Tracking and Targeting: Sociotechnologies of (In)security

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Pre-print of Suchman, L., Follis, K., & Weber, J. (2017). Tracking and Targeting: Sociotechnologies of (In)security. *Science, Technology and Human Values, 42*(6), 983-1002. http://journals.sagepub.com/doi/full/10.1177/0162243917731524

Abstract: This introduction to the special issue of the same title sets out the context for a critical examination of contemporary developments in sociotechnical systems deployed in the name of security. Our focus is on technologies of tracking, with their claims to enable the identification of those who comprise legitimate targets for the use of violent force. Taking these claims as deeply problematic, we join a growing body of scholarship on the technopolitical logics that underpin an increasingly violent landscape of institutions, infrastructures and actions, promising protection to some but arguably contributing to our collective insecurity. We examine the asymmetric distributions of sociotechnologies of (in)security, their deadly and injurious effects, and the legal, ethical, and moral questions that haunt their operations.

Within the anticipatory logics of state-based security, identification of the imminent threat is fundamental. International security scholars have described the logics of pre-emptive security as an "ontotheology," that is "an *a priori* argument that proves the existence and necessity of only one form of security because there currently happens to be a widespread, metaphysical belief in it" (Der Derian 1995, 25). While security conventionally has been framed as the evidence-based identification and assessment of danger informed by a causal logic and reliant on empirical analysis, threat identification is increasingly reconfigured by the United States and its European allies into the apparatus of a predictive, risk-oriented technoscience (Aradau et al. 2008; Amoore 2013). And with risks projected as limitless, demands for preemptive technosecurity measures expand. At the same time, critics point out that claims for the precision of sociotechnical systems configured for the tracking and targeting of threats in the name of human

security are belied by their effects on the ground. Critical analyses of US programs in particular are by now extensive, most visibly the use of drones by the Central Intelligence Agency (CIA) in the so-called Federally Administered Tribal Areas (FATA) on the border between Pakistan and Afghanistan. Drawing upon documentation provided by non-governmental agencies like the Bureau of Investigative Journalism[i] and Reprieve,[ii] scholars have traced the CIA program of "targeted assassination" initiated in Yemen in November of 2002, and extended to Pakistan in June of 2004, as it moved from the execution of named individuals to strikes based on "signatures" or "patterns of life." As of August 2017, the Bureau of Investigative Journalism had recorded a minimum of 3,734 confirmed drone strikes, with the total persons killed estimated at between 6,562 and 9,561, including from 753 to 1,427 civilians.[iii]

A growing body of scholarship within science and technology studies (STS) and cognate fields is committed to examining the material and discursive infrastructures that hold the logics of (in)security in place, as well as the practices through which those logics realize their effects (see for example Cohn 1987; Mackenzie, 1993; Edwards1996; Ghamari-Tabrizi 2000; Gusterson 2007; Rappert 2007; Rappert et al. 2008; Lawson 2011; Plotnick 2012; Masco 2014). These studies make evident the inherent contradictions and irremediable fault lines that render security regimes open to failure in their own terms. In the process, they help to identify that which eludes the grasp of securitization, understood not as an overflow that needs to be contained, but as the space of possibility for other, more just, inclusive and effective avenues towards human (and more than human) security.

Security as predictive technoscience

The shift of security regimes from a reactive to a proactive mode is at the heart of contemporary state-based logics focusing on technological superiority and persistent surveillance. Surveillance aimed at the control of space, movement, and behavior is an increasingly normalized aspect of everyday life.[iv] "Unmanned" aerial systems with high-resolution sensors and interception capabilities—in conjunction with technologies such as earth observation satellites, biometrics, data mining, profiling, and population metrics—are components of sociotechnical systems in which military and policing operations converge (Hayes 2009). Historically, in the arsenal of the state's monopoly on the legitimate use of violence the military occupied its own distinct position, as the state's armed force charged primarily with defense and the prosecution of war. The policing of human movement was delegated to other agents of sovereign authority whose means and ends were different than those of the army (Torpey 2000). Today the distinction between the tasks of the military and the policing of populations, territory and borders is disappearing (Jones and Johnson 2016). Together the military and other agents of state and private security configure a "regime of technologically enhanced identification techniques" (Ruppert 2009, 4) that rests on methodologies such as machine "learning," knowledge "discovery" in databases, data "mining" and social media "intelligence." Driven by possibilistic logics and iterative tinkering, these technologies aspire to persistent surveillance in unconventional warfare as well as policing. They are used to identify risk populations and to produce targets for the so-called "war on terror" (Graham 2011; Krishnan 2015).[v] It is in this sense that "the act of targeting is an act of violence even before any shot is fired" (Weber 2005, 105).

Security as predictive technoscience rests on an "apparatus of distinction" (Perugini and Gordon 2017) that turns the suspect / enemy into an anticipatory target that can be "Found, Fixed, and Finished" (F3) with the help of information based on real-time tracking, data mining, and the imaginary of an omnipotent sensorium. But the problem, as Carlo Caduff observes, "is that targets are always enmeshed and entangled in their environments" (2107, 318). Each of the papers in this special issue addresses the question of what it means to conceive of security as a technoscience of tracking and targeting, examining its realization in political imaginaries, investments in networked infrastructures, increasingly distributed divisions of social and technical labor, and acts of violence directed at those who are targeting's objects. The connecting thread that joins these papers is the question of how force produces its translations from person, to enemy, to target. The premise is not that violence produces its targets *de novo*, or that there are no circumstances in which violence might be justified as the defensive response to an "imminent threat."[vi] It is rather to focus on the dynamics through which systematic violence effectively creates worlds in which operations of tracking and targeting, done in the name of security, work as sociotechnologies of reciprocal (if also asymmetric) enmity and ongoing insecurity. While the focus is on state-sponsored or military operations, the arguments should have relevance for any forms of systematic violence. As violent force constitutes its objects through their translation as targets, so the authorization of targets, from individuals to populations, is a condition of possibility for violence's governance and legitimation.

Permission to Engage

An initial example might help to make these concerns more concrete. The documents released to Wikileaks by whistleblower Chelsea Manning (who at the time was an intelligence analyst deployed with the US Army in Iraq) in 2010 include the now-infamous and chilling video of over a dozen people being targeted by the crew of a US Apache helicopter, tracking events on the ground in New Baghdad in July 2007.[vii] The recording from the helicopter's sights has been augmented by a number of investigative and documentary accounts of the incident, including extensive testimony and commentary by US Army Infantry Specialist Ethan McCord who was on the ground, as well as family members of those who were killed.[viii] Together these materials enable an all too rare glimpse of how sociotechnologies of military violence comprise their multiple, partially connected and tragically interacting targets. Our primary view of the event as witnesses is through the cross hairs of the Apache attack helicopter, as the crew track persons on the ground walking in and around a square in a neighborhood of this Baghdad suburb, which the US Army was tasked in 2007 to "secure" against insurgents. We watch as the crew translate persons on the ground into targets, and hear them call with increasing zeal and urgency for "permission to engage" from their commanding officer. In this process, cameras on the shoulders of two Reuters journalists are identified as weapons, rendering their bearers into combatants. At the same time, a US Army Infantry unit is operating nearby, conducting what Infantry Specialist Ethan McCord describes as a routine (if much dreaded by both sides) form of patrol, as the unit moves through the neighborhood forcing entry into homes on what McCord characterizes as overwhelmingly pointless searches for evidence of "militia-related materials." At the

same time, McCord emphasizes the continuous threat faced by US personnel on these patrols from rooftop snipers, who aim at either the soldier's exposed throat, or the femoral artery of the thigh. In his commentary regarding the event, McCord explains that "the rules of engagement in 2007 when this happened were that, if you feel threatened, by anybody, you're able to engage that person. Many soldiers felt threatened just by the fact that you were looking at them."[ix]

McCord's account provides a compelling sense of the extent to which US soldiers themselves are targets within the matrix of violence and hair trigger insecurity that constituted the US occupation of Baghdad in 2007, and with what consequence for those around them. The status of McCord's own unit as a potential target on this occasion was a highly salient element in the justificatory framing on which the Apache helicopter crew based their own tracking. Along with the misrecognized cameras, the video is readable for the outlines of an AK47 in the hands of one of another group of men walking near the square. More salient still, as McCord explains to filmmaker Shuchen Tan, is a silhouette identifiable through the filter of professional military vision as a Rocket Propelled Grenade (RPG) launcher. Given the weapon's capability of shooting down a helicopter, McCord asserts that any Iraqi carrying an RPG in that area would (or at least should) know that they would be read as targeting the US military, and reciprocally as a legitimate target themselves. So the stage is further set for the attack from the Apache crew that follows.

These logics become increasingly unsustainable following the attack, however, as we watch the Apache crew tracking a wounded and seriously disabled man (as it turns out, Reuters cameraman Saeed Chmagh) crawling to the side of the road towards a

nearby house. We hear the crew, with increasing impatience, exhorting their target to "pick up a weapon," to allow them to fire again and finish the job.[x] The tragedy deepens when a passing van stops next to the wounded man and several evidently unarmed civilians, including the resident of the house, work together to pick the man up and load him into the van's hold. We hear the Apache crew reporting in to their commander the arrival of "a black SUV-uh Bongo truck," a vehicle stereotypically associated with the insurgency (despite the fact that the van was blue, and didn't fit that profile), which was "possibly picking up bodies and weapons." This report finally produces the "permission to engage" for which the crew has been waiting. They fire on the van, and in the aftermath we see the US Army patrol, including Ethan McCord, enter the scene. In his description of the horrors of the aftermath, McCord recounts how on his approach to the van he found the passengers, a mortally wounded father and his two small children. We see McCord himself being tracked through the sites of the helicopter, as he runs with one of the two children in his arms to a Bradley armored personnel carrier for evacuation. As McCord conveys the report of the wounded children over the communications channel, we hear the helicopter crew's response: "Oh Damn. Ah well, it's their fault for bringing their kids into battle." As McCord points out in a subsequent testimony, however, this was not a battlefield but a residential neighborhood.[xi] The wife of the driver of the van explains that her husband was traveling with the two children to visit a cousin nearby. And as the brother of one of the murdered journalists tells Tan in the film *Permission to Engage* that he is now prepared to kill the next American that he meets, we see the cycle of targeting, and the dynamics of insecurity, in their devastating self-perpetuation.

The disparity between the zeal with which Manning herself was tracked and targeted following the release by Wikileaks of the video titled "Collateral Murder," and the impunity granted to those responsible for the attack, underscores a central, and troubling, aspect of tracking and targeting operations undertaken by the United States and its allies in the name of security. At the same time that technologies of violence are elaborating, the legitimacy and efficacy of actions undertaken in the name of security is increasingly in question, and the clarity of distinctions that underwrite the international legal frameworks governing the conduct of military violence is being undone. Challenges to military violence are now coming from a range of actors within and beyond the nation state, and arguments are mounting to the effect that measures taken in the name of protection are themselves generative of the threats that they would claim to address.[xii]

Discussions of developments in military technologies have a tendency to drift towards debate over whether contemporary capabilities are significantly different from, their effects better or worse than, the systems that came before. Informed by STS, the papers collected here resist a preoccupation with resolving that debate in favor of careful tracking of both continuity and change in systems of technosecurity. The aim is to trace the shifting, somewhat slippery lines of reproduction and transformation within the historical, and ongoing, projection of force in the name of pre-emptive control, whether through renderings of bodies as differentially (in)visible, redistributions of sociotechnical agency, regimes of border protection, increasing reliance on data as a form of weaponry, or technosciences of identification between combatants and noncombatants. Working from multiple disciplinary perspectives including anthropology, history, law, political geography and sociology in conversation with STS, the papers engage framing discourses

and imaginaries of state security, military doctrine, military history, and international humanitarian/human rights law. The special issue's connecting themes include the cultural politics of military visuality and its technological mediations; the performative effects of technologies of identification and categorization; and the ontological, epistemological, rhetorical and sociopolitical dimensions of contemporary sociotechnologies of surveillance and military force.

Regimes of targeting and tracking

What narrowing of vision is called for by the scopic regimes[xiii] of military violence, and more specifically for operations of tracking and targeting? Only rarely does targeting find its objects through the positive identification of individuals: much more common are identifications defined through practices of profiling and categorization (see also M'charek et al 2014; Weber 2016). Among the latter, a crucial axis is the separation of those who constitute an imminent threat from the rest, where the implication is that those making these discriminations are themselves the objects of potential violence from those being identified. And as the opening example demonstrates, however asymmetrical this relationship is, it is a reciprocal one.

In the context of what military geographer Derek Gregory has characterized as "everywhere war" (2011a), the boundaries of military and domestic security operations are increasingly elided, as the spatialities and temporalities of tracking and targeting are further extended. The distinctions of domestic and foreign, and the associated logics of "us and them," are enacted most explicitly at those sites constituted as the boundaries of the nation state. In the case of immigration, Andersson (2014) argues that the securitization of borders is driven by interests of the "illegality industry," that is, the

national and international agencies and private bodies engaged in the profitable business aspect of border management. By investing in and expanding the reach of surveillance and control mechanisms in an endless cycle, these actors increasingly displace people from legal routes and sites of migration, thus creating the phenomenon of migrant illegality that they then purport to combat. In "Vision and Transterritory: The Borders of Europe," Karolina Follis (2017) considers how sociotechnologies of surveillance are deployed in making the difference between the interiors of Europe and its constitutive outsides. That these boundaries must be continually re-enacted through the policing of borders is at once a sign of the precariousness of that difference, and the depth of investment in its reiteration. The always already virtual nature of state boundaries is given new meaning as new technologies enable what Follis characterizes as the transterritorial expansion of practices of border surveillance into the zone of the "pre-frontier," untethering the border-enforcing agencies of the state from the locations that delineate their geophysical boundaries. This theater of operation arises in a context where insecurity has a double edge: the problem of the immigrant or refugee as potential terrorist on one hand, and the dangers faced by those attempting to emigrate—particularly by water—on the other. Conjoining new technologies of vision with expanding databases and security professionals, sociotechnical apparatuses like the European Surveillance System (Eurosur) are posited as simultaneous solutions to the threat to us and the danger to them, introducing new capacities for "pre-emptive" interdiction of those who are rendered as prospective border crossers, in the name of their rescue. As Follis observes, there is money to be made by some, and lives at stake for others. In the case of the latter, Follis argues, the vision of Eurosur allows EU member

states to see more in order to deflect the legal obligation to secure the human rights of migrants reaching their borders.

Practices of sorting at the border of the nation state are the offspring of military technosciences aimed at the differentiation of friend and enemy, us and them. As Follis (2017) observes: "[i]n the military, the purpose of transterritorial vision is always operational; not just to see or record but to track and target that which is seen." The elaboration of data storage, analysis, and networked information systems expands the agencies and extends the categories through which the detection of bodies, their classification, and their translation into "targets of interest" (ibid.,) is enacted. So-called unmanned aerial vehicles (UAVs), remotely-piloted aircraft systems (RPAS), or drones are the most highly visible addition to the infrastructures that enable persistent surveillance and, in the most directly lethal instance, targeted killing. STS alerts us to the practices of translation involved here, as a body, a mobile signal, or an overloaded boat, within a space designated as out of place become signs to be registered. Panoptic aspirations to situational awareness are instantiated instead as highly formatted and constrained modes of professional vision (Goodwin 1994), enacted by participants differently located and hierarchically ordered.

Within the frameworks of international law that govern armed conflict, perhaps the most salient difference is that between civilians and combatants. This is a distinction traditionally reliant upon a combination of location (whether off or on, outside or within the battlefield/battlespace) and other visual signifiers (the uniform of the professional soldier or the possession of an object identifiable as a weapon). But as Christiane Wilke observes (2017), "While the distinction between civilians and combatants is fundamental

to international law, it is contested and complicated in practice… civilians are not clearly recognizable to those who have a mission to spare and protect them." It is by now well established that professional vision is both systematic and messy in its renderings.[xiv] Wilke's careful recounting of an incident in Kunduz, Afghanistan in 2009 draws on an expanded sense of technologies of seeing informed by previous scholarship in STS and beyond, to include not only devices like aerial surveillance and thermal imaging, but also the epistemic/ontological (and especially moral) frames of reference that fill in the gaps and resolve the equivocality of those renderings *in situ*. Key to the figures that result is that of the "civilian," analyzed by Wilke not as a pre-existing or fixed entity but as at once stereotypic and precarious in its deployment as a subject position on the ground. The simple schema "friend/enemy" or "them/us" is vastly complicated by close analysis of contemporary sites and events of violent confrontation, both "at home" and "abroad." Places (particular regions of a city, or of a countryside), objects (vehicles or tools), and subjects (men, women, and children) all embody ambiguities and uncertainties that at once heighten the stakes of accurate discrimination (for example, seeing the difference between a camera and a weapon), and render it elusive. Diminishing time frames through the increasing automation of warfare, combined with increasingly complex and distributed networks of information and communication, further close down the space for deliberation or questioning.

In response to what Wilke characterizes as the "visual crisis" engendered by the absence of clear demarcations in so-called asymmetric wars, US military targeting increasingly focuses on data analysis and interpretation to extract "patterns of life," including locations, associations and everyday movements (Wilke 2017). This is further

accompanied by the pressure to track "friendly" forces (particularly Troops in Contact, or allies operating on the ground), as their protection operates as an imperative more powerful than the protection of civilians. At times of uncertainty, and highly influenced by dominant counterinsurgency doctrines, identification of the target shifts from the positive identification of persons to evidence of their "involvement" in unfolding activities. This evidence is read, moreover, through visualities and organizational interactions that carry their own lines of affiliation and Othering, giving voice and silencing, and are deeply informed by legacies of colonialism in their renderings of raced and gendered bodies (Butler 2010).[xv] Seeing is located, in this sense, not only in terms of position in relation to the scene at hand (on the ground, in the air, at a forward operating base, in a headquarters situation room, etc.), but also in contextualizing narratives regarding anticipated and unfolding events, as well as more extended biographies and histories.

A corollary of the increasingly troubled category of "civilian" as a touchstone of meaningful rules governing the use of violent force is the expansion of its others, including "militants," "insurgents," "supporters," and "sympathizers." As Gregory (2014) observes: "The politico-cultural construction of a wider 'landscape of threat' is crucial to the production and performance of a specific 'space of the target.'" Gregory focuses on what he characterizes as "political technologies of vision" as they are deployed in the mediatization and legitimation of military violence. The mandate to track and target enemy combatants belies what Jon Lindsay (2017) characterizes as a "sprawling but less-storied system of data production behind the scenes" of military operations by the US and its allies. Offering an account of his experience at a Forward

Operating Base (FOB) in Anbar province in Iraq from 2007-08, Lindsay examines the data practices and "epistemic infrastructures" developed in support of US Navy Special Operations. Expanded to encompass the "exploitation" of intelligence extracted from target persons and its "analysis" for relevance to further targeting, the protocol of Find, Fix, Finish, Exploit, and Analyze (F3EA) is a technology of counter-terrorism that rationalizes operations animated by the privileged visualities of hunting and killing.[xvi] Counter-terrorism operations posit each raid as an opportunity for the extraction of "intelligence" contributing to the eventual "decapitation" of an insurgent organization, figured as an underlying structure of which each person detained or killed is a visible manifestation. Lindsay develops the trope of "data friction" to explore the simultaneously interfering and facilitating effects of messy data practices at the FOB. His account provides a critical participant's analysis of the tensions and contradictions within an operation framed in terms of rebuilding, in a context in which, as he writes, the "epistemic infrastructure amplified the preferences of the Naval Special Warfare community rather than clarified the social reality of Anbar Province" (2017). This is a kindred form of "closed world" (Edwards 1996) to the imaginary of nuclear command and control, one in which a preference for violence trumps a commitment to non-violent engagement in the service of understanding. The information infrastructures that Lindsay describes are far from smoothly functioning, and cultures of war fighting systematically co-opt labors of knowledge making and reconciliation in the service of what Lindsay aptly names "target practice" as a dominant mode of operation.

The epistemic infrastructures generated through mundane data practices at the Forward Operating Base are themselves enabled by the configuration of "remote split"

operations traced historically and ethnographically by Elish (2017). Attending to the work of war fighting, Elish shifts our focus from the trope of the "unmanned" aerial vehicle to the labor-intensive, hidden infrastructures and distributed sociotechnical networks that comprise drone operations. She expands the frame temporally as well, to join contemporary drone operations to earlier apparatuses of tracking and targeting configured in Vietnam, the Gulf War, and the Balkans, as well as to the military biographies of their operators:

> I argue that a critical point of intervention is to maintain focus on the extent to which robotic and autonomous technologies are shaped by humans and must be continually maintained, operated and authorized. As with previous transitions in the history of automation, new technologies do not so much do away with the human but rather obscure the ways in which human labor and social relations are reconfigured (2017).

Elish resists a narrative of simple or linear technological progression in favor of an account that tracks the history of technopolitical logics, which in conversation with the expansion of systems analysis, electronic sensing, and networked communications, configure the distributed labors of remote split operations. Beginning with instrumentation of the pathways through which bodies and equipment were moved by the Viet Cong, and their networking with "sensor-shooter gunships" and associated bases engaged in signals analysis, remote split enabled the real-time tracking of body "signatures" presumed by their position on the ground to be legitimate targets (2017). Infamously in the case of Vietnam, the statistics generated as evidence of the success of

these operations were as unreliable as the signals taken to be the proof of enemy movements.

The lineages that Elish traces include a history of deeply troubled boundaries between zones of conflict and civilian spaces.[xvii] In their critical examination of the principle of distinction as a founding premise of International Humanitarian Law, Perugini and Gordon observe that "analyzing the way distinction is produced, its epistemic conditions of possibility, as well as its political and ethical objectives is both necessary and urgent" (2017, 1). They make the more radical argument that far from a framework for the protection of civilian life, the principle has become a means to legitimate the killing of noncombatants in war, by "destabilizing the boundaries of an existing legal figure—civilian—and creating malleable figures of targetable subjects and spaces" (ibid, 17). Developments in technologies of tracking and targeting are central to their argument, in particular the elaboration of what they name the "apparatus of distinction" that increasingly relies upon data analytics and the mobilization of figures such as "human shields" and "enemies killed in action" as salient legal entities (ibid., 2; see also Butler 2015). The apparatus has a threefold function:

> it is used to gather intelligence through surveillance and reconnaissance, it directs the deployment of violence during the fighting, and it interprets the meaning of violence before, during and after the fighting so as to claim that violence was utilized in accordance with international law and is consequently ethical (ibid, 14).

At the same time, the apparatus itself is generative of liminal or threshold positions that offer cover and a resource for justifying violence deployed against persons who might otherwise be protected.[xviii] It is only through *post hoc* investigation that the status of

those killed and their legitimacy as targets can be disputed or confirmed, and the forensic aftermath of an airstrike invariably produces divergent accounts and contested counts of "civilian casualties." Following Wilke (2017), in this space of contestation and the operations themselves the instability of the category of civilian manifests not only as an abiding problem for international law, but also as an enabling condition for the impunity of military operations. This is terrain rife with claims to legitimizing categorization, of "insurgents," "armed militants," and the like, on one hand, and counter-accusations of "children," "civilians," or even armed but not threatening adults targeted, on the other.

It is our hope that the papers collected here contribute to an understanding of the irremediable uncertainties and deep-seated preconceptions inherent in discriminations between those persons who pose danger and those who are deserving of protection, including the specificities of to, and by whom, that protection is to be granted. Perhaps most importantly, these papers raise the question of who is entitled to make such judgments, and who are rendered as their objects. The number of actors, state and non-state, involved in securitization through tracking and targeting is growing and their accountability structures are increasingly opaque. On whose behalf do these agents exercise their power to decide who is to be killed, who ought to be spared and who abandoned? It has been argued that the blurring of boundaries between security, law enforcement and war reflects the "re-articulation and expansion of state sovereignty into new spaces and arenas" (Jones and Johnson 2016, 188). Sovereign states and "their agents and intermediaries" (ibid. 195) exercise their authority in contexts that are increasingly shielded from scrutiny by means of traditional mechanisms of democratic oversight. The responsibility to establish accounts of what actually happens in the course

of air strikes, drone surveillance, and special operations to "kill or capture" falls to networks of activists, advocates and reporters in the transnational civil society. Interrogating the claims and counter-claims that arise in this context is crucial to accountability and adjudication of the distinction between justifiable killing and murder.

Taken together, the evidence presented lends further weight to arguments against the growing investment in sociotechnologies developed in the name of security. Such investment is on the rise because of the profitable dynamics of the security-industrial complex (Carmel 2016; Lemberg-Pedersen 2013) and the well-documented politics of fear, which manifest as the "nationalistic restriction of the concept of protection" (Chamayou 2012, 139). As criteria of distinction increasingly fail the scopic regimes on which military operations rely, the promise of security through tracking, targeting, and violence is further undermined. The problems of international governance and accountability under the existing laws of armed combat deepen when we recognize that and how those legal regimes were developed historically "with a specific spatiotemporal imaginary of war in mind: wars between Western nation states, not wars of colonial conquest or anticolonial insurgency … In this logic, where there are no legitimate combatants, there are no legitimate civilians" (Wilke 2017). The historical legacies that haunt the figure of the civilian, along with the "irregularity" of contemporary war fighting, render Other bodies vulnerable to sociotechnologies of tracking and targeting in ways that profoundly undermine the latter's promise of protection. The insecurities that result pervade those territories that are the target of contemporary military operations conducted in the name of the securitization of the "homeland." Far from a matter of recognition of what is already there, moreover, acts of tracking and targeting in these

circumstances are generative of their objects, as those who feel threatened by persons of uncertain affiliation render the latter legible through their assignment to newly authorized categories, like "unlawful combatant" or "militant." In this sense, ambiguity in the categorization of persons according to the binary of "civilian/combatant" is not a problem for the perpetration of warfare, but rather an opportunity for the expansion of those bodies/persons claimed as legitimate targets. The generative qualities of tracking and targeting are evident here not only in the sense that professional vision enacts its objects, but also insofar as injuries felt as unjust inspire injury in return. The "somewhere in particular" (Haraway 1988: 590) that informs the optics of military operations is now subject to close and critical inspection within STS and related fields, in ways that might help to disclose the brutality and ultimate fallibility of the pursuit of security through technopolitical logics that threaten to regenerate, if not expand, the fields of enmity and injustice that they are ostensibly designed to eradicate.

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[i] https://www.thebureauinvestigates.com/projects/drone-war\

[ii] http://www.reprieve.org.uk/topic/drones/

[iii] In the area of the FATA, Gregory (2017, 29) observes that these operations are performed within "a profoundly biopolitical space whose execution depends on a series of similarly biopolitical technologies: seemingly neutral, "objective" devices and practices—including target lists, databases, signals intercepts and visual feeds—that work to make the borderlands all too visible as an array of targets for the just-in-time killing that characterizes so much of later modern war." He continues "Although the constitution of the FATA as a space of exception explains how their inhabitants are routinely and deliberately *exposed* to state violence, it cannot account for the mistakes made in the *execution* of a program of remote killing that has been hailed by [former Director of the National Security Agency] Hayden as 'the most precise and effective application of

firepower in the history of armed conflict' ... an analysis by Reprieve showed that 24 men were targeted multiple times in the FATA, leaving 874 other people dead in their wake, including 142 children. On average, 36 other people, usually unknown and un-named, have been killed for every intended target" (ibid., 51). We return to the problematic category of the "civilian" below.

[iv] For an exploration of the intimate relations between values of transparency and technologies of surveillance see the special issue of *ST&HV* on "Data Shadows" edited by Leonelli, Rappert, and Davies (2017).

[v] While a series of Executive Orders in the 1970s and early 1980s (by Presidents Ford, Carter, and Reagan) prohibited assassination by anyone acting on behalf of the United States government, in the name of the "War on Terror" the Bush and the Obama administrations have circumvented those restrictions in the case of drone-mediated targeted killings by invoking the September 2001 House and Senate joint Authorization for the Use of Military Force. It is now asserted that in the case of those identified as terrorist groups in designated areas, targeted killings are legally justifiable as acts of war.

[vi] In his analysis of targeting operations initiated by the Obama Administration under the rubric of the so-called war on terror, Gregory (2017:43) observes that US policy "cites the 'continuing and imminent threat' posed by al-Qaeda and the Taliban from their sanctuaries in Pakistan to U.S. forces in Afghanistan and to the continental United States; this 'elongates' the concept of imminence, as the State Department's legal adviser Harold Koh put it, and reaffirms the doctrine of self-defense so that the strikes are deemed to be legitimate preemptive actions against enemies of the United States." For a critique of the

US drone program, including its reliance on an extended reading of "imminent threat," see also Calhoun 2015.

[vii] See https://collateralmurder.wikileaks.org/.

[viii] Shuchen Tan's documentary film, *Permission to Engage* is available in full at http://www.aljazeera.com/programmes/witness/2012/08/2012823616123717.html

[ix] http://www.aljazeera.com/programmes/witness/2012/08/2012823616123717.html.

[x] https://collateralmurder.wikileaks.org/en/transcript.html.

[xi] https://www.youtube.com/watch?v=NWOIv12lZi0. This comment echoes a familiar refrain in contemporary military operations; that is, the premise that civilian deaths within urban areas are the either the responsibility of those who insist on continuing to inhabit those spaces or of the opposing side, most explicitly in the figuration of non-combatants as "proximate human shields" (Perugini and Gordon 2017, 14). It is worth noting in this case that as the helicopter crew is constructing its target, the father of the two children in the van would not know whether they were being targeted by the helicopter overhead, or protected from combatants in the surrounding area. Those on the ground cannot know their place in the unfolding events until the missile strikes.

[xii] Bigo (2014) examines the concept of (in)securitization; that is, the phenomenon whereby security does not diminish insecurity. Regarding drone strikes in Pakistan, counterinsurgency expert David Kilcullen and former Army Officer McDonald Exum caution in a 2009 opinion piece in the *New York Times* that "Every one of these dead noncombatants represents an alienated family, a new desire for revenge, and more recruits for a militant movement that has grown exponentially even as the drone strikes

have increased" (NY Times, May 17, 2009: 202-3). This effect is not unfamiliar to the intelligence community who understand that many acts of political violence are not random, but rather instances of what they call "blowback," or provoked revenge for covert operations (Johnson 2002).

[xiii] Derek Gregory (2011b) has developed the trope of "scopic regimes" to articulate the material-semiotic visualities of military geographies and operations.

[xiv] There is an extensive body of scholarship within STS on the practices and politics of seeing, including the practice-specific renderings that seeing performs. See for example Hacking 1983; Lynch 1985, 1988; Lynch et al. 1990; Coopmans et al. 2014; Myers 2015.

[xv] For an examination of how lines of affiliation and Othering are enforced through a military training simulation see Suchman 2016.

[xvi] The configuration of the armed drone as a "hunter-killer" operation has been analyzed extensively by Chamayou (2014), and developed further by Gregory (2015, 2017).

[xvii] This history includes examples of much more indiscriminate targeting as well in the case of air force, most horrifically in the bombings of Hiroshima and Nagasaki by the United States in 1945. That case underscores the deadly maneuvering room afforded by the laws of armed conflict through the Principle of Proportionality, which allocates to military command the cost benefit calculus of how many non-combatant lives can be sacrificed in the name of military advantage.

[xviii] Perugini and Gordon offer as an example the Israeli military practice in its 2014 attack on Gaza of "tapping" a building in order to designate its status as a military target. The small bombs used for this purpose are intended as warnings; those who fail to heed

the warning by leaving the building have, by this logic, confirmed their own status as legitimate targets for more lethal operations.