UAVS IN THE SOCIAL SCIENCES

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ANNOTATIONS

Part A: Feminist and Geopolitical Approaches
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Part A: Feminist and Critical Geopolitical Approaches

Andrejevic, M. (2016). Theorizing drones and droning theory. In A. Zavrsnik (Ed.), *Drones and Unmanned Aerial Systems: Legal and Social Implications for Security and Surveillance* (pp. 21-43). New York: Springer.

Andrejevic focuses on the drone as an example of the changing nature of interactivity, or the ways that consumers interact to provide data to marketers and the state by engaging with new technologies. The drone is just the starting point of Andrejevic's argument, and he moves to consider how "drone logic" transforms a variety of cultural nodes, including media, commerce, security, and pedagogy into automated collection points of data on citizens. Drone logic transforms modes of interactivity to be more passive and ubiquitous, as technology collects data on users at all points in time, much like drones can conduct surveillance across entire cities for twenty-four hours a day. Andrejevic traces the drone logic of automated, omniscient monitoring through changes in media, consumption, security, pedagogy, social relationships, politics, and knowledge.

Andrejevic argues that interactivity is becoming more passive and automatic thanks to objects that continuously collect data on users, much like drones, which watch and collect data on subjects whether they realize they are being watched or not. Formerly, users interacted to provide information to media that was then used to customize their experiences; today, media *requires* user participation and collects thousands of data points automatically. Andrejevic also characterizes drone logic as de-differentiating: it blends battlefield with domestic spaces, and military technologies with commercial applications. Drone logic increases the pace of exchange between military technology and consumer marketing. Drone logic also alters security, shifting the goal from the targeting and watching individuals to watching the entire population, and to "diachronic omniscience," or the ability to cover and watch all spaces all the time.

Andrejevic's key contribution comes from his discussion of how drone logic encourages and complements post-discursive approaches in scholarship. Drone logic works to gather information on a large number of variables, and treats language as one more set of objects to be scanned and responded to, a process Andrejevic calls the "metadatafication of language" (p. 36), in which communication generates data about itself. For example, Google's targeted advertisements take user data from the content of emails, while Google simultaneously claims that this is not an

invasion of privacy because no human is reading the emails. Object-oriented ontologies coincide with the growing interest in automated forms of information processing, and Andrejevic warns that scholars should consider the potential implications when ontology coincides with drone logic.

Asaro, P. M. (2013). The labor of surveillance and bureaucratized killing: New subjectivities of military drone operators. *Social Semiotics*,*23*(2), 196–224. doi:10.1080/10350330.2013.777591

Asaro examines the subjectivity of drone operators, defining subjectivity as the way in which individuals are produced through the social structures in which they are embedded. These social structures include bureaucracy and traces of Taylor's scientific management, as drone strikes are coordinated by a bureaucratic labor organization that develops lists of targets, rationalizes these targets, and chooses to execute the strikes, a process Asaro calls "bureaucratized killing" (p. 198). Asaro looks at how systematic knowledge has been deployed to constitute the subjectivity of drone operators, and argues that this subjectivity puts greater cognitive, moral, and emotional burdens on drone operators by collapsing the roles of surveillance and killing. Asaro criticizes the simplicity of frames that label drone warfare as either heroic or antiheroic, arguing that both frames focus on the "unmanned" aspects of the technology and fail to consider the ways that this technology alters human subjectivity and agency, rendering drone operators invisible.

Asaro constructs the experience of piloting a drone through partial sources, including medical reports, a documentary that features an interview with a drone pilot, and journalistic accounts. Documents like the medical reports demonstrate an ongoing interest in managing the inefficiencies of the labor force, reminiscent of Taylorism. These reports reveal aspects of the workers' subjectivities that attempt to manage their labor and emotional stresses in order to maximize productivity. Asaro contextualizes this changing subjectivity and stress level by demonstrating that drone operations break down previous bureaucratic separations of surveillance and killing, as drone operators now watch, analyze, and ultimately make the decision to execute a drone strike, placing greater responsibility, and thus emotional burden, onto the drone operator. This subjectivity also treats the operators as entrepreneurs, who are expected to have the goal of increasing their own productivity and rising in the organization by managing mental health. Using medical documents and interviews, Asaro argues that drone piloting has created new forms of human-machine subjectivity.

Daggett, C. (2015). Drone disorientations: How "unmanned" weapons queer the experience of killing in war. *International Feminist Journal of Politics, 17*(3), 361–379. doi: 10.1080/14616742.2015.1075317

Daggett argues that drones are uniquely disorienting to traditional, heteronormative masculine frames of war by blurring the boundaries between the axes of distance—intimacy and home—combat. Drawing on Sarah Ahmed's queer phenomenology, Daggett looks at the process of disorientation, and warns that while disorientation can spark even more conservative interpretations in the backlash, queer politics can help to cultivate an openness toward this disorientation, providing small hope that this rupture can open up new and less violent frames of

war. Daggett uses narrative methodology to investigate this drone disorientation, arguing for narrative's utility in order to access bodily experiences of killing and killed that are otherwise impossible to reproduce.

Daggett finds examples of the anxiety felt by these blurred boundaries in narratives about drone pilots, which often feminize drone pilots or depict them as immature. These narratives note that piloting drones makes killing easier, that the job is done in the relative comfort of an air conditioned office with junk food on hand, and that drone operators are also operating in the domestic sphere. In narratives of drone operators themselves, Daggett finds that drone operators disagree with the idea that their service is distanced and unaffected. While these remarks can be seen as part of a campaign to rally public support for the legitimacy of drone operations by demonstrating that the operators' jobs are difficult, Daggett takes seriously the possibility that this discomfort is part of the disorientation of drone piloting. For drone operators, in these moments of failure "distance and intimacy no longer make sense as coordinates. Drone warfare is not interpreted as an experience of mediated distance but as one of blended attachment and agency" (p. 371). Daggett argues that because drone killing is in-between these axes, we should not attempt to place a singular judgment on drone warfare, but should instead embrace the potential to study multiple frames and interpretations of drone warfare.

Feigenbaum, A. (2015). From cyborg feminism to drone feminism: Remembering women's anti-nuclear activisms. *Feminist Theory, 16*(3), 265–288. doi: 10.1177/1464700115604132

Feigenbaum introduces the idea of "drone feminism" to contribute to feminist scholarship around drones, drawing on women's anti-nuclear activisms of the 1980s to consider what resistance could look like today. First, Feigenbaum maps the history of cyborg feminism to look at how women resisted nuclear development by combining affect and techné. She focuses on the Greenham Common Women's Peace Camp in Newbury, England, a protest camp situated around a military camp, and Donna Haraway's writings on the feminist cyborg, which acknowledged the Greenham camp as an example of cyborg feminism. Feigenbaum argues that the women at Greenham Common were influenced by material around them as "disobedient objects," and crafted place-based resistance in their writings, collapsing binaries of nature/technology as they described their de-militarized vision for the future. Haraway's writings in the 1980s challenged this binary by offering an alternative feminist figure in the cyborg. At the time, goddess mythologies were influential in white Western women's feminist activism, and Haraway offered an alternative proposal in cyborg feminism, one that acknowledged the influence of technological objects and environments on political subjectivity. Greenham women interfered with nuclear development by creating tactics that "generated their own symbols, figures and myths—out of pens, paint, glue, wire, fabric, needles, wool and stolen bits of chain-link fence" (p. 273). Feigenbaum looks at examples of the uses of symbols and physical representations of webs, snakes, and metal goddesses that combined goddess mythology, nature, and technology in order to intervene in the military apparatus physically and symbolically.

Looking at this historical example, Feigenbaum asks if drones are the cyborgs of contemporary times, objects that manifest power structures of militarism, patriarchy, and capitalism. Drone feminism, then, helps to intervene in drone practices by demanding analysis of systems and

logics of military drone violence, which operate in gendered, imperial, racialized, and Orientalized ways. While cyborg feminism invites us to think about the ways bodies and machines are intertwined, drone technology makes this proximity more distant. Despite this, drones are riddled with affect, as operators feel a closeness to the machines they fly, and people in areas policed by drones live in ongoing fear. Drone feminism reveals the myriad of ways gender matters in drone executions, offering up new sites for feminist activism and enhancing critique by remembering the cyborg legacies of past resistance.

Gusterson, Hugh. "Toward an Anthology of Drones: Remaking Space, Time, and Valor in Combat." *The American Way of Bombing: Changing Ethical and Legal Norms, from Flying Fortresses to Drones*, edited by Matthew Evangelista and Henry Shue, Ithaca, NY: Cornell University Press, 2014, pp.191-206.

This chapter presents an overview of the history and use of UAS in the US. They were developed before WWII for use in target practice. The CIA was the original bureaucratic sponsor of UAS technology as the Air Force initially resisted its adoption. The chapter analyzes the impact of UAS on creating 'spaces' for war, on the cadence of military activities and initiatives, and how they restructure "military notions of honor and courage" (196). It presents the resultant shift from consolidated physical presence of troops to worldwide movement by often spatially removed UAS operations, with hyper localized targets that are uncertain of where or how to move. Gusterson argues the battlefield is essentially in the operator's home location and creates its own challenges: finish your shift after executing missions and then go home to regular life; that disconnect impacts UAS pilots and contributes to a high turnover rate. UAS also modify and challenge long-standing military definitions: are you a pilot if you don't move? Are you a combatant if you aren't on the front lines?

Holmqvist, C. (2013). Undoing war: War ontologies and the materiality of drone warfare. *Millenium: Journal of International Studies, 41*(3), 535–552. doi: 10.1177/0305829813483350

Holmqvist makes the case for the adoption of Maurice Merleau-Ponty's existential phenomenology to study the lived, human experience of war as part of new assemblages of war that include military robotics. Holmqvist argues that traditional International Relations studies of war have neglected human experience, instead focusing on abstract notions of the state, militaries, and insurgents. She argues that war's violence makes it irreducible to simple events, as it impacts so much of human experience beyond the battlefield. She advocates for studying war as its own ontological condition, and considers how the mechanical bodies of drones fit with human bodies. Holmqvist's main goal is to demonstrate that assemblages of war can consider accounts of the human, both of human bodies and the human qualities of the materialities of war, so that the study of robotic technologies can be used to invite critical war scholars to reconsider how we think about humans in war.

Holmqvist reconsiders the study of the ontology of war by making three claims: first, that the relationship between the virtual and material is complex and filled with contradictions. The argument that drone technologies make war more virtual are complicated by human consequences and compatibilities, including the pairing of US COIN doctrine (to win the "hearts and minds" of populations in Iraq and Afghanistan) with targeted killings. These strategies—the

virtual and the human—were developed together to instrumentalize these populations. Similarly, the material consequences on drone operators include PTSD, despite their jobs being physically removed from the violence of the battlefield. Second, Holmqvist encourages critical war scholars to reconsider the concept of agency along a spectrum, therefore allowing room for drones to have some agency due to their "generative potential," or ability to "see" and "interpret" the world. Holmqvist also draws on Judith Butler's arguments in *Frames of War,* arguing that reconsidering the agency of drones provides space for new ideas of political agency, and by conceiving of drones as having political agency, scholars can acknowledge the ways that drones are embedded in the military apparatus that creates them and envisions their use. Third, Holmqvist says that this rethinking of material aspects of war calls for a rethinking of the ontology of the human in war, using Butler's notion of "undoing," or the idea that human lives are precariously in the hands of each other, that sociality is what allows humans to think and behave ethically in their consideration of each other. The ontological nature of war is also undoing, especially of human order. Linking these ideas together, Holmqvist suggests centering concern on war's creation of uncertainty.

Kindervater, K. H. (2016). The emergence of lethal surveillance: Watching and killing in the history of drone technology. *Security Dialogue, 47*, 223–238

This article reviews the history of drone development and relates the technology's history to its modern uses. Kindervater covers three critical moments in the history of drone development: Britain's research on a drone with striking capabilities in WWI, reconnaissance drones used in the Cold War by the United States, and drones used to assist manned missile strikes and reconnaissance in the NATO operations in Kosovo. Now in the war on terror, drones are used to both for surveillance and strikes, sometimes simultaneously. Kindervater calls this process *lethal surveillance,* "a practice in which mechanisms of surveillance and knowledge production and decisions on life and death have become one and the same" (p. 244). Kindervater argues that examining the history of drone use helps modern audiences understand how surveillance and missile strikes have become so intertwined in modern warfare.

Manjikian, M. (2014). Becoming unmanned: The gendering of lethal autonomous warfare technology. *International Feminist Journal of Politics*,*16*(1), 1-18.

> "Reliance on new technologies becomes not a weakening or a form of dependence but rather the ultimate male enhancement. Here, we can consider the naming of the exoskeleton as the 'HULC' and the intertextual reference to the masculine comic book hero The Incredible Hulk who represents a sort of supermale" (p.10)

This article explores the implications of autonomous weapons and technology on the gendered nature of warfare. Manjikian reviews fairly optimistic authors that believe technology and cyborgs will replace gender distinctions and hierarchy in war. However, the author ultimately concludes that because technology is imbued with the ideology and social constraints of its creators and users, "robotic technology would thus reinforce hegemonic masculinity rather than eliminating it" (p. 10).

Manjikian begins the article with a discussion of drones, or unmanned aerial vehicles (UAVs),

but most of the article uses material from all kinds of robotic technology in war from jumping robots to exoskeletons for soldiers. The focus of the article is, then, not about UAVs specifically, but rather a broader inquiry into the ontology of technology. Manjikian identifies as part of the Social Construction of Technology (SCOT) school, suggesting that technology does not possess agency, but is an enactment of the human agency around it.

The author concludes that military technology reinforces gender distinctions for two primary reasons. First, Manjikian argues that a state's increased technological prowess, UAVs in particular, is often linked to superiority and dominance, masculine traits. Meanwhile, states without advanced technology are subordinated, and thus feminized. This phenomenon is a long investigated trope of warfare (protector/protected); Manjikian uses examples from recent UAV discourse to suggest that the gendered trope does not change with technology. Second, battlefield technology is fitted for men's bodies and often explicitly banned to women soldiers. Testing of "super soldier" technology is currently often restricted to combat units, where women are excluded. Therefore, the social constraints of the current gender hierarchy restrict the possibilities of technology's emancipatory promise.

Nair, Sheila. 2017. "Postcolonialism: Interrogating National Security and Drone Warfare." In *Routledge Handbook of Security Studies*, edited by Myriam Dunn Cavelty and Thierry Balzacq, Second edition, 95–105. Abingdon, Oxon; New York, NY: Routledge.

This book chapter critiques the use of militarized drones in the 'Global War on Terror', in the ways in which civilian bodies were rendered killable in the 'pursuit of a just and righteous cause'. Borrowing from Judith Butler's arguments on grievability, Nair narrates which bodies are grievable (army casualties) and which are not (children playing on the ground, their bodies are guilty and targetable only due to their proximity to the target). Through a postcolonial analysis, Nair argues how US drone warfare has normalized and categorized the other as representations of threat, terror, and hypermasculinized identities that oppress women. The chapter maintains a sharp distance from heteronormative security studies - that is macro-scale and bases itself on the 'peripheralization of non-Western spaces and zones in security discourse' - by placing the subaltern in the center of analysis. While Nair provides a detailed analysis in the ways in which US-self/other is engendered and rationalized, it fails to explore the intersectionalities of discourse present *within* these binaries of self/other.

Parks, L. (2016). Drones, vertical mediation, and the targeted class. *Feminist Studies*, *42*(1), 227- 235.

This article broadly explores the material and psychological implications of the rise of commercial and military drone use through a feminist lens. Parks is effective in her literature review of other feminist drone literature, but is a little unclear in defining what a feminist methodology means for her project. While the work is rather short, and as a result moves between complex concepts quickly, it introduces two interesting new terms and calls for future research to explore these ideas further.

Parks argues that drones do more than represent and view the world below them; they mediate, alter, and transform the physical world through a process Parks calls *vertical mediation.* A

drone's mere existence in the sky can alter people's thoughts and actions below. Particularly in countries such as Somalia, Yemen, and Pakistan, where the U.S. military uses drones to monitor, target and bomb suspected terrorists, drones "rewrite and reform life on earth in a most material way" (p. 232). Although these drones target specific people and practices, civilians near them are often caught in the crosshairs, creating a new "targeted class*"* of people who "live and move in areas in which terror suspects *may* operate" (p. 231, emphasis in original). Although Parks primarily bases her argument on examples of military drones, she argues that because military technology is so entrenched in everyday public life, especially as drones become increasingly popular for commercial and recreational use, drones (and their users) are imbued with the mindset of the military.

Parks concludes by calling for feminist research and interventions as a way to understand how this vertical mediation affects knowledge production and decision-making. More specifically, she calls for research to "reverse engineer" the process by which militarization becomes a part of everyday life through drones and vertical mediation. As one example of symbolically intervening in and publicizing the drone mediation process, she highlights her collaborative installation art project *Spectral Configuration*, which featured projections of drone imagery and videos onto a large (4 meters long) supine human body made from aluminum wire.

Rothstein, Adam. "Esthetics of the Drone." *Drone*. New York: Bloomsbury Academic, 2015, pp. 125-136.

This chapter focuses on UAS and their impacts on the visual writ large: it is at once topographic and selective (broad and distant yet limited to what the camera can see) and a conflicting sense of embeddedness (in a scene yet distant from physical self). To operate the UAS, operators need data from multiple sensory sources, not just visual, because the feed can be concurrently both egocentric (looking out from the UAS) and exocentric (feed on the ground showing UAS) displays; this is designed intentionally as the combination of the two helps prevent operator disorientation. "Semiotics and the Drone" focuses on how UAS have become totems for various psychological reactions to UAS use: a target of fear by targeted populations, a source of PTSD for UAS operators, and a symbol for protests. Discussion of nomenclature ("What's in a Name?"): the term "drones" is eschewed by military and commercial organizations (despite military origins for it in WWII targets), yet the author argues that the term best encompasses and reflects the nature of UAS.

Salter, M. (2014). Toys for the boys? Drones, pleasure and popular culture in the militarisation of policing. *Critical Criminology, 22*, 163–177. doi: 10.1007/s10612-013-9213-4

Salter examines police force interest in drone technology, and argues that this interest is encouraged by trends of militarization, compensations for changing masculinity, and fetishization of weaponry, more so than by the effectiveness of drone technology in police work. Salter first traces the historical context that encourages the "weapon fetish" of the post-Cold War era, tying this to *militarization*, or the cultural set of attitudes and practices that regard war and preparation for war as desirable activities. Twentieth century destabilizations of hegemonic masculinity, including the conscription of black soldiers and women's rights movements during wartime, have challenged gender hierarchies, alongside the insecurity caused by neoliberal

capitalism. Armament culture offers a faux solution to these masculine anxieties. Citing Baudrillard, Salter argues that in this culture, the weapon has become a fetishized object that is framed as an answer to the insecurities caused by post-industrial subjectivity, but the weapon as a commodity is in reality deeply embedded in the cultural and economic system that produces this insecure subject. The second trend Salter traces is the rise of the paramilitary police unit, which uses force collectively and views force as the solution to insecurity, rather than as a last resort. The boundaries between policing and military become muddled by the blurring distinction between external and internal security, leading to the increasing use of military framing for crime control (e.g. the War on Drugs).

The trends of weapon fetishization and the paramilitary police unit lead Salter to "the drone fetish," or the increased desire to use drones in domestic policing—a desire encouraged by drone manufacturers looking for domestic markets during the War on Terror. Salter cites numerous examples and statistics that demonstrate that police interest in drones far outweighs their utility—drones are expensive and rarely lead to police arrests. Salter concludes that "drones are appealing to police because they are embedded within a pervasive cultural code of military signs and symbols promising the rush and thrill of masculine conflict, and, ultimately, victory" (p. 173). However, this fetishization points to a broader trend of militarization of policing, which does not recognize the social and economic determinants of crime, instead viewing criminals as targets for militarized engagement.

Schwarz, E. (2016). Prescription drones: On the techno-biopolitical regime of contemporary "ethical killing." *Security Dialogue, 47*(1), 59–75. doi: 10.1177/0967010615601388

Schwarz adds to the debate over the ethics of drone warfare by considering how drone technology shapes our ability to think ethically, considering drones as an actant that shape technological and legal expertise that informs discussion of their use. Drones carve out space for what Schwarz terms "techno-biopolitical expertise" (p. 60), infusing the discussion of ethics with discourses of medicine. Drones are framed as a life-preserving practice that ethically determine the right to life and death in a biopolitical regime that naturalizes the role of government in regulating the body and biological functions. Schwarz builds on Chamayou's (2015) discussion of drones and "necro-ethics," the idea that drones kill with care, by extending to consider how drones function biopolitically as a whole.

Drones are positioned in the biopolitical assemblage, turning killing into logistical calculations that transform these acts into biopolitical risk management. It is assumed that bodies are legible and open to calculated interventions; therefore, interventions into the present must be made in order to control future risk. A clinical gaze is attributed to drone technology, as the technology observes problematic populations, is considered an agent of expertise, and able to use algorithms to determine and neutralize risk. In this case, violence is the medicine, as "medical narratives and metaphors serve as a means to assess what is wrong within a body politic and what can and ought to be done to remedy the ill" (p. 66). Drones perform "surgical strikes" that disguise the messiness of targeting and the aftermath, insurgents become a cancer that must be killed to save the body as a whole, and civilian casualties are necessary side effects to the medicine prescribed. This transforms the ethical concerns about drone strikes, as there is an ethical demand to cure the diseased elements, for the good of the body politic. The technological and medical expertise of

drones moves them into an ethically neutral territory, turning ethical concerns into purely instrumental concerns.

Shaw, I. G. (2013). Predator empire: The geopolitics of US drone warfare. *Geopolitics*, 18(3), 536-559.

> "Unlike forms of environmental intervention that leave a gigantic "footprint" in the soil of the earth, such as the counterinsurgency pursued in Iraq, the Predator Empire pursues a different kind of spatial biopolitics; a virtual intervention where what is captured is not "hearts and minds" but endless streams of information that are broadcast back to the Homeland. This suggests that the direction of power is not just an outward projection – as with the geographic expansionism that traditionally defines "American power projection" across the globe. Rather, it also suggests an inward power collection: defined here as the power to incorporate, to bring closer." (p.550)

This article explores the biopolitical implications of U.S. military drone surveillance and strikes. It is effective in critically summarizing the history of U.S. military drones and developing a theoretical framework for a new concept, *Predator Empire*. Shaw begins by juxtaposing justifications for the use of drones by the U.S military and first-hand accounts of people watched and targeted by these unmanned aerial war machines. Shaw meticulously tracks the early military documents that promote and justify drone use as a primary tactic across the Middle East and North Africa. He contrasts this cold military calculation to the lived experiences of those who live in fear of being near a drone target.

However, these lived experiences are erased in a Predator Empire. Through extensive digitization and coding, drones target "patterns of life" (p.550) that are perceived to be a security risk and decide which lives are worth living. In other words, drones become "sovereign tools of life and death" (p.549). Shaw relies heavily on Foucault's biopolitics to establish a theoretical background to the Predator Empire, arguing that drones target behavior, geography and patterns of individuals, "targeting their very lifeworld" (p.546) and are unique in transforming American power and expansion from "a topographic, ground intensive empire to a topological, aerial empire" (p.551).

Shaw concludes by offering three implications of the Predator Empire. First, Shaw expects drones will continue to grow in popularity both in the number of countries that utilize military drones and the number of commercial, recreational, and military uses drones have. Second, Shaw argues Pakistani people, especially in the Federally Administered Tribal Areas (FATA), will continue to resist, retaliate and radicalize because of U.S. military drones. Finally, Shaw predicts that because of their questionable legality, drones will erode what we know and expect of sovereignty and territory.

Shaw, Ian & Akhter, M. (2014). The dronification of state violence. *Critical Asian Studies*, *46*, 211-234.

This article explores the bureaucratization of targeted drone killings by the United States. Shaw and Akhter carefully detail the justifications for drone use and the process by which contemporary drone strikes are authorized. Working heavily from Hannah Arendt's work on bureaucracy, Shaw and Akhter argue that the civilian decision-making processes remove accountability from any one person or reason. After much surveillance, targeted persons are placed into equations of risk, connections, effectiveness, hierarchy, danger, and collateral damage. This process, Shaw and Akhter argue, is more-than-human, as it is guided and acted upon by documents, equations, and machines in addition to a cadre of bureaucratic humans.

Shaw and Akhter provide a detailed, but concise, history of the rise of civilian military operations, primarily through the CIA, in the Middle East. They focus largely on the CIA partnership with the Pakistani ISI in the 1980s as part of a proxy war in Afghanistan between the US and the Soviet Union. They trace this unusual relationship through to contemporary warfare in Pakistan and Afghanistan, remarking that as recent drone strikes raze buildings built with CIA funds, "it was as if the CIA were chasing the ghosts of its own past" (p.224). Although targeted killings may have once been antithetical to the U.S. military strategy and ethos, it is now a primary tactic in the war on terror, a change Shaw and Akhter imply was catalyzed by 9/11 and the hunt for Osama bin Laden.

Shaw and Akhter reveal several paradoxes of the U.S. military strategy. One particularly striking phenomenon the authors point out is that as drone targets are increasingly personalized (through surveillance and tracking of life patterns), the strikers are made anonymous with far away pilots following orders from an unaccountable and untraceable bureaucracy.

Shaw, I. & Akhter, M. (2012). The unbearable humanness of drone warfare in FATA, Pakistan. *Antipode*, *44*(4), 1490-1509.

This article explores the intersections of drones and law, with a particular emphasis on U.S. drone strikes in the Federally Administered Tribal Areas (FATA) of Pakistan. Shaw and Akhter have two primary arguments: drones leave a severe material, social, political, and psychological impact on humans, and a space for warfare has been created in FATA through its exceptional legal status and drones.

First, Shaw and Akhter refute the fetishized idea of drones as technical and perfect machines of war. They instead suggest that drones are *unbearably human*; even though drones are unmanned, they impact humans across the globe from the pilots in trailers who suffer from PTSD at high rates to the people in FATA whose lives may change (or end) with every strike. Further, Shaw and Akhter argue that the geography and complicated legal history of FATA help explain the rampant use of drones in the region. The article offers a brief but detailed history of FATA, which is technically a part of Pakistan, but is not subject to control from the country's parliament

or Supreme Court. As part of a vestige of colonialism, the President of Pakistan has unchecked power over the region, though much of the day-to-day operations in the area are locally governed. The U.S. has focused much of its drone strike efforts since 2002 in FATA, which though technically located in a country that is a U.S. ally, is a legally ambiguous space. Shaw and Akhter explore this contradiction through Agamben's state of exception in order to explain this paradox of law and violence.

They write, "The Pakistani state, following its imperial predecessors, has actively created FATA as an exceptional region: an aberration that exists outside of the state's constitutional laws. This process of judicial abandonment, an old colonial performance, has created a volatile landscape that in turn produces conditions conducive for international intervention. But the necessary twist here is that the intervention is itself exceptional in the form of the Predator drone, an object with a fetishized metaphysical status. Taken together, drone and FCR act in concert to produce the space for war in FATA, Pakistan—a topology of technology and law." (p. 1504)

Wall, T., & Monahan, T. (2011). Surveillance and violence from afar: The politics of drones and liminal security-scapes. *Theoretical Criminology, 15*(3), 239–254. doi: 10.1177/1362480610396650

Wall and Monahan argue that drone technology translates bodies into remote targets, homogenizing cultural groups abroad and more recently inside the US. Drones transform US borders and urban spaces into what the authors term "liminal security-scapes," or spaces where everyday life is unstable and insecure, and bodies are subject to continuous surveillance and violence. The authors look at the security-scapes of the Middle East throughout the War on Terror, and the increasing use of drones by US border control and domestic police forces. In the Middle East, drone usage subjects those marked as Other to attack, regardless of terrorist involvement. Drones combine old logics of militarization, including a fixation on technological development and a need to control the skies using airplanes, with new technologies that offer more precision and stealth. However, with this increase in drone usage, militarization logics experience ruptures at points of failure, including civilian killings, which demonstrate that the discourse of certainty and precision associated with drones is more complicated in practice. Wall and Monahan argue that despite this obsession with objective, precise technology, "the exclusionary politics of omniscient vision not only harm ethnic and cultural others with great prejudice, but they also instigate an additional violence of radically homogenizing local difference, lumping together innocent civilians with enemy combatants, women and children with wanted terrorist leaders" (p. 243). In Afghanistan and Iraq, drone usage requires the active interpretation of ambiguous data, forcing homogenization onto Othered populations, leading to civilian deaths.

Domestically, drones have been used in the War on Drugs, to police borders, and more recently by police forces. The use of drones in these settings symbolically transforms these spaces into liminal security-scapes, harming individual liberties and public good. The "drone stare" is framed by advocates of drones as the ability to monitor and see clearly the "truth" of the situation below; however, the gaze of drones increases the mediation of surveillance and combat

experiences, dehumanizing targets and homogenizing US populations as well. The authors argue that these examples demonstrate that drone use blurs identities in these security-scapes: between insurgent and civilian, criminal and migrant, and pilot and soldier.

Williams, Alison J. 2011. "Enabling Persistent Presence? Performing the Embodied Geopolitics of the Unmanned Aerial Vehicle Assemblage." *Political Geography* 30 (7): 381–90.

The article positions and conceptualizes UAVs as assemblages with human (aircrew) and non-human (UAV) nodes by borrowing from Haraway and Deleuze & Guattari. Through primary data gathered from a UAV aircrew of the Royal Air Force Reaper, the paper explores the ways in which combatant experiences of war and terror have changed across space and time. It does so by putting the body as analytic using 'embodied geopolitics' from the feminist geopolitics literature, of which Williams provides an excellent review. In doing so, the paper examines the embodied experiences - that are 'sites of performance' - of the aircrew in the ways in which they encounter *persistent and distant* combat. *Persistent Presence* is the condition that enables the military to remotely surveill - unseen from below - a certain place relentlessly and its ability to attack from the machine with missiles and bombs. Whereas other political geographers have attributed the persistent presence of UAVs as relentless, all-seeing, and 'god-eye' of the more-than-human, Williams provides a detailed critique of this approach and narrates the limitations of persistent presence - of removal and of needing multiple human eyes for a never ending gaze. The paper presents a methodological challenge: how can researchers access military personnel for primary data on such sensitive topics?

Part B: Ethical Approaches

Berkowitz, R. (2014). Drones and the question of "The human". *Ethics & International Affairs*, *28*(02), 159-169.

This article explores the desirability of the imperfect human as the capabilities of drones continue to improve. The analysis of the ubiquitous and all-powerful drone is based on a very expansive definition of drones as "intelligent machines that—possessed of the capacity to perform repetitive tasks with efficiency, reliability, and mechanical rationality—increasingly displace the need for human thinking and doing" (p. 160). While many define drones as only unmanned aerial vehicles, Berowitz includes such uses as researchers experimenting with putting "drone blood cells into humans that can mimic good cholesterol carriers or identify and neutralize cancerous cells" (p.159). Even though Berkowitz chooses to take such an expansive view of drones, which includes nearly everything that runs on an algorithm, he ultimately brings up a thought provoking and recurring concern: technology will become so good at mimicking human thought and action that we will prefer it to humans altogether.

Berkowitz uses examples from chess-playing computers, male honeybees (otherwise known as drone bees), and robot soldiers, to suggest that as humanity increasingly idolizes the computational, emotionless, rational decision making of computers, humans will adapt to have similar qualities. Ultimately, Berkowitz believes this process endangers the freedom and capacity of humans. Thus, he writes, "We have become infatuated by perfection and intolerant of human error; we worship data-driven reliability and disdain untested human intuition; and we value efficiency over beauty and chance." (p. 162) He ends the essay on this thought: "The real threat is that as our lives are increasingly habituated to the thoughtless automatism of drone behavior, we humans habituate ourselves to acting in mechanical, algorithmic, and logical ways" (p.169).

Kirkpatrick, J. (2015). Drones and the martial virtue courage. *Journal of Military Ethics, 14,* 202-219.

This article explores the relationship between the martial value of courage and drone operators. Kirkpatrick critiques those who believe that the physical distance, and therefore physical safety, of drone pilots from their targets precludes them from exercising courage. He instead argues that drone pilots are not free from risk just because they are physically safe, because their role places them in danger for psychological and moral harm. Thus, Kirkpatrick argues drone operators, like their peers on the battlefield, can "possess and exercise courage" (p. 213).

Kirkpatrick organizes the essay in three parts. In the first section, he reviews virtue ethics and establishes criteria of the martial value of courage: "a soldier must have a just cause, right intention, and face risks for which they possess an understanding" (p.213). Kirkpatrick's criteria is heavily influenced by Aristotle; however, he diverges from Aristotle's iconic discussion of martial ethics in two ways. First, Kirkpatrick suggests courage may be practiced on and off the battlefield. Second, Kirkpatrick has a far more expansive view of risk than Aristotle, who only considered physical risk as a prerequisite to courage. Kirkpatrick includes "a soldier's reputation,

financial security, career, psychological health, personal relationships, and so forth" (p.205). This distinction undergirds the second section of the article, critiquing literature that excludes drone operators from the possibility of possessing courage.

As Kirkpatrick argues in the third section, although drone pilots are not placed in physical danger while engaging in warfare, they are subject to possible moral and psychological harm, fulfilling the risk criteria of courage For example, drone operators, as Kirkpatrick points out, suffer from post-traumatic stress (PTS) as often as traditional pilots. Additionally, because of the surveillance capabilities of drones, operators are often intimately knowledgeable about their targets' lives and after they initiate a strike must attentively watch the deadly aftermath. This process puts the drone operators at great moral and mental risk; thus, if they fulfill the other two criteria of courage (just cause and right intention) they may possess courage. Kirkpatrick concludes by offering a brief look in to the future, suggesting that remote warfare may continue to rise in prominence and ease, forcing us to redefine courage and rethink what virtues we ought to instill and expect in soldiers.

Kreps, S. & Kaag, J. (2012). The use of unmanned aerial vehicles in contemporary conflict: A legal and ethical analysis. *Polity, 44*(2), 260–285.

Kreps and Kaag dispute discourses of support for drone warfare that argue that drones comply with international humanitarian law principles, namely the principles of distinction and proportionality. Drone technology is often conflated with making better decisions, especially in selecting between enemies and civilians. However, technological advances do not enhance the determination of legal and ethical decisions. First, the authors discuss Just War theory, philosophical and ethical guidelines for war that were developed to balance humanitarian needs with military action. Two key tenets of Just War theory are that states should differentiate between civilians and combatants (distinction), and ensure that damage to civilians is proportional to the military advantages it creates (proportionality). These tenets are challenged by the increased intermingling of battlefields and cities, and the blurring between whether combatants are direct or indirect participants.

The authors suggest a philosophical framework to clarify the ethics of modern warfare. They argue that fact-value distinction is necessary to make ethical decisions about drones, and that ethical questions about drones are often answered with statements of fact, or information about the capabilities of these technologies. The criteria of distinction and proportionality require legal/ethical judgment about the risk posed by a combatant (i.e. are they a true combatant or a civilian) and technical/strategic competency (i.e. will violence against civilians be outweighed by military gain). The distinction between ethical commitment and technological ability lead to confusion, as defenders of drones argue that they fulfill the (technical) requirement for proportionality, conflating this with ethical decision-making required to meet the distinction criterion. The authors argue that "the determination of who is innocent is never a neutral or objective exercise," and requires value-laden decisions to be made that are beyond the capabilities of drones (p. 274).

The authors conclude that given this framework of ethics of warfare, defenders of drones overstate the technology's ability to fulfill commitments to distinction and proportionality, and that it is dangerous to assume that military technologies enhance the ability to select ethically legitimate targets.

Williams, J. (2015). Distant intimacy: Space, drones, and just war. *Ethics & International Affairs*, *29*(01), 93-110.

> "The notion of war as glorious, chivalric, or heroic, and the idea of a code of honor between combatants who are broadly equal and who compete in something like a "fair fight" modeled on a duel, are historical relics divorced from the conduct of war in an industrial and postindustrial age. It seems doubtful that war was ever like that for the vast majority of its participants, and it was certainly not so for almost all of the innocent bystanders caught up in its horrors. Asking political and military leaders to abandon technology that enhances force protection (definitely) and increases precision and proportionality (arguably) by appealing to ideals of chivalry is highly unrealistic." (p.106)

This article explores the ethics of armed drones and introduces critical geography's notion of *space* to enhance the discussion of unmanned aerial vehicles in war. Initially, Williams summarizes just war theories for and against the use of military drones, but ultimately concludes that classic just war literature is currently inadequate for discussing the ethical implications of drones. Williams argues that a closer analysis of space in drone-filled contemporary warfare may help us come to a greater understanding of the ethics of this practice. He introduces the term *distant intimacy* to describe the process by which drone operators are physically distant from their targets, but intimately knowledgeable about their lives through surveillance. Williams believes this dynamic "challenges some basic concepts typically deployed to establish, understand, and assess the ethical quality of relationships between human beings and the choices that are possible" (p.102).

Williams suggests that just war theory relies too heavily on sovereign borders in its conceptualization of space to assess the "global war on terror" and drones, which defy borders and declare war on space occupied by terrorists rather than a particular country. Combining the ideas of just war and space, Williams concludes that drones are ethically problematic in two ways. First, they eliminate the possibility of surrender by the target, thus compromising their autonomy. Second, drones call into question the reciprocity of war because the operator is not in physical danger while engaging in war. In his critique, Williams is careful not to overly romanticize the "fairness" of war and regularly qualifies his criticisms of drones, accepting that much in unknown about the process and statistics of drone strikes (largely because of U.S. secrecy). Instead, he offers a measured and short exploration of space, ethics and drones and provides some new warfare vocabulary (distant intimacy) to describe the unusual spatial relationship between drone operator and target.

Part C: Other Social Science Conversations

Birtchnell, Thomas and Chris Gibson. "Less Talk More Drone: Social Research with UAVs." *Journal of Geography in Higher Education*, 39:1 (January 2015), pp. 182-189. http://dx.doi.org/10.1080/03098265.2014.1003799.

Analysis of the impact and challenges of drones in teaching social sciences, alongside current and potential roles for UAS as data collection tools. Authors specifically focus on how UAS could be used in human geography, social research, and how methods to do so should be taught. Despite the stated outline of the article's aims, for the most part it consists of a description of a field exercise undertaken with students at the University of Wollongong, Australia, and their interest in using UAS for individual research projects on the dynamics of crowds at music festivals and other creative events (e.g., Burning Man, captured in 2013 via drone). Students voiced possibilities of using UAS for firefighting, wild animal research (e.g., sharks), effects of locomotion and transport on personal space (e.g., jogging, cycling, motoring), and how each creates a specific type of space, and how those users would interact with other classes of entities (living and mechanical) in shared spaces.

Choi-Fitzpatrick, Austin. "Drones for Good: Technological Innovations, Social Movements, and the State." *Journal of International Affairs*, volume 68, number 1 (Fall 2014), pp. 19-36.

With an increasing share of the UAS market dedicated to the general public and to increasing the technological capabilities of UAS, alongside the changes that UAS have brought to definitions of space (less horizontal, more public), the author proposes frameworks for non-state, non-commercial UAS operators. He outlines broad categories of non-military uses for UAS: Social Movements & Protests; Human Rights Monitoring; State Accountability and Conflict; Art; Corporate Accountability; Journalism; Humanitarian & Development Aid; Environment; Mapping; and Public Safety. The ease of dissemination in the digital era has changed society on range of levels, including popular (celebrity gossip) and political (Arab Spring) and the author argues that as UAS provide development of the vertical plane, they relocate boundaries of public and private from eye level to aerial.