic advantage through systems of verticality, but rather than mirror reality below in some positivistic way, the drone assemblage executes socio-technical codes that objectify others while blurring all identities within the apparatus. Some of these blurred identities include insurgent and civilian, criminal and undocumented migrant, remotely located pilot and front-line soldier. Not only does the use of military drones destabilize identities and their representations in both combat and borderzones, but conceptual categories as well are subjected to

homogenization of radical difference as borders are refashioned as combat zones and combat zones are construed as ontological borders between 'us' and 'them', or 'civilization' and 'barbarism'.

UAV surveillance practices furthermore reveal a primary, unstable fault line with surveillance in risk societies: exact identification and targeted control of individuals is subordinated to imperatives of preemptive risk management of populations and groups. Individualizing and differentiating surveillance is still highly valued, of course; it just gives way to—or is subsumed by—practical needs and expediencies which may appear to be rational and technocratic but are nonetheless infused with prejudicial understandings and evaluations of subjects. Thus, actuarial forms of surveillance seek precision within certain homogenizing parameters. In the case of UAVs, this arrangement may increase instances of state crimes such as the direct or indirect killing of innocents, which can occur through drone missile attacks or through the further militarization of dangerous borderzones. Broadly speaking, perhaps the ultimate objective of informational surveillance in and by institutions is to supplant the group with the individual as the primary unit of analysis—or, beyond that, to perceive individuals as comprised of groups (of preferences, risks, probabilities) and act on whichever attributes are deemed meaningful for particular functions or goals. Still, it would be a mistake to think that more fine-grained detail and differentiation would move surveillance systems closer to 'truthful' representations of people. As long as a risk-management paradigm prevails, prejudicial social sorting—or mortality triage, as the case may be—will continue, as will unjustifiable interventions based on profiles and probabilities.

Acknowledgement

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