State of the Art Report on Drone-Based Warfare

Lee-Morrison, Lila

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State of the Art Report on Drone-Based Warfare

Lila Lee-Morrision
2014

Division of Art History and Visual Studies
Department of Arts and Cultural Sciences
Lund University

Directed by
Max Liljefors
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INTRODUCTION

1.1
Drone based warfare is a contemporary phenomenon whose implementation has sparked a significant amount of debate and dialogue from a large field of academic disciplines. The aim of this report is to provide a state of the art outline on recent academic discourse that has been produced on the cultural implications of drone warfare. This report was written as a research assistant in the Division of Art History and Visual Studies in Lund University as part of ongoing research on the cultural implications of advanced visual technologies in society. This report will give an overview of three main disciplines of academic research, that have been the most prominent in producing discourse that analyzes the cultural landscape in which drone warfare operates. These fields are Law, Political Science and Geography. Although, each are distinct in their approach, the discourse concerning drone warfare is found to be extremely interdisciplinary, with central arguments and concepts that cut through all three disciplines. This report will begin by summarizing the issue of drone warfare and delineating the context in which it has developed. This will open up a discussion into the role of the media in regards to academic discourse. It will then move on to an overview of some of the central arguments found in the discourse of each discipline separated into three chapters. It will conclude with a summary and a discussion for possibilities of further research in the field from the discipline of visual studies, and how it may contribute greatly to this discourse.

DRONE WARFARE – BACKGROUND

1.2
Drone warfare refers to the use of unmanned aerial vehicles, (referred to as UAV’s in military terminology) on the battlefield. Their use has increasingly proliferated in the U.S. lead ‘War on Terror’ and has emerged as a premier weapon against an enemy that is both stateless and mobile. UAV’s are operated remotely from the ground, allowing for the geographical separation of the drone operator, the battlefield and those being targeted by the drone. They are essentially the result of aircraft merged with advanced visual technologies that have the capacity to capture realtime video of the battlefield, with some drones such as the ‘Predator’, having also the capacity to launch strikes through two attached hellfire missiles.
The ability to launch strikes from a distance is not new with weapons such as the V-2 long-range ballistic missiles used in WWII. The concept of unmanned flight has been around for a century, with the widespread use of unmanned planes utilized by the military for the last two decades. The first modern drone equipped for real-time surveillance was developed and used by the Israeli military in 1982 during the Lebanon War against Syria. Utilized as decoys, as well as for surveillance, drones allowed for the IDF’s ability to successfully neutralize all Syrian air defenses with only one Israeli aircraft shot down.\(^1\) This exhibit of an asymmetrical capacity through the use of a drone, was recognized by the U.S. The unprecedented aspect of drone based warfare, utilized in the present context of the War on Terror, is its ability to directly replace physical engagement in the theatre of war, allowing for engagement to exist primarily through a monitor screen, in other words taking the human body out of the war zone. This ‘remote controlled’ engagement in battle has lead to drones symbolizing the most notable sign of the emergence of what is referred to as robot warfare.\(^2\) This capacity has been argued to have altered the form and shape of war from multitudes of soldiers engaged on one physical battlefield, to the singular scope of targeted killings launched from hundreds of miles away. It can be understood that drone attacks emerge as a technological counter to suicide bombings, the preferred weapon of terrorists in the War on Terror. Rather than the personal risk and associated martyrdom of suicide bombings, the drone’s anonymity and distance from the carnage, make it so that there is no personal risk on the part of its operators. This aspect has lead analysts to question whether this form of engagement could even be called war, at all.\(^3\)

The use of drones became increasingly relied upon by the United States during the 1991 Gulf War. It is reported that, ‘At least one UAV was airborne at all times during Desert Storm.’\(^4\) During the Gulf War, the Pioneer UAV was used primarily as long distance vision for targeting and mapping an area for steering missiles. It also provided live coverage during and after the launching of attacks, to

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assess the damage. As was reported at the time, ‘During the last week of the Gulf War, thousands of Iraqis surrendered... One of the most unusual surrenders took place when a Pioneer remotely-piloted vehicle droned above the battlefield, surveying potential targets. Five Iraqi soldiers waved white flags at its tiny television camera. It was the first time in history that men surrendered to a robot.’ Since then, in a post 9/11 geopolitical landscape with the growing global battlefield of the War on Terror, the U.S. has increasingly employed drone technology in varying capabilities. Presently, U.S. drone operations are carried out by two agencies, the U.S. Air Force and the CIA. The covert missions of the CIA have become a central source of controversy concerning drone warfare, due to their clandestine operations involving targeted assassinations of individuals and/or groups occurring in territories that the U.S. are not officially at war with, and on targets whose identities are hidden from the general public. These attacks by the CIA occur under a blanket of secrecy and in regions that are difficult to access by media or any outside regulatory agencies. They have thus far primarily taken place on the contested Afghanistan and Pakistan border, also known under the military acronym, AF-PAK, in regions such as North Waziristan. CIA drone operations have expanded to other localized conflicts where insurgents are supported and connected to the Al Qaeda network, most recently in the countries of Yemen and Somalia.

**MEDIA ACTORS**

1.3

Because of the highly classified secrecy surrounding drone operations of the CIA, the media have become a vital tool in countering this secrecy through the collection and dissemination of information regarding these operations. By media, this report refers to print news reports by investigative journalists, online publications, radio and TV outlets, documentary films, and field reports conducted by independent researchers, academics, as well as NGOs. Many of the emerging arguments within academic discourse concerning drone warfare are based on the question of the (il)legality of targeted killings by CIA drone operations. Research into this subject thereby relies on factual information concerning these covert operations. The examples of media sources outlined below provide information as well as context

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\(^5\) ibid.
and retroactive archival data on drone operations and support analysis into its political, legal and regional ramifications.

The latest information on drone strikes can be found through online publications, which are usually updated daily. An example is the online publication titled, *The Long War Journal*. This site provides maps and chart analysis on issues such as the direction and progress of strikes by region and civilian casualties vs. Taliban/al Qaeda casualties of drone attacks. The researchers of the site work to document, collect and disseminate information about CIA operations from the field. Another online site called *The Center for the Drone* provides links to up to date global news reports on drones and is produced by students and scholars at Bard College. This site also provides a forum and resource for scholars and artists on interdisciplinary research concerning anything pertaining to drones. The interactive sight, *Out of Sight, Out of Mind* provides an updated visual map on drone strikes by the U.S. from 2004 to the present. The interactive map relies on a dataset maintained by the Bureau of Investigative Journalism and also indicates the amount of victims from each attack, visually separating this information into civilian deaths, children deaths, high profile target deaths, and finally the total amount of deaths of each attack. Published field reports conducted by NGO’s and scholars within academia have been another major source of information. Three major reports were conducted and published by Human Rights Watch, Amnesty International, and the International Human Rights & Conflict Resolution Clinic at Stanford Law School. They have each focused on investigating civilian casualties and the effects that drones have on the society and individuals living in regions, where drones frequently operate. They each provide substantiated evidence of the collateral damage of drone warfare conducted by the CIA.

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Investigative journalism on drone operations carried out by the U.S. military, where information has been relatively transparent compared to the CIA operations, has also provided vital information into how drones operate, in general and more importantly, how they sometimes do not operate, as planned. David S. Cloud of the Los Angeles Times reported on a drone operation gone wrong in his article, ‘Combat by Camera: Anatomy of an Afghan war tragedy.’ This thoroughly investigated article not only shed light into how drone operations are conducted, with multiple actors and screeners involved in the kill chain, but also provided information on the precarious nature of targeting by drone. This particular article and incident became a source and basis for various scholarly research into drone warfare.

RESEARCH AND DISCOURSE

2.1

In the last two years alone there have been an explosion of published academic research concerning the practices of contemporary drone warfare. This report will cover the academic discourse specifically on its cultural ramifications, translating the significance of drone warfare in a societal context. The topic of drone warfare remains an unfolding and fluid discourse, not in the least because of its growing contexts of application and the seemingly lack of precedence and juridical and political mechanisms to regulate its use. As legal scholar Paul Kahn succinctly states, describing the fundamental departures of drone based warfare, ‘First, gone are long-established ideas about the place or time of combat. Secondly, gone is the traditional idea of the combatant. The drone targets a particular individual… Thirdly, gone is an idea of combat as reciprocal risk.’ These three features of drone based warfare result in far-reaching consequences that are analyzed in the following discourse. The disciplines of international law, political science and geography often inform, draw and reflect upon one another, in order to fully describe the scope of this phenomenon. This report will however distinguish the arguments within each field,

12 Kahn, p. 200.
describing aspects of drones that emerge from the specific focus of each area of study. A primary source of discourse, that is most often referred to and frames many of the arguments throughout, is that from the juridical field. The tenets of international law are often referenced in defining the boundaries (and/or lack of boundaries) of drone technology. It therefore seems a good starting point from which to enter the overview of cultural discourse on drone warfare.

**LAW**

2.2

Legal discourse has centered on the ‘how, what, and where’ of applying mandates of international law on the practice of state-sponsored lethal force by drone. Two main issues come forth as the main objects of debate. The first issue concerns the legal status of those being targeted. Are they treated as enemies of the state or criminals of the law under drone operations? The blurring between these two statuses opens up a wider debate by juridical scholars on the reach of sovereignty and possible breakdown of imaginative political structures. The second issue questions whether this phenomenon of targeted killing by drone is a new practice at all.

The first issue is the questionable legal status of the individuals targeted in CIA drone operations and the corresponding arguments that derive from this ambiguity. These attacks are often directed against targets that are not declared enemies of the state. Often their identities are classified and unknown by anyone outside of the CIA and the executive branch. The ambiguity and secrecy surrounding targeted killings has made it difficult to define the legal status of those targeted. There are two international legal frameworks, which apply in the practice of lethal force by the state. International humanitarian law (IHL) applies to armed conflicts, whereas human rights law (HRL) applies to law enforcement. They differ in the level of thresholds by which the state must abide in justifying the use of lethal force. Both human rights activists and juridical scholars have argued against the legal ambiguity of the CIA operations in the territories of Yemen, Pakistan and Somalia and against the secrecy over the identities of those targeted.

A primary source of discourse in which the discussion of the application of these legal frameworks on CIA targeted killings takes place, is the published reports referred to earlier, by the human rights non-governmental organizations Human
Rights Watch, with their report titled, *Between a Drone and Al Qaeda: The Civilian Cost of US Targeted Killings in Yemen*, and Amnesty International, with their report titled, *Will I Be Next?: US Drone Strikes in Pakistan*. Here it is important to note that NGO’s in general, have played a large role on producing the leading discourse for implementing international legal frameworks. They have been instrumental in promoting and establishing international norms for international human rights, through such actions as documenting violations and lobbying for effective enforcement as well as having consultative status to the United Nations.\(^{13}\) Included in these reports are case studies on drone operations by the CIA, in which the agencies’ researchers have collected substantial evidence of these attacks, including interviews with local residents about the background and identity of the target, interviews with those present during drone attacks, and families of civilian casualties, as well as investigative fieldwork on the scenes of the attack. In providing names and faces to civilian casualties as well as questioning the combatant status of those targeted in CIA drone operations, these particular reports have directly worked to undermine the myth of ’surgical precision’ of drones that has been so dominant in the rhetoric of the U.S. government.\(^{14}\) They have found in many instances that targets were not sufficiently proven to be identified as either a state or non state actor involved in an armed conflict with the U.S thereby finding clear violations of the mandates of international law and causing, ‘arbitrary deprivation of life.’\(^{15}\) Both reports place at the top of their list of recommendations to the U.S. government, a transparency over drone strikes in order to make these strikes applicable to the legal frameworks of international law.\(^{16}\) They point directly to IHRL and IHL as the international legal armatures by which the U.S. must clearly distinguish which of these frameworks apply to targeted killings. They describe the boundaries proposed by these laws, referencing them to frame what they have found to be illegal drone strikes conducted by the CIA.


\[^{15}\] Amnesty International, p. 43.

This blurred distinction of the status of the target between an enemy and a criminal has been promulgated by the U.S. through the mediated rhetoric of both President Obama and President George W. Bush. Concerning Yemen, the U.S. has described their actions as not being a part of the local civil war, and thereby not part of an armed conflict.\textsuperscript{17} Statements made by President Obama on May 2013 about the situation in Yemen describe drone policy standards that reflect a law enforcement model, according to which the U.S. will only conduct strikes against individuals who pose ‘an imminent threat to the American people’. Obama further stated, that the U.S. ‘does not take strikes when we have the ability to capture individual terrorists; our preference is to detain, interrogate, and prosecute.’\textsuperscript{18} In describing the War on Terror in 2003, President George W. Bush stated, ‘We’re at war in a different kind of war. It’s a war that requires us to be on an international manhunt.’\textsuperscript{19} This statement refers to war as a global policing policy. French philosopher Gregoire Chamayou references this statement by Bush, when he describes that this rhetoric was converted into a state doctrine of non-conventional violence that blurred the boundaries between military and police operations by combining elements of both without fully corresponding to the guidelines of either.\textsuperscript{20} This ambiguity over the status of the targeted as enemy or criminal, is argued by juridical scholars as connecting to a larger shift in conventional military operations to the development of a global and possibly permanent policing operation. A statement in the Human Rights Report describes the fundamental issue that underlies this blurriness: ‘While the deployment of military forces by a state against a non-state armed group is a factor in determining whether an armed conflict exists, the genuine need to use that level of force is crucial; otherwise a state could turn any criminal activity into a ‘war’–indeed any criminal into a military target–simply by responding with high levels of force.’\textsuperscript{21}

Legal scholar Paul W. Kahn, in his article, ‘Imagining Warfare,’ describes in more nuanced detail, what he refers to as the ‘stable imaginative structure’ that lies...
behind the conceptual distinctions between the enemy and the criminal. This distinction, Kahn argues, is fundamental to the political imaginary, as he outlines its many connections to the concept of sovereignty and its role as an organizing principle of institutions and actions.\(^\text{22}\) He states, ‘The use of drones signals a zone of exception to law that cannot claim sovereign warrant. It represents statecraft as the administration of death.’\(^\text{23}\) Kahn outlines that criminals are individuals under the law, punished for actions they have already done, while enemies are representative of an entity and can be killed based solely on their status as part of a contingent, rather than on individual actions. Yet, the circumstances of the War on Terror, Kahn argues, contradict the distinction between combatant and non–combatant that is found in IHL. He states:

The message conveyed is that political identity alone is a ground for killing and being killed. Sending that message is the contemporary form of the declaration of war. Perception of the message turns the victim into the sacrificial body of the state, and the terrorist into the enemy.\(^\text{24}\)

International law scholar Nils Melzer questions the paradoxical nature of the legal distinction that gets triggered when applied in the context of the War on Terror:

Thus, the myth that the ‘war on terrorism’ represents an armed conflict is necessarily followed by the misconception of ‘terrorists’ as legitimate military objectives. The consequences of these unwarranted presuppositions are further aggravated by the unfortunate misreading of the law of hostilities as granting, on the one hand, an unfettered ‘licence to kill’ with regard to individual enemies, but also as prohibiting, on the other hand, the use of lethal force under the law enforcement paradigm against persons protected against direct attack… The danger of targeted killing lies much less in the method as such than in the myths and misconceptions which surround it.\(^\text{25}\)

\(^{22}\) Kahn, p. 205.
\(^{23}\) Kahn, p. 226.
\(^{24}\) Kahn, p. 217.
As is described, legal scholars have found international legal frameworks and its distinctions to be inadequate in the context of targeted killings by drones in the war on terror.

Professor of European Legal History Samuel Moyn brings up an interesting counter-perspective on the phenomenon of drone warfare, placing it within an historical context. He argues, that rather than an entirely new shift in the legal and political paradigm, the political logic behind drone–based warfare represents a continuity with old patterns and practices. In an article in *The European Journal of International Law*, responding to the article by Kahn referred to above, Moyn finds that Kahn’s description of drone violence as a ‘zone of exception to law’ is not indicative of a new form of violence but rather a continuous practice which has existed in a previous form, in what he calls irregular and peripheral warfare, such as targeted assassinations carried out by the CIA or other covert military forces and in colonial warfare.\(^\text{26}\) He argues that the elements of asymmetrical warfare and an absence of specificity when it came to distinguishing between criminal and enemy were all blatantly existent in colonial history. Moyn compares the contemporary situation of post 9/11 with counterinsurgent tactics employed during previous conflicts, as he states:

> More generally, relying on often spectacular technologically-driven asymmetry, Americans deployed counterinsurgent techniques serially; indeed, many of them were actively revived after 9/11 from the American experience rather than generated afresh to deal with wholly novel realities.\(^\text{27}\)

Moyn argues that the novelty of drones is not primarily in the practice of targeted killing and its corresponding arguments on the status of those targeted or the context of the conflict, but rather the coupling of humanitarian norms with forms of irregular

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\(^\text{26}\) Further associations of drone warfare with colonial warfare see:

D. Gregory, ‘From A View To A Kill: Drones And Late Modern War,’ *Theory, Culture And Society*, vol. 28, no. 7-8, 2011, p. 188-215.


P. Satia, ‘From Colonial Air Attacks to Drones in Pakistan’, *New Perspectives Quarterly*, vol. 26, no. 3, p. 34-37.

\(^\text{27}\) Moyn, p. 230.
warfare that were once below the threshold of law, in other words, not subject to laws of armed conflict or law enforcement. As Moyn states,

…it is not the factual circumstances of conflict introduced by technological superiority in counterinsurgent circumstances, so much as that human rights norms have got so far in rescripting these conflicts in a new normative framework… It is because of a complex normative change in which a familiar form of warfare is waged under normative expectations that were once totally absent from it.²⁸

In other words, where Kahn and many other legal scholars see targeted killings by drones as a new form of armed aggression that destabilizes legal definitions, Moyn sees in the current debate a progression of human rights’ norms bringing hitherto unfettered forms of aggression (of which drone attacks are just a variant) under legal scrutiny.

POLITICAL SCIENCE
2.3

Political philosophy is closely intertwined with the juridical field, in that it provides the theoretical foundation that grounds much of the juridical arguments on the legality of drone warfare. Consequently, the outcome of decisions produced through court cases can also directly affect the implementation of political power. Therefore, political discourse on drone warfare emerges as much from the juridical field of academic inquiry, as in the fields of political science and international relations, as is conveyed in the following overview. Discourse on drone warfare from a political science perspective distinctively focuses on its role in affecting and possibly transforming the processes of governing, both in a domestic and international arena. This discourse also reflects the current events that emerge from media sources, such as the investigative reporting done on leaked Department of Justice ‘white papers,’²⁹ coverage of the statements made on drone operations by the White House, and reporting on the controversial death by drone strike of an American citizen, Anwar

²⁸ Moyn, p. 231.
al-Awlaki. The coverage of these events provides information for deeper analysis on the shifting processes of political engagement, brought about by drone warfare.

An argument against drone warfare made by political scholars, concerns the covert CIA operations and its role in undermining the democratic processes of governing, as a result of removing the human body from engaging directly in warfare. Foreign policy scholar Peter Singer among others, argue that this occurs through two channels; one through the divorcing of the public from knowledge and thereby, participation in the choices made in acts of war by their own state, and secondly, through the overreach of the executive branch. Singer states,

…now we possess a technology that removes the last political barriers to war… when politicians can avoid the political consequences of the condolence letter—and the impact that military casualties have on voters and on the news media—they no longer treat the previously weighty matters of war and peace the same way.31

He argues that drones falsely present a war without risk and through this, they are able to operate under a veil of concealment. Without the public’s connection to war, that is, through themselves or through their relatives and friends experiencing the risks of warfare, the public is no longer a possible source of resistance towards their country’s war actions. Reporting on the risks of the CIA’s drone program, investigative reporter Jane Meyer states, ‘Cut off from the realities of the bombings in Pakistan, Americans have been insulated from the human toll, as well as from the political and the moral consequences.’ She goes on to quote Professor of Law Mary Dudziak: ‘Drones are a technological step that further isolates the American people from military action, undermining political checks on . . . endless war.’32 This disconnect between a public acknowledgement of its country’s acts and costs of war, is argued to lead to the breakdown of accountability of the government towards its

people, a central tenet of democratic processes. Defence studies scholars Richard Adams and Chris Barrie further explain,

Citizens, of course, do not declare war. They may be able to veto military operations at the ballot box, though usually only after a declared conflict has exacted a terrific cost. Even so, in modern mass democracies, the consent of the people remains a critical condition of war’s legitimacy… at a critical level, public consent for war depends upon the manifest and meaningful accountability of legitimate authority. The drone campaign, which is concealed by political bureaucracy, fails to meet any standard of accountability.33

In a fundamental sense, this argument displays that through covert CIA drone operations, the legitimacy of the government itself, in its authoritative role, becomes threatened.

Taking bodies out of war, at least from one side of the conflict, produces another channel argued to undermine the processes of democracy. The decision to launch drone attacks can be singularly approved by the executive branch alone, precisely because it does not put its soldiers’ lives at risk.34 This centralized power, short-circuits the decision-making processes of war, bypassing the structure of checks and balances within the branches of government, set by the American constitution. This overreach of the executive branch was put under a media spotlight when the target of a drone attack in 2011 was the American citizen Anwar al-Awlaki. This example of enforcing lethal force on a U.S. citizen without due process, had scholars declaring the unconstitutionality of the killing, calling it an extrajudicial execution rather than an act of war.35 Out of this debate over the constitutional basis of the killing, came a growing acknowledgement over the centralized power of the executive branch, to singularly carry out and approve drone attacks without congressional oversight or oversight or any other branch, for that

33 Adams and Barrie, p. 252-3.
34 Singer, NYTimes.
J. Mayer, New Yorker.
matter. An interesting analysis over the relationship between the political and the juridical spheres emerged in a published debate by two juridical scholars, over the case brought to the U.S. district court by al-Awlaki’s father, on the legality of his son being on a list for targeted killing. Professor of Law Kevin J. Heller quotes Judge Bates, who had dismissed the case by al-Awlaki’s father:

Because decision-making in the realm of military and foreign affairs is textually committed to the political branches, and because courts are functionally ill-equipped to make the types of complex policy judgments that would be required to adjudicate the merits of plaintiff’s claims, the Court finds that the political question doctrine bars judicial resolution of this case.36

Heller argues, that this statement, which essentially ‘passes the buck’, directly refutes Judge Bates’ insistence, that the Executive does not possess, ‘unreviewable authority to order the assassination of any American whom he labels an enemy of the state’.37 In other words, the juridical branch, through the dismissal of the case brought by al-Awlaki’s father, essentially defers from balancing the power of the executive branch through judicial ruling, in the case of targeted killings by drones.

Drone warfare has also been argued to destabilize processes of governing in the context of international relations. Drone operations have been a central source of controversy in relations between the US and countries where the CIA have operated their clandestine drone operations. The argument by political scholars has been that drone warfare actually works against future international diplomacy by undermining the legitimacy of the governments in which the U.S. are trying to prop up.38 As political scholar, Michael Boyle states in regards to CIA operations in Yemen, Pakistan and Somalia, ‘In this respect, American counterterrorism policy operates at cross-purposes: it provides a steady flow of arms and financial resources to governments whose legitimacy it systematically undermines by conducting unilateral drone strikes on their territory.’39 Boyle argues that the U.S. needs the local

37 Dehn and Heller, p. 186.
governments to appear strong and legitimate in order to provide security measures against the insurgents, yet as their legitimacy is undermined by the allowance of foreign covert drone operations in their autonomous territory, so is their ability to control the conflicts within their borders.

An aspect of the destabilizing effect of drone warfare that has garnered considerable attention by scholars is the counter effect of anti-insurgent drone strikes, known as ‘blowback’. Blowback in the context of drone warfare has been described by Professor of International Law Kenneth Anderson as, ‘the anger of villagers whose civilian relatives have been killed, for instance, or the resentment among larger populations in Pakistan or Yemen over drone strikes. This leads to radicalization and membership recruitment where the strikes take place.’\(^{40}\) International Affairs scholar Hassan Masood further describes the adverse effects of lethal drone attacks on civilians in Pakistan:

New adversaries are created in the ‘accidental guerilla’ phenomenon, wherein non-militants who are victimized by the drone strikes personally or tangentially and are motivated to become militants to oppose the United States’ campaign by force instead of just rhetorically.\(^{41}\)

Blowback has been particularly paid attention to with regards to Yemen, where the U.S. involvement in routing out members of Al Qaeda enmeshes them within the local civil war. As reported on by Boyle, a prominent Yemeni youth activist, Ibrahim Mothana, states, ‘drone strikes are causing more and more Yemenis to hate America and join radical militants; they are not driven by ideology but rather by a sense of revenge and despair.’ \(^{42}\) In addition to international diplomacy, it is clear from these arguments that the collateral damage of drone strikes has contributed to destabilizing effects in regional governing. The arguments made against drone warfare in the context of international relations refer to a long–term perspective, considering the consequences for the future of both global and localized political stability.

**GEOGRAPHY**

\(^{40}\) Anderson, p. 18.


A more contemporary discipline of academic research on drone warfare is found within geography, in the two subfields of cultural and critical geography. The discourse concerning drone warfare en\-velops an interdisciplinary approach drawing on geopolitical contexts to analyze shifting notions of territory and focuses on the ability of drone technology to construct new spatial relationships. Geography scholars such as Derek Gregory approach their analysis on drone warfare through the concept of ‘imaginative geography’,\textsuperscript{43} which refers to geographical spaces understood as social constructions.\textsuperscript{44} A source of extended analysis concerning imaginative geographies and technologies of the military industrial complex is the art and writings of geography scholar and artist Trevor Paglen. An example of this is the following quote by Paglen, referenced by Gregory, in a reflection on ‘drone geographies’, where,

\begin{quote}
...drones create its own ‘relative’ geographies, folding several noncontiguous spaces around the globe into a single, distributed, ‘battlefield.’ The folding of space-time that the Reaper drone system enables is … the ability to capitalize on the speed of new transportation and communications technologies to bring disparate spaces ‘closer’ together, relatively speaking.\textsuperscript{45}
\end{quote}

Much of the discourse on drone warfare through a geography perspective come from articles published in academic journals of cultural and critical geography, a main one being \textit{Antipode}, as well as more general geographic academic journals such as \textit{The Geographical Journal}. Gregory also provides a prolific source of cultural analysis into drone warfare with his blog \textit{Geographical Imaginations}, which has major up-to-date coverage on a wide range of research pertaining to drone warfare.\textsuperscript{46}


\textsuperscript{44} ‘Just as none of us is outside or beyond geography, none of us is completely free from the struggle over geography. That struggle is complex and interesting because it is not only about soldiers and cannons but also about ideas, about forms, about images and imaginings.’ E. Said, \textit{Culture and Imperialism}, London, Vintage, 1994, p. 7. quoted in D. Gregory, \textit{Progress in Human Geography}, p. 447.


\textsuperscript{46} D. Gregory, \textit{geographical imaginations: war, space, security}, [web blog], \url{geographicalimaginations.com}, (accessed 12 May 2014).
One of the most pervasive arguments found in geographical discourse is on the role of drone warfare to transform notions of territory, specifically concerning the frontier of U.S. homeland security. Scholar of Ethnic Studies Keith Feldman describes the practices of ‘ubiquitous bordering’ when he states,

The US homeland security state… propagates zones of differentiated inclusion and exclusion that comprise the geographic warp and weft of globalized warfare. …the extension of bordering processes outside the geography of the nation-state creates flexible biopolitical zones capable of traversing the globe, in which certain subjects … are invited to occupy categories of life and wield power over the lives of others, while others are banished from sociality to the point of death.47

This is achieved, Feldman argues, through the visual logic of drone technology, what Feldman describes as its ‘vertical vector’.48 This ‘vertical vector’ is able to challenge notions of fixed state territorial autonomy and national borders and can render the space of the battlefield as boundary-less.49 Gregory, quoting urbanism scholar Stephen Graham, further describes this phenomenon as, ‘the everywhere war…the replacement of the concept of the battlefield in US military doctrine by the multi-scalar, multi-dimensional 'battlespace' with 'no front or back' and where 'everything becomes a site of permanent war.'50 This expansive domination over territory through drone technology corresponds with an ideology set forth through the War on Terror. President George W. Bush stated, ‘We are taking the fight to these terrorists so we don’t have to fight them in the streets of our own cities.’51 This quote underlies the concept of a limitless reach of ‘homeland security,’ extending well beyond the physical borders of the ‘homeland.’ This notion of bypassing borders by the U.S extending its own autonomy and ignoring that of others is most aptly implemented through the occupation of airspace. Drones operate as apart of a networked warfare, i.e., through a landscape of satellite communications and the instantaneous sending of information, altering the possibility for preemption and

47 Feldman, p. 327-328.
48 Feldman, p. 329.
49 Feldman, p. 329.
51 Feldman, p. 330.
engagement in territories of global proportions. These technologically constructed geographies of warfare are contorting the distinction between the domestic home front and sites of a foreign battle. Through drone technology the drone operator can engage in a foreign battle from within the borders of his/her nation state. The concept of autonomy and determinate borders become arbitrary through the employment of drone technology and its treatment of territory.

Geography scholars Ian Shaw and Majed Akhter have argued that the application of drones in the area of the Federally Administered Tribal Areas (FATA) of Pakistan, on the border with Afghanistan, a heavily if not the heaviest drone-trafficked area to date in CIA–led drone warfare, takes advantage of this historically politically ambiguous and lawless territory. The region where the majority of CIA operations have taken place, the FATA region between Afghanistan and Pakistan, is considered a ‘zone of exception,’ that is, a region with a history of existing outside the sovereign reach of the Pakistani (and Afghani) government, where its ‘geo-legal logics’ remain the same from the effects of the British colonial empire, previous to any drone implementation over it. It is an area that has historically fallen outside the protection and jurisdiction of the state, therefore leaving it vulnerable to unmitigated violence and torture in the present day. Shaw and Akhter quote the work of Gregory, ‘…this performative spacing works through the law to annul the law…a process of juridical othering…(where) politico-juridical instruments (are used) to exempt categories of people from the responsibilities or the protections of the law.’ This reflects a geopolitical landscape in which drones operate most effectively, as antithetical to the structures of state sovereignty and diplomacy. Shaw and Akhter further describe this geographical practice as a site of ‘juridical othering’, and understand it to be highly conducive to operations of drone warfare. These scholars cross academic disciplines in approaching the contemporary site of warfare as a territory produced through the shifting of wider political and juridical processes,

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54 Shaw and Akhter, p. 1491.
55 Shaw and Akhter, p. 1503.
what they have termed as ‘a topology of technology and law.’ They thereby recognize the arbitrary nature of borders as based on the corresponding relationships between technology, territory and law.

**CONCLUSION**

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This report has accounted for some of the central critical perspectives on the cultural and societal implications of drone technologies in warfare. This contemporary phenomenon, as outlined above, has been understood to have caused considerable transformations in multiple fields. The consistent interdisciplinary approach reflects the newness of this phenomenon, not easily fitting into any one field of research but instead exposing interdependency between disciplines. What has not been covered in this report is academic research into the increasing use of drones outside the context of military applications, in commercial and private domains. Drones are presently being tested to be utilized within a search and rescue capacity, both in natural disasters and in border control. They are being tested to use for commercial purposes, such as providing 360° views for selling real estate, and for online shopping deliveries for websites such as Amazon. Drone technology is being utilized for environmental protection, in whale watching, recording migration of polar bears, and coral reef protection as well as beach restoration. Drones are also being tested in a journalism capacity to provide realtime coverage of events. It is clear that their presence is growing outside the context of warfare and into multiple arenas of society. These developments are contingent on the loosening of government regulations both on airspace and privacy and again refer to the legal parameters in which drones can operate.

An aspect of drone warfare that has not been the central focus thus far in these fields, yet plays an important role in the production and operation of drone warfare, is the visual apparatuses of drones. As the primary interface between human and machine, the imaging technologies of drones intervene and produce the data through which all engagement occurs. The agency that develops technology for the military industrial complex, Defense Advanced Research Projects Agency, (DARPA),

57 Shaw and Akhter, p. 1504.
58 For more on drone use in journalism see, [http://www.dronejournalismlab.org](http://www.dronejournalismlab.org)
continues to advance the visual technologies of drones; technologies, which can replace the cognitive reasoning of human vision through processes of algorithmic pattern recognition. The field of visual culture studies is in an advantageous position to explore and articulate the contexts of these visual apparatuses as well as the role of visibility with its cultural and societal implications. Based on the progression of imaging advancements in drone technology and the growing contexts of its applications in society, I suggest that scholarly research from a visual studies perspective can contribute new and fruitful knowledge to the cultural discourse on drone warfare.

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