Embodying Algorithmic War: Gender, Race, and the Posthuman in Drone Warfare

Early in the morning of Feb 21, 2010, three vehicles traveling outside of Shahidi Hassass, in the Uruzgan province of Afghanistan, was spotted by a Predator drone crew, with several dozen of the vehicles' occupants getting out to pray at one point in an area where US forces were attempting to search for insurgents and weapons.[1] The captain of the ground forces, in charge of the decision whether to order an airstrike, announced his intention to destroy the vehicles and their personnel. This team was also aided by intelligence gathering teams sweeping telecommunications in the area with advanced eavesdropping equiptment and two Kiowa attack helicopters and an AC 130 attack planes. US military linguists and intelligence personnel had intecepted cell phones in the area that suggested Taliban soldiers were readying an attack. Transcripts of the conversation between the unit on the ground and the drone pilot and sensor operator at Creech Air Force Base in Nevada, who were also communicating with and a team of 'screeners' at the US Air Force's special operations headquarters in Okaloosa, Florida reveal that once it was decided to target the vehicles and the people, ambiguities about how old the people were, what sex they were, whether they were carrying weapons or not and what their movements meant were consistently interpreted in such a way as to allow them to be targeted. After an airstrike destroyed the vehicles and killed and injured many of the

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[1] The following account is sourced from Cloud 2011 and from transcripts that were obtained by a Freedom of Information Act request by Los Angeles Times reporter David Cloud. The transcripts are available at http://documents.latimes.com/transcript-of-drone-attack/.

passengers who were civilians travelling to Kabul, the transcripts reveal confusion and doubt about the gender of the targets:

> **Sensor: That's weird**
> **Pilot: Can't tell what the fuck they're doing**
> **Safety observer: are they wearing burqas?**
> **Sensor: that's what it looks like.**
> **Pilot: they were all PIDed as males. No females in the group.**
> **Sensor: that guy looks like he's wearing jewelry and stuff like a girl, but he ain't… if he's a girl, he's a big one.**

Twenty minutes later the Predator team discussed the event with headquarters in Florida:

> **Mission intelligence coordinator: screener said there weren't any women earlier.**
> **Sensor: what are those? They were in the middle vehicle.**
> **Mission intelligence coordinator: Women and children…**

A few minutes later:

> **Pilot: it looks uh, one of those in the, uh, bright garb may be carrying a child as well.**
> **Sensor: younger than an adolescent to me.**
> **Safety observer: well….**
> **Safety observer: no way to tell, man**
> **Sensor: no way to tell from here.**

At 9:30, the Predator pilot reported that since the 'engagement' the Predator team had been unable to identity any weapons. A later investigation revealed that the people were shopkeepers, students, and families with children, traveling together to Kabul out of concern for vehicles breaking down and for the Taliban operating in the area. Twenty-three civilians had been killed, and although several of the military personnel were later disciplined, no one was court-martialed. Each of the survivors received about $2900 and the families of the dead received $4800.

This massacre, described in David Cloud's (2011) "Anatomy of an Afghan War Tragedy" and also the subject of a military investigation, has become a central incident in the reporting and theorization of drone warfare as the prelude to Chamayou (2014), and also discussed by Allinson (2015), Cockburn (2015), Gregory (2011, 2016) and Suchman (2015). In this piece, I argue that this

massacre enables us to understand the embodied and *embodying* nature of drone warfare. I elaborate on what this incident can tell us about the embodiment of drone warfare though a discussion of three modes of producing targets, or killable bodies: the algorithmic, visual, and affective. Using insights from posthuman feminism, I argue that drone assemblages play a role in what Feldman describes as "racialization from above" (2011: 329) that is dependent upon gendered logics through the creation of a frontier zone outside of the state's territory for the exercise of the sovereign power to kill.

The use of weaponized drones to supplement and sometimes supplant 'manned' aircraft is at the forefront of debates over the use of algorithms, digital technologies and artificial intelligence in the projection of violence without the potential loss of human pilots. The algorithmic capabilities of data-driven technologies for the identification, localization, naming and depiction of mobile targets have been theorized to enable certain geographies of security beyond the battlefield uses of algorithms and artificial intelligence (Amoore 2009: 2013). However, even in the most direct and spectacular forms of violence associated with algorithms such as their use identifying and targeting individuals to assassinate via drone strikes, the question of the embodiment of decision-making remains vitally important. Discussions of artificial intelligence in war/security practices have a tendency to focus on machines and technologies as 'other than human', caught in a zero-sum battle with humanity over the sovereign powers of life and death (Singer 2009: 123-134; Berkowitz 2014).

While much of the debate over drone warfare is over the extent to which algorithms are replacing humans as sovereign decision-makers, the territorial expansion of the drone's reach is also at issue. Donna Haraway famously describes the 'god-trick' of Western scientific epistemologies: the illusion of being able to see everywhere from a disembodied position of 'nowhere' as an integral component of histories of militarism, capitalism, colonialism and male supremacy. This 'god-trick' is seemingly perfected in the weaponized drone, with its global surveillance capacities and purported efficiency and accuracy in targeting weapons, and as such, has been a frequent inspiration of critical

work on the use of drones in warfare (Blanchard 2011; Shaw and Akhtar 2012; Stahl 2013). The 'god-trick' is not only visual, but more broadly epistemological: artificial intelligence, especially in an age of 'big data' can also appear to have omniscient power that appears everywhere and nowhere at once. As Shaw warns, "Everywhere and nowhere, drones have become sovereign tools of life and death, and are coming to a sky near you" (Shaw 2012). Drone warfare, based on the algorithmic decision-making capacities of artificial intelligence and sophisticated visual surveillance can appear to be an inhuman form of war in which bodies only appear as dead or dying victims, if they appear at all (T. Gregory 2015). Grégoire Chamayou begins his work *A Theory of the Drone* (2014) recounting the same massacre in the Afghan Uruzgan province that frames this piece, presenting a reading of the visual and computational powers of the drone as awesome and sublime:

> The eye of God, with its overhanging gaze, embraces the entire world. Its vision is more than just sight: beneath the skins of phenomena it can search hearts and minds. Nothing is opaque to it. Because it is eternity, it embraces the whole of time, the past as well as the future (Chamayou 2014, 37).

Chamayou's depiction of the drone as the "eye of God" presents the death-dealing capacities of the drone as sovereign, able to see the entire world and into the past and future as well; creating archives of people's lives and anticipating future movements (2014: 39-43). This vision of drone warfare has a long history in what Kaplan describes as the 'cosmic view' of airpower more broadly, in a "unifying gaze of an omniscient viewer of the global from a distance" (2006: 401) that plays a crucial role in the US imagination of its own national airspace as global but under threat.

Haraway's critique of the seeming transparency of visual technologies and their connection to epistemologies of domination rests upon the concept of embodiment of all vision and calls for a feminist project of partiality, structuring and situating. Such a project has important resonances with Walters's call for a 'zonal' rather than 'global' theorization of emergent spaces of security attuned to the uneven particularities and multiplicities of bordering practices rather than the smooth homogeneities of the 'global' (2011). As an extension of airpower, drone warfare is a practice of

bordering that takes place in a frontier logic of the extension of American sovereignty 'vertically' though the air, but with an ambiguous relationship to imperialism on the ground (with drones operating over more states than Americans have troops on the ground, as in Afghanistan).

For Haraway, visual practices are situated, embodied, and both enabled by, and enable violent practices of domination: "[w]ith whose blood were my eyes crafted?" (1988: 585). In the embodying assemblages of drone warfare, as a form of necropolitics, "it makes little sense to insist on distinctions between 'internal' and 'external' political realms, separated by clearly demarcated boundaries" (Mbembe 2003: 32). In this piece I argue that 'drone assemblages' as a mode of necropolitical violence—the violence of "distinguishing whose life is to be managed and those who are subject to the right of death" (Allinson 2015: 121; Mbembe 2003)—is both a form of posthuman embodiment and is itself corporealizing in terms of the racialized and gendered bodies it produces as either killable or manageable. As such, an embodied reading of drone warfare suggests the limits of the 'god-trick' of drone warfare both in terms of its omniscient surveillance capacities as well as its global spread, and further contributes to critical analyses of targeting practices, such as that of Zehfuss (2011) that undermine claims of the precision and discrimination of such technological practices.

Haraway's figuration of the cyborg is reassertion of the material body from its disappearance into the linguistic and representational hin some forms of postmodernism, and we should add, the algorithmic that is necessary to understand drone warfare. Haraway's cyborg invokes partial, fluid identities that transcend binaries of human/animal, biology/technology and physical/non-physical. Yet, the cyborg does not disavow the discursive construction of the body, but connects the discursive body with an account of the ways in which the body is materially produced within different social, cultural, and economic formations (Haraway 1991, Balsamo 1996: 33). Haraway's cyborg manifesto was instrumental in ushering in a wave of feminist scholarship that has taken up the question of the

posthuman in an era in which neither 'woman' nor even the human can be assumed *a priori* as the subject of politics and of violence. Drone warfare forces us to confront bodies, both subjects and objects of violence, that are neither 'other-than-human' in a fetishized drone, or disembodied information processers, nor 'human' in the social, political and legal histories that enable drone warfare to take place but the *posthuman* in terms of the entanglement of machines, humans, and discourse and their emergent properties, particularly in the ways in which drone warfare participates in the gendering and racialization of bodies. Such an analysis contributes to what Barkawi and Brighton describes as the excess of war to its instrumentalist readings; in other words, how algorithmic war has generative effects beyond its stated purposes of rational target identification and destruction (Barkawi and Brighton 2011; Holmqvist 2013).

The work of posthuman feminists provides a necessary check on tendencies to theorize the drone as 'other than human' in ways that reinforce the separation of humans from techno-scientific practices, including the use of visual technologies, algorithms, and artificial intelligence in various configurations to enable 'drone warfare'. The challenge the posthuman body poses is not the addition of new technological advances to an already-existing human body, but of a body that is always already formed through norms and relations to others, whether these other are human, technological, or animal (see also Braidotti 2013). Notably, N. Katherine Hayles critiques the concept of the posthuman for its rehabilitation of a liberal subject of autonomy and individuality in the figure of the human. For Hayles, the posthuman "signals…the end of a certain conception of the human, a conception that may have applied, at best, to that fraction of humanity who had the wealth, power and leisure to conceptualized themselves as autonomous beings exercising their will though individual agency and choice" (1999: 238). As such, posthuman feminist projects critique 'transhumanism' that seeks to disembody consciousness or promote 'other than' or 'more than' human approaches that

reify a particular normative version of humanity that enables distinctions between more or less worthy forms of life.

Relatedly, posthuman feminist approaches take seriously the ways in which embodied differences are produced and lived, avoiding totalizing visions that might obscure the ways in which bodies are differentially produced through the ways in which technological processes interact with gendered, racial, colonialist, sexual and other means of differentiation that are themselves emergent processes of identification and alignment with other bodies. As such, I understand the turn toward data and machine intelligence not as an 'other than-human' process of decision-making but as a form of embodiment that reworks and undermines essentialist notions of culture and nature, biology and technology, often but not necessarily in the service of projects of domination.

Haraway's concept of corporealization as "the interactions of humans and nonhumans in the distributed, heterogeneous work processes of technoscience" (1997: 141) is highly relevant to theorizing drone warfare. Post-9/11 practices of security have intensified what Haraway describes as 'corporeal fetishism' (Haraway 1997: 142) in which the sciences are imaged to be able to simplify and condense complex relationships and situated knowledges into singular digital maps of the body that are free from the alleged 'failures' of culture, but are in fact themselves corporealizing practices (see Pötzsch 2013 for other examples). Following Haraway, I ask not to what extent drone warfare is embodied or disembodied but rather, how bodies are corporealized in drone assemblages with a caveat that the corporealization is always in a process of 'becoming'. The first aspect of corporealization I analyse is the production of targetable, killable bodies in drone assemblages.

Drones, Algorithms, and 'Signature Strikes'

Discussions of what is has come to be known as 'drone warfare' in recent years have tended to focus on the supposed disembodiment of this form of warfare, fetishizing an individualized robot,

a non-human body with tremendous surveillance and weapons capabilities. Even the designation of 'the drone,' otherwise associated with mindless worker bees or brainless automatons, suggests that this kind of warfare is 'unmanned' in way that that reifies mind/body and man/machine dualisms (not to mention the military body as masculine). Chamayou's suggestion of the drone as "unidentified violent object" (Chamayou 2014: 14) also perhaps inadvertently reifies the 'drone' itself as a particular isolated object, even as these objects are embedded in a particular trajectory of political and military technologies as well as a large assemblage of bodies, technologies, signals and images.

Aside from fears of automated machines with the ability to kill outside of human agency or supervision, perhaps one of the most controversial uses of algorithms, 'big data' and artificial intelligence is the practice of targeting individuals in what is known as 'drone warfare' even though the drones themselves are only one piece of a wider killing apparatus of databases, bureaucracies, and chains of command. In US practices of drone warfare, decisions about targeting are made on the basis of a 'disposition matrix' based on human intelligence (HUMINT) and signal intelligence (SIGINT) from different American agencies including the CIA, Joint Special Operations Command (JSOC), and the National Security Agency (Gettinger 2015). This 'disposition matrix' consists of many files in a flexible database that can be searched using 'big data' techniques and advanced algorithms (Weber 2015). This information contributes to the 'kill lists' of known persons in 'personality strikes' but is also used to target persons exhibiting a 'pattern of life' associated with being a terrorist that intelligence officials may not have human intelligence for. Rather, the subjects of 'signature strikes' may 'exist as digital profiles across a network of technologies, algorithmic calculations, and spreadsheets' (Shaw 2013: 540). 'Signature strikes' are not aimed at targeting known individuals, but rather on producing packages of information that become icons for killable bodies on the basis of behavior analysis and a logic of preemption. The production of a killable body stems

from a process in which images and information analyzed by algorithmic processes are individuated into 'baseball card' like files.

'Pattern of life' analysis is done using signal intelligence or 'SIGINT,' which is collected from video feeds, mobile phones, email, social media and the internet, as well as from spy planes and mobile phones (Currier 2015). These information patterns can be processed through algorithms, particularly quantitative social network analysis to produce what Pugliese names a 'pattern of death' (Pugliese 2013: 193) as it can be used to 'individualize' targets (D. Gregory 2014). This practice of individualizing targets is a key difference between drone warfare and other forms of airpower, and is often done through the tracking of mobile phones, which may of course be passed from person to person. The NSA has used a process of 'geolocation' which refers to identifying the real-world geographical location of an object of SIM card data based on the surveillance of different forms of electronic communication combined with GPS or cell phone tower interception (Scahill and Greenwald 2014).

'Metadata,' such as numbers contacted with a cellular phone as a mark of social networks, is combined with other programs that use GPS, Internet protocol addresses, and a range of other systems to identify suspicious 'patterns of life' as well as to spatially locate individuals. Chamayou provides an important insight in his diagnosis that "the painstaking work of establishing an archive of lives progressively gathers together the elements of a file that, once it becomes thick enough, will constitute a death warrant" (Chamayou 2014: 49). NSA General Counsel Stewart Baker has said "metadata absolutely tell you everything about somebody's life. If you have enough metadata, you don't really need content" (Cole 2014). From this and other data, social network analysis is used to locate different individuals as 'nodes' in enemy networks, based on theories that killing such selected individuals could make the entire network more fragile (Coward 2013; Cockburn 2015: 148; Weber 2015). The identification of 'nodes' suggests an analysis of connections rather than behavior and

indicates a necropolitical mode of what Mbembe describes as the "becoming-object of the human being; or the subordination of everything to impersonal logic and to the reign of calculability and instrumental rationality" (Mbembe 2003: 22).

Algorithms, as mathematical maps of associational relations or decision trees, are immaterial, yet need to be embodied in some combination of human and/or machine to be carried out. Computer algorithms themselves itself cannot have meaning outside of the computer; the code must be embodied on platform to acquire meaning (Hayles 2005: 49). Code is a language that is purely functional and *performative*. Code can be contrasted to representational language such as speech and writing that contain a certain amount of ambiguity and 'noise' and must therefore be interpreted according to certain social norms is particularly relevant here. The information based on social media analysis and metadata is derived from algorithms programed by humans, while the information is interpreted by humans, even in the bureaucratic procedures that constitute the 'disposition matrix,' although such procedures could be fully automated in the future. Particularly because different kinds of information about behavior play such a key role in 'signature strikes,' we must be particularly attentive to the *intermediation* between the algorithmic 'pattern of life' analysis as well as representational and affective modes of embodiment. Hayles's term 'intermediation' (2005: 33) is meant to describe connections between humans with intelligent machines as well as the interactions between systems of representation, particularly language and code, as well as modes of representation, such as analog and digital. The algorithms themselves would be essentially meaningless if they were isolated as a black box or even an artificial intelligence with emergent properties; they must be considered in relation to the systems of interpretation and to the bodies that do the interpreting and reacting to the information they provide.

This points us toward a consideration of the embodiment of the particular assemblages of objects and forces that constitute 'drone warfare'. In relation to US/UK wars in Afghanistan, Iraq,

and against ISIL in Syria and other places around Central Asia, North Africa and the Middle East, Reaper and Predator drones are based just outside of conflict zones or in one of several dozen bases in Africa, the Middle East and Central Asia. Launch and recovery crews communicate with remote crews in Nevada or another base, half an hour after launch. Each 'drone' is operated by a pilot and sensor operator from a small building laden with multiple screens and keyboards. The visual data from the drones are also viewed by mission intelligence officers at separate locations, such as the US Central Command's Combined Air Operations Centre in Qatar and sometimes by troops on the ground who communicate by radio. In addition, drones do not usually fly alone, but in packs of four known as combat air patrols (three in the air, on one on the ground for refueling. Combat Air Patrols" can involve almost 200 individuals, as well as launch and recovery teams that are often private contractors (D. Gregory 2014; Chatterjee 2015). A fully staffed patrol could have 59 individuals in the field doing launch and recovery, 45 doing mission control, and 82 working on the on the data gathered, not to mention the ground troops whom they may be supporting with surveillance and airstrikes.[2]

Timothy Cullon, an Air Force Lt. Commander, conducted an ethnographic study of drone systems operators from the United States 29th Attack Squadron that demonstrates the complex processes of learning to manipulate the mechanical aspects of operating drones, as well as manipulating the symbolic systems on computer terminals and paper checklists and the social relations amongst disparate crew members.

> To experienced pilots, sensor operators, and mission coordinators, Reaper was more than just a matrix of cascading symbols crews used to form a remote perspective of the world. It was a place where engineers and operators that designed and employed the system confronted one another. It was where portals connected to physically dislocated people, machines, and organizations met, and where the interfaces to those portals, each with their own unique communication protocols, connected the elements of the system to each other. It was where the tensions among the operators and their physical bodies and imperfect cognitive abilities merged with computers and their volatile memories and brittle programs to impose unfamiliar demands and constraints on each other (Cullen 2011: 116).

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[2] The US Air Force is currently staffing 65 such combat air patrols and it is unknown how many the CIA is staffing.

Cullon stresses the importance of sensor operators learning to hold the sensor ball on the drone stable, keeping a target in the cross hairs despite aircraft movement. The closest to the purely visual task is that of the 'imagery analyst' who works from one of the mission command ground stations. Imagery analysts are not supposed to look away from the sensor video feed and only use their hands to point out objects in the video rather than to type or use controls (Cullon 2011: 190). This is just one site at which the 'drone' comes to resemble a specific form of what Hayles refers to as *incorporation* that cannot be disassociated from embodied practices (1999: 198).

Hayles's distinction between 'body' and 'embodiment' is particularly useful here: while 'body' is an abstract, idealized, universal construct, 'embodiment' is contextual, fully imbricated in culture and never quite complies with the abstract idea of a 'body'. This notion of incorporation is borne out in Hayles's (1999) genealogy of cybernetics, which describes a shift from artificial intelligence to artificial life. The famous 'Turing test' is representative of first wave which attempted to divest information processing from a human body. This test, described by Alan Turing, suggests the answer to whether or not machines can 'think' can be ascertained in an 'imitation game' in which a human poses questions at a computer terminal. If the human cannot tell whether the answers are generated by a human or a computer, then the computer can 'think'. The machine's ability to 'think' is based on its ability to imitate a human. While divesting information from its body, the Turing test also points toward cyborg subjectivity as it both separates enacted bodies and represented bodies (through the terminal) while bringing them together in the technology that connects them.

The second wave of cybernetics associated with artificial *life* sought redefine and reorganize the boundaries of the human body in and through both imbrication in technology and in relation to other bodies. Artificial *life*, in contrast to artificial intelligence, defines the human in terms of the machine: humans are understood as information processors that evolved intelligence. The contrast is

between machines constructed to imitate humans (as in the Turing test) and what Hayles describes as 'the computational model' or 'regime of computation' in which all life, including humans, is understood as a kind of self-organizing machine. Human subjectivity is understood in relation to the machine. Both of these models exist in the figure of the posthuman, in which feedback loops between the human and the machine mutually inform and construct one another. Both the bodies of drone pilots as well as the bodies of those targeted by such algorithmic regimes exceed or over flow their constitution this 'regime of computation,' and as such point to the ways in which bodies as posthuman bodies must be considered in terms of multiple sources of corporealization. Thus, the use of algorithms and 'big data' techniques to produce targetable bodies is a process that cannot be separated from the greater process in which the drone assemblage is made of posthuman bodies: bodies corporealized as processors of information and also *as* information bundles. While this form of corporealization is a key feature of drone warfare, the massacre in Uruzgan province reveals that the visual and affective registers of embodiment are also necessary and are particularly crucial in the embodiment of gender and race in drone warfare.

Visual and Affective Embodiment

As Donna Haraway has so forcefully cautioned us, the field of the visual is embodied, and the mode of visuality embodied in drone warfare is enabled by, and enables, a violent death world for those 'Living Under Drones.'[3] The massacre in Uruzgan province in 2010 reveals the inadequacies of relying on the category of the visual to serve as a human counter to the rise of algorithms and artificial intelligence in making decisions about life and death, as it exposes the difficulties in establishing 'positive identification' of an enemy fighter that poses an imminent threat. To be

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[3] '*Living Under Drones'* is the name of an important report by Stanford and NYU documenting the psychological trauma and effect on everyday life that the ever-present possibility of a drone strike has on people in certain areas of Pakistan and Afghanistan. (Stanford International Human Rights & Conflict Resolution Clinic, 2012).

'positively identified' (called 'PID' in the transcripts) means that someone has been identified as an immediate hostile threat and thus a legitimate target. The US Department of Defense White Paper leaked to the press in February 2013 asserts that killing US citizens (and presumably, anybody else) is legal if they pose an 'imminent threat' of violent attack against the US, and capture is not feasible. 'Imminence' is defined broadly in such a way that does not require the US to "have clear evidence that a specific attack on US person and interests will take place in the immediate future" (Department of Justice (US) n.d.: 7). The white paper also defends using risk to US personnel in an attempted capture of the subject as a factor in determining whether an airstrike is legally permissible. The 'dangerousness' of certain bodies is thus open to considerable interpretation in this legal environment. 'Self-defense' appears to be the ability to use lethal force against enemies based on unknown criteria, potentially anywhere in the world, and the lack of temporal and geographic limitations on what officially began as a war against al-Qaeda and its affiliates in global war(s) on terror has been widely noted (D. Gregory 2011b). Yet, despite the potentialities that such widespread visual and data surveillance afford state governments for identification and lethal targeting, such technologies do not provide an ability to 'accurately' target those who are deemed to pose a threat, nor is the 'accidental' or misapplied violence evenly distributed (see also Zehfuss 2011). 'Imminent threat' and 'self-defense' are sufficiently broad to allow for threats to be read in ambiguous situations if a threat is sensed.

In the example of the massacre in Uruzgan province, at 5:26am, the helicopter crew said, "due to distance from friendlies we are trying to work on justification, we're going to need PID [positive identification]." Here, the helicopter crew acknowledges the need to play by a certain formula that would determine whether force is justified, but the joint terminal attack controller, an American on the ground, told the helicopter crew, "Yeah, those vehicles are bad we're gonna have to get [to] work on trying to get enough to engage." Behavior such as the use of washing and praying

was interpreted as a sign of preparing to do something "nefarious" (Cloud 2011; Cockburn 2015: 14). Spotting of individuals "holding cylindrical objects" is taken to indicate the presence of weapons. The Predator pilot and sensor discuss seeing two "military-age men" struggling with something in the back of a pick-up and decide it is a "human shield." Crucially, the existence of intercepted cell phone calls by telecommunications surveillance technologies was taken as further proof of Taliban activity in the area, even though the identities of those talking were not known. At 7:38, the Predator pilot radioed the ground crew (who could not see the images produced by the drone assemblage) that the Florida team of screeners had determined that the group was made up of 21 military-aged males, no women, and two possible children. When queried about the age of the children (whether they were toddlers or teenagers, the Predator camera operator responded, "Not toddler, something more toward adolescents or teens." At 8:43, the news that the convoy had changed directions away from where the US special forces team was located was interpreted as a flanking manuever (Cloud 2011). These various interpretations of visual evidence in ways that support the use of force suggest even extended surveillance is not enough to override an assumption that particular objects and bodies are dangerous, especially given the presence (if not the content) of intercepted communications.

In her description of the lived experiences of RAF drone pilots, Alison Williams puts to rest the myth of drone assemblages operating with 'god-like' visual capabilities, even as the 'more than human' visual capabilities in terms of zooming, infra-red and night vision are taken as a key advantage of drones. The final interpretation of the images still rests upon the operator's or analyst's eye which cannot remain unblinking in its gaze, nor can the drone assemblage provide the peripheral vision (let alone surpass the "soda-straw" vision that the drones collect). Crews also must rotate, and thus the gaze is based on a multitude of embodied gazes rather than a 'persistent stare' (Williams 2011). Images much also be filtered through satellite relays and security encryption before they are viewable, and the frequent inability to maintain this 'persistent stare' is considered a major challenge in

classified military documents (Currier and Maass 2015). Conversation from the Afghan massacre transcripts revealed that the images in the camera were fuzzy and difficult to make out (Cloud 2011), inserting a degree of 'noise' or ambiguity that is absent from algorithmic analysis *per se* as that which is only intended to be read by machines. In particular, the ground troops had no laptop and could only communicate via spotty radio contact with the Predator crew, while the video from the Predator crew could only be fed to the command posts. Thus, the Special Forces on the ground had no access to the video feeds, and the command post could not directly communicate with the ground troops.

Furthermore, as Derek Gregory points out, even if total transparency of the battlespace were possible, in contemporary counterinsurgency it is constitutively difficult to distinguish between combatants and civilians as they and their equipment look much alike, and people may shift between categories (2011a: 200). Dangerousness is thus "generalized as a potential throughout a specific referent object for military action: the population as an unstable collective of non-non friends and non-non enemies" (Anderson 2011: 221-222). Failures of 'the god-trick' of disembodied visual capacities to fulfill its illusory promise of mastery and domination is not the only reason that pilots, sensor operators, and screeners believed that they saw only military-aged men, but other embodied senses as well. A parallel between this incident and another example of sovereign violence can be drawn that highlights how the posthuman bodies of the drone assemblage are implicated in the corporealization of racialized and gendered bodies. In the uncertainties that are both a constitutive aspect of the type of conflict as well as a feature of the drone assemblage itself, affective relations of race and gender played a central role in the production of killable bodies, or 'targets'.

In an early essay with contemporary resonances to the Black Lives Matter movement in the US, Judith Butler analyzes the video-taped beating of Rodney King in Los Angeles in the 1990s and the acquittal (despite the video evidence) of the police who beat King as indicating that "the visual field is not neutral to the question of race; it is itself a racial formation, and episteme, hegemonic and

forceful" and therefore 'seeing' is thus not a matter of direct perception as a means to truth but "the racial production of the visible, the workings of racial constraints on what it means to 'see'" (Butler 1993, 16). An "inverted projection of white paranoia" posited the *object* of violence as *subject* of violence. This case also speaks to the blurred lines between war power and police powers of drone warfare and the interventions in Iraq and Afghanistan and the use of violence against racialized bodies (Neocleous 2014; Holmqvist 2014). The designation of prayer as a signal of intent to do something "nefarious," the movements of a vehicles as a "flanking maneuver," and the interpretation of movement of bodies in the back of a pick-up trick as the use of "human shields" (not that these "human shields" prevented the bombing of the vehicle) and perceived presence of only men and only adolescents or older suggests that greater accuracy of vision is unlikely to serve as a check on the mistakes of either algorithmic or visual analysis when the bodies are already perceived, or rather, felt to be dangerous.

The logic of killing based not on identity but on these visual cues taken to resemble the algorithmic 'pattern of life' bears an striking resemblance to performative theories of gender in which 'gender' is not an essential identity one embodies, but rather, one comes to be embodied as a subject though repeated behaviors and practices against a normative framework that renders some modes of life into the category of 'hated.' J. Halberstam writes, "Gender, we might argue, like computer intelligence, is a learned, imitative behavior that can be processed so well that it comes to look natural" (Halberstam 1991, 443). Halberstam purposefully blurs the line between artificial intelligence and embodied behavior in conjunction with Turing's 'other' test. Somewhat less famous is Turing's corollary test in which a person interacts over a terminal with a man and a woman in a different room, trying to ascertain from people who may be attempting to deceive the tester based on written language as to which respondent is embodied as a man or a women. While the first test simultaneous posits the possibility of 'thinking' without a (human) body (while constructing a cyborg whose

represented and enacted bodies are linked via technology), the 'gender' Turing test opens up the possibility of failure to unite represented gender embodiment and enacted gender embodiment into a single identity. As Hayles writes, "What the Turing test 'proves' is that the overlay between the enacted and the represented bodies is no longer a natural inevitability but a contingent production, mediated by a technology that has become to entwined with the production of identity that it can no longer meaningfully be separated from the human subject" (1999: xiii). Gender proves to be a feature of human embodiment that must be represented and read via different technologies; the reading of which will prove crucial for the process of racialization that makes certain bodies killable.

If we considered the drone assemblage to be playing an elaborate 'gender' Turing test with visual and algorithmic cues rather than text, we note the irreducibility of represented gendered embodiment to enacted embodiment, as many of those killed were women (as well as children). In drone warfare, and in warfare more generally gender is a technology that serves to classify people based on perceptions of gender as civilians or combatants (Kinsella 2005). The attack on the vehicles stopped when the members of the drone assemblage noticed that some of the people fleeing from the wreckage ('squirters,' in the military slang) were wearing the brightly colored clothing associated with women.

> **Safety observer: are they wearing burqas?**
> **Sensor: that's what it looks like.**
> **Pilot: they were all PIDed as males. No females in the group.**
> **Sensor: that guy looks like he's wearing jewelry and stuff like a girl, but he ain't… if he's a girl, he's a big one.**

Gender here appears *after* the missile strikes as a kind of Turing test to determine whether the algorithmic and visual processes of target identification were correct, as the presence of bodies of 'military-aged men' are taken as indications that combatants have been killed (Turse 2013; Becker and Shane 2012). The gender of the bodies targeted was previously seen as unambiguous, and the link between represented gender, enacted gender, and combatant/acceptable target status was perceived

as united. Once the represented gender came to be questioned (with the signs of clothing and jewelry), the ability for represented gender to signify enacted gender and thus killability is opened up; yet, as the statement of the sensor operator indicates, the ambiguity between represented gender and enacted gender can be subject to attempted closure by asserting the ability for represented gender (through clothing and jewelry) to signify falsely with what is already 'known' to be true: that the targets are military-aged men, and thus killable: "that guys looks like he's wearing jewelry and stuff like a girl but he ain't." Represented gender is revealed as an unstable signifier of the unstable distinction of civilian/combatant itself.

What these examples suggest is that algorithmic calculations and visual modes of representation are not sufficient to constitute the bodies and worlds of drone warfare. After all, the visual imagery in drone warfare is often not as clear as purported; and even if it were, the 'god-trick' is, after all, an illusion. Drone warfare simultaneously produces bodies in order to destroy them, while insisting on the legitimacy of this violence through gendered and racialized assumptions about who is a threat. The construction of certain bodies as threatening is thus less a matter of what is known about them than the desire to make bodies into what we already know they must be: as such, how bodies come into being through affective relationships must also be considered.

Affect, Gender, and Racialization

"Drones have not only eyes but also ears and many other organs" (Chamayou 2014: 41). Chamayou is perhaps on to something more than he realizes, as his statement is concerned with the ability of drones to intercept electronic communications from radios and cell phones. Not only the physical aircraft of the Predators, Reapers and other have the ability to collect and interpret electronic communications from mobile phones, radios and such; but as I've argued, the 'drone' is best understood as an embodied assemblage whose senses are not only visual, but tactile, digital, and

affective. Identifying and producing bodies to be killed relies on a mixture of different corporealizing technologies, including affective encounters.

The drone operators themseleves, as part of this drone assemblage, can feel dislocated from the masculinity of the warrior that orders the legitimacy of killing in war, even though they are feel themselves emotionally and affectively connected to the ground troops they are supporting through intelligence gathering missions (Daggett 2015; D. Gregory 2011a: 200-201). US Air Force Colonel Hermando Ortega said, "These guys actually telecommute to the war zone," and "the band of brothers is built online" (Zucchino 2012). Distinctly to drone warfare, relations of distance and proximity are characterized by one-sided intimacy with the objects of surveillance and violence from great physical distances. Similarly, the narrative experiences of drone operators suggest a disorientation from the temporality of war, with drone operators participating in combat and driving home to their families at the end of their shifts. As one drone pilot reports: "I'm spending 12 hours fighting enemy combatants, and 20 minutes later I'm talking to my kids about homework" (Zucchino 2012). People operating drones suffer from stress and post-traumatic stress disorder: one such is Brandon Bryant, who speaks of his regret at the lives he took and the horrors he witnessed, and also from *not* being able to stop a IED attack that killed five American soldiers (Abé 2012). At odds with traditional warrior masculinity, this sense of 'intimate distance' from both prospective targets and ground troops at risk enables borders between national bodies to be protected and racialized bodies to be feared and targeted to be drawn not only through algorithmic 'pattern of life' analysis or visual cues, but through affective, or emotional, ties between bodies.

Aspects of corporealization in drone assemblages that exceed both the regimes of the algorithmic and the visual while being bound up with them are described by Hayles's distinction between analog and digital forms of identification. 'Analog' forms of identification are based on a sense of resemblance and exteriority, in which essential characteristics of the self reside deep inside

the body and the self is also linked to other subjects with the same form. This is contrasted to digital subjectivities that operate through dynamics of fragmentation, recombination that give rise to emergent properties (Hayles 2005: 201-203). The people targeted by the drone assemblage are corporealized through the 'intermediation' of these analog and digital modes of subjectification: through the use of metadata and visual analysis as well as affective modes of sensing and feeling. The practice of 'seeing' only 'military-aged men' through the digitized processes of the drone assemblage works on the basis of a resemblance. Resemblance here means that the people who were targeted were not (only) targeted on the basis of their behavior or on algorithms to interpret metadata; their 'positive identification' as targets was made possible based on affective resemblance to other targets.

In attempting to 'positively identify' weapons, the drone pilot responds to an image of what appears to be a cold spot on the chest of of a man that "it's what they've been doing here lately, the wrap their [expletive][*sic*] up in their man dresses so you can't PID it". The sensor operator responds: "yeah just like that one, there was a shot a couple of weeks ago they were on those guys for hours and never saw them like sling a rifle but pictures we got got them blown up on the ground had all sorts of [expletive]][*sic*]." Affective relations work through the fear and hatred of certain bodies spreading to other bodies. *Lack* of evidence of weapons becomes evidence of weapons based upon what is felt *must* be true. Affective relations are key to understanding the corporealization of racialized and gendered bodies that distinguish which bodies are killable. Jasbir Puar's (2007) comparison of the visual and affective registers is focused on a related phenomenon involving violence toward racialized and gendered bodies: the targeting of Sikh men in the US who are 'mistaken' for the enemy by those seeking revenge or to racially profile for perceived terrorist threats. This is similar to the discussion above of Butler's analysis visual field that inscribes threat and violence to a body based on prior racist paranoia, but is based not on visual acuity but emotional resonance. While one can be mistaken in the register of the visual (and the visual record may be consulted for evidence of this mistake, as it was in

the 2010 massacre) in the affective frame, resemblance is more vague: Puar describe it as the shift "from 'looks like' to 'seems like'" (Puar 2007: 187).

These affective encounters, through the visual/algorithmic encounters with the drone assemblage, enable certain characteristics to be attributed to 'others' in processes of racialization. Affective relations work through the circulation of emotions, which, for Sara Ahmed, "create the very surfaces as boundaries that allow all kinds of objects to be delineated" (2014[2004]: 10). Franz Fanon's description of the race-making interpolation "Mama, see the Negro! I'm frightened" (Fanon 1986: 111-12) is the classic example from postcolonial theory, describing the re-establishment of distance between bodies through relationships of proximity, with the visual ("see the Negro!") transformed into the affective ("I'm frightened"). Ahmed describes affect as that which works to (re)produce borders between bodies: "The fear opens up past histories of association …which allows the white body to be constructed as apart from the black body in the present" (2014[2004]: 63). In such affective encounters, surface similarities are taken for essentialized truths of a subject, and affect could 'stick' to a broad range of bodies. "The fact that fear does not reside in a body but could be materialized in any body within a particular profile range, allows for the figure of the terrorist to retain its potent historical significatory ambiguity while it also enables the fear to 'stick' to bodies that 'could be' terrorists" (Puar 2007: 186). The difference between the modes of the visual and affective, for Puar, is the defense against a known subject versus the preemption of a possible threat by unknown subjects: "What is being preempted is not the danger of the known subject but the danger of not-knowing" (Puar 2007: 185). The risk in the affective register is not that the code will be faulty or the visual analysis incorrect, but that there will not be enough evidence to legitimize a killing. Rather than seeking an accurate assessment of threat, evidence that the objects might not be a threat are effectively screened out, but evidence that confirms what is affectively known (that certain bodies

are a threat) is sought. In this way, data and visual analyses are used to render what is already decided into action (cf. Amoore 2011).

In drone warfare, fear circulates through the affective connections that members of the drone assemblage have for the troops on the ground as well as through the emotion of hate. The Predator crew, out of a sense of intimacy and identification with the troops on the ground seeks to shore up this masculine identity through the production of racialized 'others' that must be destroyed. While fear seeks to separate and avoid the object that it 'sticks' to, hate can be thought of as an affective experience that seeks closeness even through destruction. "Hate wants *to get its hands on* the other; it wants to touch even when it wants to destroy" (Borch-Jacobsen 1993; Ahmed 2014 [2004]: 51). The drone sensor operator's exclamation that trucks were a "sweet target" and "would make a beautiful target" suggests an aesthetic response that is tied to the visual and targeting systems in which he was integrated what to which targets would be easier and 'cleaner' to hit. There is also a kind of joy or anticipation expressed in the desire to see the target destroyed. Members of the drone assemblage express a desire for these bodies to be corporealized as 'military-aged males' a designation that would require these bodies themselves to be human/machine amalgams: weapons would have to be spotted. The pilot expresses his wish: "I was hoping we could make a rifle out." At one point, the sensor operator expresses frustration at doubts being raised about the presence of weapons, as well as the identification of the bodies as those of children: "Why are they so quick to call kids [identify the presence of children] but not to call a rifle?" The mocking of injured people and those helping them before women and children were identified suggests hatred and dehumanization of the people on the convoy and of satisfaction in their injury and death.

> **Mission Control: Self-Aid Buddy Care to the rescue.**
> **Safety Observer: I forget, how do you treat a sucking gut wound?**
> **Sensor: Don't push it back in. Wrap it in a towel. That'll work.**

The eventual decision to "call out" the presence of women and children does not only suggest the instability of the visual field to signify gender (and thus combatant/civilian status in the legal apparatus of the drone assemblage) but also sheds light on the ways in which race and gender are visually and affectively incorporated into decision making; in a war justified by colonialist and orientalist narratives of saving Afghan women from despotic men (Shepherd 2006), the killing of women and children undermines both the mission and the message which is propped up by discourses of perverse sexuality of Muslims. As exemplified in the photographed abuse at Abu Ghraib, the incorporation of 'our' violence as caused by abnormal sexuality/gender in the other is a persistent feature of the affective relations of the global war(s) on terror (Puar 2007; Manchanda 2015), here signified by the description of passengers in "man dresses" and also the use of a cultural distinction supposedly told to intelligence analysts that Pashtun men urinate standing up, while Arab men squat, which was taken as a means of distinguishing Arab al-Qaeda from their Pashtun contemporaries (Cockburn 2015: 224-225). The gendering of the 'military-aged man' is inseparable from the racialization of the target as someone who can be killed in the name of 'self-defense'. At the same time, the 'mistake' of killing women and children reinforces the idea that all 'military-aged men' are legitimate targets.

Aside from this particular massacre, the racialization of bodies as killable threats is made through observations of represented gender in the counting of all deaths of males old enough to hold weapons as 'E-KIA' for 'enemy killed in action' (Currier 2015; Turse 2013). In drone warfare, the production of killable bodies cannot be reduced to the algorithmic, visual or affective modes of incorporation but depends on the complex relations of all these that emerge from the posthuman bodies of the drone assemblage. When apparent female bodies appear as a mistake in visual recognition, faith in the drone assemblage to accurately target the 'correct' bodies is simultaneously

disavowed and restored through the reassurance that it was always impossible, yet necessary, in the first place:

> **Safety observer: no way to tell, man**
> **Sensor: no way to tell from here.**

Conclusion

Despite pronouncements of a global panopticon of killing and surveillance encompassing both the algorithmic and visual, such information was quite ambiguous and failed to result in a sovereign decision absent affective forms of corporealization through hate and fear. The category of gender demonstrates a flaw in the supposed perfectibility of the algorithm or visual surveillance in removing issues of identity or prejudice from security practices. Gender as a a kind of algorithmic 'Turing test' that relies on the unification of between represented and enacted gender is central to the embodiment of drone warfare. At the same time, the posthuman bodies of drone warfare expose the instability of these gendered embodiment and representations.

 Theorizing drone warfare as *embodied* and *embodying* calls our attention to the ways in which drone assemblages incorporate modes of embodiment from algorithmic, visual and affective technologies that enable the individualization of gendered, racialized targets. It also disputes narratives of the sublime capabilities of technologies and furthermore, shows such narratives as partaking in a totalizing logic that ignores the specific forms of embodiment in drone warfare. In Haraway's words, "what counts as human and as non-human is not given by definition, but only by relation, by engagement in situated, worldly encounters, where boundaries take shape and categories sediment" (1994, 64). 'Disembodied' theories of drone warfare that fetishize the drone or theorize its global visual and targeting capabilities perhaps inadvertently partake in a discourse that positions the human as a subject of individuality and autonomy, a discourse that dehumanizes non-normative forms of embodiment such as that of gendered and racialized subjects. Drone warfare must instead

be theorized for the multiple modes of corporealizing posthuman subjects and the zones of violence they occupy.

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