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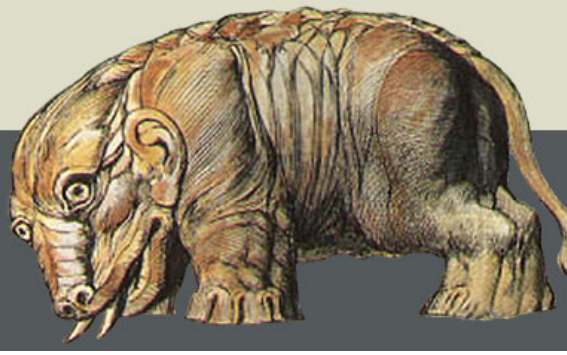

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GAME CHANGER?
ON THE EPISTEMOLOGY, ONTOLOGY AND POLITICS OF DRONES.

Susanne Krasmann, Jutta Weber

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Mitteilung der Herausgeberinnen und Herausgeber

Die Redaktion des Behemoth hat zum Oktober 2015 gewechselt. Wir danken der bisherigen Redakteurin *Alexandra Hees*, die als Promovendin ans Max-Planck-Institut für Gesellschaftsforschung in Köln gewechselt ist, für ihr Engagement in den letzten zwei Jahren. Sie hat den Wechsel der Zeitschrift nach Freiburg maßgeblich gestaltet. Neuer Redakteur ist *Leon Wolff*. Wir freuen uns auf die Zusammenarbeit.

Die nächste Ausgabe mit dem Schwerpunktthema „Störungen“ wird im Frühjahr 2016 erscheinen.

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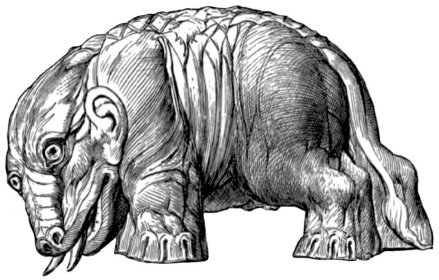
Editorial

Susanne Krasmann, Jutta Weber

Drones are "the only game in town." With these words CIA Director Leon Panetta famously endorsed President Obama's counterinsurgency strategy as he spoke before the Pacific Council on International Policy in Los Angeles in 2009. In a rare public acknowledgment of US air strikes in the tribal regions in Pakistan, Panetta insisted that he couldn't discuss specifics due to the "covert and secret" nature of the operations. "But I can assure you", he continued, "that in terms of that particular area, [the drone] is very precise and it is very limited in terms of collateral damage and, very frankly, it's the only game in town in terms of confronting and trying to disrupt the al-Qaeda leadership." (Panetta 2009; CNN 2009)

Indeed, drone technology has been widely perceived to be a "game changer" (Kahn 2013, 200). In the context of counterinsurgency or the combat of terrorism, for example, it is deemed to combine "accurate targeting capability with real-time intelligence", and to "produce an insurmountable, asymmetrical advantage: the capacity to kill literally anywhere and at any time without exposure to risk." (Kahn 2013, 200) What the drone changes, then, seems to be the time-space relation, and what is appreciated about it, is its mobility and versatility, its being smart and technologically connected and, not least, its being uninhabited. But in the eye of the critics, it is precisely these strategic and tactical advantages that constitute the problem: the drone makes tracking down ever more targets possible literally anywhere and anytime, without exposure to risk (Sauer and Schoernig 2012; Zenko/Kreps 2014). The promise of precision deploys its own logic and story of success (Krasmann 2016; Weber 2009). The presumed precision of drones also is made into an argument to justify aerial bombings in "cities under siege" such as Damascus, Baghdad or Gaza City even as 21st century warfare has turned out to be predominantly asymmetric and therefore urban (Boyle 2013; Graham 2011; Weizman 2006; 2011). What, then, does it mean to consider drone technology as a game changer? What game and whose game is it that changes its nature? For President Obama and CIA director Leon Panetta, it is the war on terror for which the drone has shown substantial strategic advantages (see Klaidman 2012, 121). As critics observed, however,



this advantage meant anything but a strategical shift from a highly contested practice of indefinite detention and torture in the combat of terrorism after the terror attacks of 11 September 2001 towards a governmental practice of killing terror suspects through air strikes abroad (Proulx 2005; Wittes 2010). This practice still is highly contested both morally and legally. Just to mention some of the burning questions: how can terror suspects be killed without trial; how can they pose such a substantial threat while staying overseas thousands of miles from the United States; how and where is there an armed conflict that could justify targeted lethal interventions by whom and against whom; what are the criteria of targetability? (For a critical assessment of the implications of this debate, see Allinson 2015; also Gholiagha, this issue).

What constitutes the game changer hinges not merely on the technology itself, for example, what it allows us to do, how it modifies our view and our realm of access or action, and how it changes established practices or facilitates the emergence of new ones. The change rather always already takes place within a particular game defined by certain epistemological, legal, political, cultural or strategic coordinates. The game itself is located within a particular regime of truth (Foucault 1972) that renders it decipherable, tangible, and sayable in the first place. What kind of game we address and which coordinates we deem to be relevant thereby says a lot about our own ambitions: of fighting terrorism while respecting certain legal and moral norms, for example, as well as about our self-understanding, for example, as ethical and humane selves. Drones, we may even contend, are already made for contemporary warfare: the promise of precision, for one, allows for connecting the technology with the notion of "targeted killing". It evokes a humanitarian discourse – and the liberal desire of a limited use of force. The practice of targeted killing in turn changes the understanding of what counts as legitimate or legal forms of state sponsored killing – to the extent that it relocates the relevance of pertinent legal norms or bodies of law, such as the distinction between warfare or law enforcement (Gunneflo 2014; Krasmann 2012; 2016; Walters 2014).

In order to capture the performative power of drones, and the practice of targeted killing, we should therefore inquire the newness of the sociotechnical constellation. As Armin Krishnan (this issue) observes, it is not that drones are merely unmanned, as these kinds of aircrafts were already in use as far back as World War I, and the threat of atomic missiles shaped the Cold War period; neither is it simply the degree of accuracy drones may achieve. What is new rather is the complexity of a technology that is interlinked with an advanced surveillance technology, with satellite imageries that enable a new view and vision from above (Adey et al. 2013) and that are part of a networked control and command structure (Niva 2013). Rather than merely changing the nature of war, "it is the transformed nature of [networked warfare] that makes unmanned systems technology [...] so relevant today." (Krishnan, this issue) Network-centric warfare substitutes the Cold War politics of deterrence and balance of power with a focus on high-tech supremacy via information sovereignty. It is based

on the close networking of information technologies (see also Cebrowski/Garstka 1998; Arquilla/Ronfeldt 1996) that operate on the basis of robots, data mining and small, dispersed and flexible troops bound together with a Global Information Grid – "initiating a whole-scale re-thinking of the very basis of military organization, doctrine, force requirements, procurement policies, training and operational concepts." (Dillon 2002, 73) What is more, this transformed nature of a networked form of warfare is by itself already a response to and game changer of the identified nature of the threat: of insurgent groups interpreted as terrorist networks (Belcher 2014; Zebrowski 2009). The network doctrine as a *Weltanschauung* and "secularized cosmological vision" assumes that "the entirety of the human and non-human chain of being as one [is] wholly comprised of networks and dynamic relations systems – agents, clusters, lattices, and randomness abound." (Belcher 2014: 169; Dillon 2007)

Drone technology provides access to military as well as civilian air space and territory in a previous unknown way. As Kristin Sandvik (this issue) reminds us, drone technology used in the Global South and especially in Africa is not only "subject to political contestation and to the realities of professionalism, finance, and politics [...] but it is also shaped by the continent's historical legacy of technological imperialism and colonial airpower." Lowering the cost of "penetrating, conquering and exploiting new territory were among the preconditions for imperialism." This development resonates with the prophecy of US General Fogleman who claimed already in 1996 that the military would soon be able "to find, fix or track, and target anything that moves on the surface of the Earth" (Fogleman 1996) – which has at least partially become a reality. In principle, a global precision strike capability allows attacks with conventional unmanned weapons anywhere in the world within an hour – provided that the airspace of the country in question is not protected entirely. But penetrating civil airspace in a variety of new ways is also part of the game changing capabilities of drones: think of the use of drones such as the Globalhawk or Eurohawk which are also used to monitor and analyze megacities and wide areas and which can be or already are integrated in global information systems such as EUROSUR or New York's Domain Awareness System that include satellites, advanced camera and object recognition systems, huge post-relational databases and data mining programs. The possibility of nearly real-time intervention – for the military but also law enforcement – has decisively increased and the time span might be even more reduced with the deployment of autonomous weapon or surveillance systems (Suchman/Weber 2015). From EUROPOL and FBI to local police brigades, human and non-human agents are networked and the entire approach is strongly technology-oriented (Dandeker 2006; Graham 2011). In these networks, drones have become an obligatory weapon of choice – sometimes even fitted with rubber bullets or Tasers. They are deployed for border, crowd and event control, evidence gathering, traffic control, searches, observation as well as documenting "troublemakers", the surveillance of buildings and VIPs, searching, controlling, targeting undocumented migrants, workers,

protestors, etc. The EU project INDECT worked with a scenario of the permanent deployment of drones in urban areas, while experiments with the Eurohawk point in a similar direction. The European Border Surveillance Program EUROSUR is a common platform of several European states using drones, data mining etc. to "secure" its borders against so-called irregular immigration. Many local police organizations in Europe and the US use drones for law enforcement as well. The British Merseyside police, for example, already deployed drones with digital closed circuit TV in 2010 (breaching regulations of civil airspace), which could record high-resolution images in the visible and infra-red spectrum from heights of 500 meter and more. Many British police drones have a "built-in speaker to allow instruction to be relayed to civilians on the ground" (Graham 2010, 1). These police agencies also have Forward Intelligence Teams (FITs) who use cameras, camcorders and audio recorders to openly record the public (at demonstrations, political meetings etc.) but also Covert Surveillance Units to gather undercover intelligence (for example, by intercepting Wi-Fi traffic). These applications are integrated in networked systems which are supposed to provide information from a wide variety of sources – including social media, biometric data, databases of criminals or suspects and many more (see also Krishnan).

But why has the installation of enormous networked technosecurity architectures based on drones, smart CCTV, body scanners, high-resolution satellites, big data analytics etc. become not only popular but widely accepted by the populations of Western democracies? Obviously, a precautionary logic that takes the potential dangerous or even catastrophic character of the future for granted (Aradau et al. 2008) and focuses on the management of contingency and unpredictability of possibilistic events (Amoore 2014) feeds a technology-oriented mode of governing security (Aas et al. 2009; Marx 2001) for which drones turn out to be a perfect device (Krishnan; Sandvik, this issue). They are able to produce full spectrum dominance, not only for hunting terrorists but also car thieves or squatters and to control social hotspots or to fight so-called anti-social behaviors.

Technologies of worst-case imagination such as computer simulations, scenario-planning techniques, data mining and other technologies are developed to premediate any possible risk and counteract uncertainty (Bogard 2012; de Goede 2008; Grusin 2004; 2010; Krasmann 2015; Salter 2008). A preemptive technosecurity logic that puts "imagination over the power of fact" (Salter 2008, 243) ties in with the emergence of a new technoscientific epistemology in the second half of the 20th century. It translates imagination into automatized processes of recombination and tinkering, develops the design of (im)probable scenarios and uses post-processing and search heuristics as its epistemological base (Weber 2010). The prerequisites for preemptive analysis, real-time tracking and targeting are big data analytics as well as drones (and satellites) with enhanced visual systems that provide unprecedented amounts of data. Unpredictable risks will never be tamed by these advanced technologies (Burgess 2011), but, and this seems to be part of the nature of the game, they fuel the desire for

technological superiority – which was one of the main goals of network-centric warfare from the start and is now increasingly naturalized in civil life (i.a. Bigo/Jeandesboz 2009; Der Derian 2009; Hayes 2009).

And there is more about the drone as a game changer. How is it, Sabine Selchow (this volume) asks, that we tend to identify any kind of aerial vehicle without a human operator on board that flies remotely controlled or guided through dynamic automation systems (UAV) as a drone – whether it is of military or civilian use, whether it is employed for security purposes or as a consumer good, and whether it measures eleven meters of length with a span of twenty meters across the wings or is a tiny little thing like those quadcopters with a diameter of, let's say, thirty centimeters? Hobby users who enjoy the view and the images the tool can produce, for example, prefer to dissociate their devotion from the military use and the practice of targeted killing usually associated with the drone – and vice versa. **[1]** And in fact, as Sarah Brady (see also Krishnan, this issue) observes, the "drone state" exists on a global level, because so many countries, among them the US., UK, and Israel, have developed and deploy the technology, while the people become the subjects of it: In countries such as Pakistan, Afghanistan, Gaza, Iraq or Yemen people get traumatized by the permanent threat of a deadly attack: "I no longer love blue skies. In fact, I now prefer grey skies. The drones do not fly when the skies are grey", explains Zubair Rehman (2013), a 13-year-old Pakistani boy who was injured in a drone attack in North Waziristan on 24 October 2012 and testified to his and his sister's injuries as well as the killing of his grandmother Mamana Bibi at a US Congressional briefing later. The Palestine writer Atef Abu Saif gives testimony of the ubiquitous presence and impetus of combat drones in the last Gaza war in his diary "The Drone Eats with Me. Diaries from a City Under Fire" (2015). Nevertheless, people in the Global North have become subject to permanent monitoring and (some) are aware of the presence of drones in the world. Drones have become part of our culture, and their multiple gaze, which is and is not our own gaze, takes us to a "collapse of 'above' and 'below'" (Brady, this issue), of the subject who is governed by and who governs through drones.

Much of the fascination with drones in the Global North springs from the translation of a – until now predominantly military – scopic regime into everyday life. The flattened, rasterized view of flyover pictures was used in the military from WW I on and is now translated into the realm of popular culture and also law enforcement. The decisive difference is, as Andreas (this issue) explains, that these flyover pictures can now be analyzed in near real-time. These new drone visualities open not only possibilities for dragnet investigations by law enforcement agencies which can – at least in principle – match biometric and geospatial information. The possibility of rasterizing the world and allowing for a "God's eyes view" (Haraway 1988; Wilcox 2015) that seems to provide a privileged perspective and access to knowledge from afar has its own seductive quality. This new "scopic regime" (Gregory 2011) brings together the traditional flyover pictures, which provide a distanced view of a rasterized world, with an aesthetics of military manhunt and a

[1] See, for example, the Drones & Aerial Robotics Conference (DARC), the first worldwide on (mainly) civilian drones, held at the NYU in October 2013. Videotapes are available at: http://www.youtube.com/playlist?list=PLYFLRpJu7SowVcoPIxE6woXcFIUlZKDb7.

near real-time close-up vision of the battlefield (Andreas, this issue). Within this regime, the relationship between distance and closeness, visibility and invisibility, and public and private is being rearranged (Choi-Fitzpatrick 2014). The "soda straw view", for example, on the part of the pilots who press the kill button from their arm chairs in a far distance and who are therefore no longer pilots, let alone heroes of warfare (Brady, Broeckling, this issue), accounts for only one part of a multilayered view within, and reality of, the networked arrangement of command (Gregory 2014). Moreover, as Sara Brady (this issue) observes, combat drones are present in the media and they are part of our imagination, though, actually, we rarely come across a real drone. Similarly, targeted killing operations are somehow present in the everyday, through counter narratives as presented by projects like Forensic Architecture **[2]**, for example, through representations in popular culture like motion pictures and, not least, through the satellite images that are available on the internet and become increasingly popular giving us an idea of the drone view. At the same time, targeted killing operations take place in a shadow world where neither the criteria of targetability nor the number of victims are being disclosed, but remain opaque despite so many public sources providing a counter knowledge. What seems to be publicly accessible knowledge today and what we see and cannot see is both politically and technologically induced. Moreover, it is a question of "what is considered visible" and knowable, "and what is considered to be hidden" or unknowable (Steiner/Veel 2015, xx). Contemporary works of artists like James Bridle, Harun Farocki or Trevor Paglen reflect upon this aesthetic experience and challenge our common view and vision through their photographs.

The integration of full spectrum dominance technology via drones into everyday life with its mixture of extreme distanced and ubiquitous views and close-up vision is reconfiguring our perception of space and time. At the same time, civil airspace is heavily contested for commercial usage which might result not only in a profound change of mobility and other infrastructures but also in the commercial appropriation of our everyday airspace. While drones are increasingly made to work, it is important to ask what kind of world we are inventing, what are its underlying epistemological and ontological assumptions, as well as its economic, sociocultural and aesthetic implications.

We would like to thank the anonymous reviewers for their most detailed and very helpful comments. Our gratitude goes especially to the authors – for their professional and productive cooperation during the whole editing process but especially for their excellent contributions which provided largely new perspectives on and insights in the epistemology, ontology and politics of drones.

[2] The project is based at Goldsmiths College, University of London: http://www.forensic-architecture.org/.

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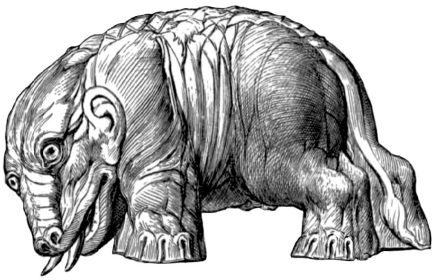
Mass Surveillance, Drones, and Unconventional Warfare

Armin Krishnan

Abstract:

The article argues that armed drones are weapons made for unconventional warfare and have little value for conventional interstate conflict. The rise of armed drones to prominence has to be considered as an indicator for the changed nature of contemporary armed conflict that has now become focused on countering terrorism, insurgencies, transnational organized crime and fighting 'hybrid wars' globally. The US military is preparing for both global counterinsurgency and for civil unrest at home as they are creating a global surveillance architecture reaching from outer space to cyber space, where everything and everybody can be continuously identified, tracked and located. Unmanned systems assist in global surveillance and provide the global reach for intervening in internal conflicts without the need of deploying large ground forces. The new technological capabilities, including drones, biometrics and cyber warfare, are very useful for global manhunts in the context of the ongoing war on terror and for the control of large populations from afar. Western governments are also increasingly concerned about the spread of extremist ideologies and the possibility of mass civil unrest, which means that many of the lessons learned in the counterinsurgency campaigns in Afghanistan and Iraq could be applied within the West.

Keywords: drones, space war, manhunts, mass surveillance, counterinsurgency



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Drones are a very misunderstood weapon in terms of their role and significance in contemporary warfare. Often drones are praised for their ability to discriminate targets (Strawser 2010, 351f.). Sometimes they are portrayed as 'killer robots' that might indiscriminately target people and that could be weapons "so cruel as to be beyond the pale of human tolerance." (Wardrop 2009) Although it seems absurd to either characterize a weapon as inherently humane or inherently inhumane since it always depends on how exactly the weapon is used, it is true that certain types of weapons have greater suitability for particular uses than for others. It is argued here that drones are most suitable for security applications (surveillance) and for unconventional warfare (targeted killings). Furthermore, it is claimed that there is in terms of technology very little that would make unmanned aircraft a revolutionary or a transformative technology. The first drones flew before the Wright brothers and almost entered mass production during World War I (as the 'Kettering bugs') if the war had not ended sooner. There is nothing new about the concept of the unmanned aircraft or even about arming it with explosives and turning it into a projectile (or now a projectile platform – a minor alteration of the basic idea).

It is thus not unmanned systems such as drones that are transforming war, but rather it is the transformed nature of war that makes unmanned systems technology in conjunction with advanced surveillance technology, satellites for command and control and precision ammunitions so relevant today. Modern armed drones can be integrated into a global military network. It is the overall package of technologies that provides an entirely new capability, which is extremely useful for the kind of wars that the US military expects to fight in the future. According to a study by the US Army's Strategic Studies Institute, "[t]he most compelling future defense-relevant shocks are likely to be unconventional." (Freier 2008, 14) Unconventional warfare has become the focus of contemporary military thinking, both in terms of counterinsurgency (suppressing insurgencies), as well as in providing assistance to irregular proxy forces (hybrid warfare). It is projected that political instability could increase globally as a result of a combination of "contagious un- and under-governance; civil violence; the swift catastrophic onset of consequential natural, environmental, and/or human disaster; a rapidly expanding and uncontrolled transregional epidemic; and the sudden crippling instability or collapse of a large and important state." (Freier 2008, 17)

This means that the new American military approach that has taken shape since 9/11 is to intervene in a large number of internal conflicts to counteract local instability affecting larger regions and to prevent any consolidated bloc of global resistance from forming that could potentially threaten US hegemony in the long term. The US military already has a presence in 134 nations where mostly small teams of Special Operations Forces train local militaries, provide security assistance, and conduct special operations such as long-range reconnaissance or 'kill or capture' missions (Turse 2014). The drones are part of the overall mix of special warfare, cyber warfare, and political warfare that now defines the new American way of

war (Turse 2012). The ongoing 'global war on terror' is therefore not merely a global counterterrorism campaign aimed at disrupting a few terrorist groups operating in loose collaboration, but has to be understood as a long and potentially open-ended global counterinsurgency campaign that has to constantly suppress diverse political movements and ideologies that are opposed to the American vision of a future more integrated world order or 'pax Americana', as is outlined in David Kilcullen's article 'Countering Global Insurgency' (Kilcullen 2007).

This article will describe the emerging military information architecture for the global surveillance of populations in the context of unconventional warfare with a particular focus on unmanned systems technology. It is argued that the ultimate goal of global surveillance is the suppression of resistance to globalization and "total population control" (as NSA whistleblower William Binney phrased it).

The 'Triple Canopy'

The Pentagon has long considered outer space to be the 'ultimate high ground' from which earth can be dominated. The military importance of outer space is grounded less in the possibility of basing weapons there, but rather in its role in global surveillance and global command and control that is deemed critical to the overall goal of 'full spectrum dominance' in future military conflicts on planet earth. Historian Alfred McCoy published an influential article in 2012 where he gives his own interpretation of the US Air Force's plans for future 'space wars':

> "It's 2025 and an American 'triple canopy' of advanced surveillance and armed drones fills the heavens from the lower- to the exo-atmosphere. A wonder of the modern age, it can deliver its weaponry anywhere on the planet with staggering speed, knock out an enemy's satellite communications system, or follow individuals biometrically for great distances. Along with the country's advanced cyberwar capacity, it's also the most sophisticated militarized information system ever created and an insurance policy for U.S. global dominion deep into the twenty-first century. It's the future as the Pentagon imagines it; it's under development; and Americans know nothing about it." (McCoy 2012)

What is emerging is a global "robotic information regime" that is potentially capable of monitoring and tracking everything of military significance on earth. At the moment, many of the technologies for global surveillance are still under development and not yet operational, but might be available within a decade or so. As indicated by McCoy, it is going to be a vertically layered system that has most of its command and control elements in space, its key surveillance elements in the upper stratosphere and most of its 'kinetic' capabilities in the lower atmosphere.

Near Earth Space

Earth observation satellites have become the backbone of global military communications, navigation and targeting (GPS), and intelligence, reconnaissance and surveillance (ISR) capabilities. The most advanced militaries cannot operate globally without spaceborne communications and navigation systems necessary for effective command and control. Earth observation satellites provide important ISR capabilities since they can, with limitations due to their orbits and sensors, remotely monitor activities and also to some extent track vehicles, objects, or devices anywhere on the earth's surface.

Satellites are important enablers for military operations in all other domains of warfare: land, sea, air and cyber. This means that outer space has already become the center of gravity for earth wars and this will be even more so in the future. As a result, space assets may be interfered with through a variety of methods such as jamming, hacking, nuclear EMP, high energy radio frequency weapons, kinetic attack from the earth, as well as the use of dazzling lasers that can blind earth observation satellites (Moore 2008, 47-55). Wars in space thus become a probable scenario and this makes it imperative for the US military to control space through space surveillance, protection of space assets and space negation, including the denial of access to and use of space by hostile powers (US Air Force 1997). The ultimate goal is to dominate earth from space, to protect global commerce of the wealthy states and keep "those 'have-nots' in line" (Grossman 2001, 13).

Stratosphere

Key elements of the emerging global surveillance architecture will be likely located in the upper stratosphere (30 km above the surface), which is already out of the range of all but the most advanced air defense systems. These altitudes are feasible for airships, aerostats and balloons that do not have air-breathing engines. The idea is that airships and aerostats could be not only cheap substitutes for satellites, but would be also in some ways better than satellites since they are not subject to orbital mechanics. They could be easily moved into a target area and hover over it for an extended period of time, which is impossible for a satellite (except in a geosynchronous orbit 36,000 km away from earth). The US Army has already deployed tethered aerostats in Afghanistan, Iraq, and Kosovo as cheap surveillance platforms that can monitor activities on the ground from an altitude of 300 m. Future aerostats and airships could operate at much greater altitudes and thus provide much greater coverage than current systems. On the drawing board is a high-altitude airship that could operate at the edge of space and that could provide persistent surveillance capabilities. A report to Congress from 2006 suggested: "[t]his altitude might enable a small number of airships to surveill the entire United States. The HAA [high altitude airship] program seeks to demonstrate a prototype by 2010 that could fly for 30 days at a time." (Bolkcom 2006, 3) The HAA has since run into trouble as some tests

were unsuccessful and funding has been cut (Matthews 2012).

In addition to developing high-altitude surveillance platforms, the US military also intends to use the stratosphere for a global strike capability. The concept is called *Prompt Global Strike* (PGS) and is currently based on hypersonic cruise vehicle technology, which would make it possible to attack any target worldwide within a few hours (Moore 2008, 87-89). The main rationale of PGS is to engage fleeting targets at the outset of a conflict without the need of having forward deployed forces. The unclassified program associated with PGS is the *X-51 Waverider* hypersonic cruise missile that can reach a maximum speed of Mach 5 and is expected to be ready for deployment in 2020.

Troposphere and Below

The kinetic elements of the "robotic information regime" will be located in the troposphere and below. There will be a mixture of manned and unmanned systems that the US Air Force expects to use in the coming decades. Drones are more suitable for global missions since they are not limited by 'human factors': they can operate for extended periods of time (currently up to 40 hours) and they are expendable. The US Air Force divides its drones into three tiers based on the altitude they operate in (low, medium, high) and a fourth tier for stealth (Fowler 2014, 116). The most sophisticated drone currently operated by the US Air Force is the *Global Hawk*, which has a ceiling of 15 km to 20 km and a range of up to 22,000 km.

The US Air Force has currently a fleet of 32 *Global Hawks* and the US Navy is planning to buy 68 of a special version of the *Global Hawk*. The unarmed drones can do wide area surveillance and can locate targets within 20 meters of probable error (Clark 2011, 68). The *Global Hawks* contribute largely to the global war on terror thanks to their great range and endurance. However, the *Reaper* drones are the current backbone of America's ability to hunt and kill terrorists worldwide. These drones have a range of about 5,000 km, which means that they need to operate out of forward bases, although the pilots and sensor operators can be located anywhere in the world.

Smaller drones that make up the vast majority of the US military drone fleet (only about 400 of the 11,000 US military drones are large) are used for tactical purposes as they typically have little endurance and only a short range. Bird or insect-size drones could be either used in swarms for conducting surveillance in an urban environment or for assassination missions (Bumiller/Shanker 2011). US Special Operations Forces have been equipped with Aeronvironment *Switchblade* assassination drones that can fly 10 km and kill a single person by exploding next to it since 2012.

The main advantage of drones compared to manned aircraft and other methods of ground attack is really their ability to apply limited amounts of force with great precision in situations where the airspace is not contested and the enemy is relatively unsophisticated. This has to do with the slow speed of drones, their high-resolution optical sensors, the involvement of

numerous imagery analysts in the targeting process and the requirement that a higher authority has to approve strikes based on video feeds and other intelligence, which is very different from the use of manned combat aircraft. When a manned jet fighter is used, it is the pilot, who has to make targeting decisions with lesser possibilities for accurate discrimination (Fowler 2014, 110). In other words, armed drones are made for a different type of war than conventional high-intensity conflict.

A New Type of War

The global war on terror that began in 2001 represents a new type of war since it is directed against non-state actors, since it has no geographic limitations and since it emphasizes 'manhunting' as its main tactics. In September 2001 the George W. Bush administration made the decision to hunt down members of al Qaeda wherever they happened to be (Gregory 2011, 240). The early 2000s were a time of a massive expansion of the CIA's extraordinary rendition program, which was based on the idea of capturing suspected terrorists worldwide and transferring them to black sites in third countries, where they could be interrogated to obtain intelligence on al Qaeda and associated groups, which would subsequently generate more targets for manhunting. At the minimum 136 individuals were 'rendered' or disappeared in secret prisons located outside of the US between 2001 and 2005 (Open Society 2013, 30). When the program was publicly revealed in 2005 it became a major international embarrassment to the George W. Bush administration. The rendition program was eventually shut down by President Obama after it had become abundantly clear that extraordinary rendition created a legal nightmare as suspects whose rights had been violated could neither be turned over to the court system nor simply be killed (Mayer 2005). Although the tactics have since somewhat changed, the overall approach of using manhunting as a method of war has not. In fact, the practice of manhunting was much refined during the occupations of Afghanistan and Iraq.

Manhunting in Unconventional Warfare

The main problem in counterterrorism and counterinsurgency operations is to know who the enemy is and to find enemy combatants so that they can be turned, captured or killed. Typically the enemy hides within a population and only attacks when they have an advantage, using hit-and-run tactics. It is extremely difficult for conventional forces to fight such an enemy since it is impossible to secure all conceivable targets that might be attacked. Even in situations where the enemy exposes itself in an attack the military is very much constrained by the amount of force that it can use because of the presence of innocent civilians on the battlefield. This is not merely a legal constraint, but also a strategic constraint. If the use of force is excessive and results in a lot of collateral damage, it will turn the population against counterterrorist and counterinsurgent forces. This means that in

counterterrorism and counterinsurgency campaigns force has to be applied with the greatest possible precision and with careful consideration given to the public perception of the use of force. This is where surveillance technologies and drones come into play.

Unconventional warfare, which has become the focus of the US military since operations in Afghanistan and Iraq, takes place within what the US Army calls the 'human domain'. The human domain deals with all human factors such as leadership, organization, motivation and the 'human terrain', in which the military operates. So it becomes necessary to collect massive amounts of information on populations to map social networks and to understand social organization. This ultimately assists in identifying who is likely to help the counterinsurgents, who is neutral and who is part of the opposition. Unconventional warfare in essence means sorting out who is who, compiling 'kill or capture' lists and trying to deny insurgents support by using psychological operations against populations designed to both intimidate or deter and win support (this is called 'pacification').

Counterinsurgency doctrines can be thus either enemy-centric (focused on the elimination of insurgents) or population-centric (focused on the security of the population). In reality, counterinsurgents always have to do both and it is only a matter of style or circumstances what is emphasized more. Oliver Belcher has made the argument that already in the Vietnam era the US military integrated social science and behavioral science methodologies in its counterinsurgency campaign as part of a population-centric approach. For example, he discovered that statistical methods for predicting insurgent activity were developed in the Civil Operations and Revolutionary Development Support (CORDS) program (Belcher 2012, 261). A component of CORDS was also the infamous enemy-centric Phoenix program, which was a computerized system for managing intelligence on the Vietcong Infrastructure (VCI) to systematically kill or capture individuals believed to be VCI.

As in Vietnam, counterinsurgency in Afghanistan and Iraq thus consisted mainly of hunting down insurgents in night raids by Special Forces and sometimes killing them with drones. These intelligence-driven special operations relied on a combination of human intelligence gained from local agents and the interrogation of prisoners, signals intelligence and overhead imagery intelligence to identify and hunt down opposition forces. The difference to the Vietnam era is the new ability of integrating vast amounts of diverse data from many different sources into one overall operational picture and to rapidly generate missions based on the data and its computerized analysis. An advisor to General Petraeus, John Nagl, commented about the new manhunting capabilities developed in the context of the two campaigns:

> "We're getting so good at various electronic means of identifying, tracking, locating members of the insurgency that we're able to employ this extraordinary machine, an almost industrial-scale counterterrorism killing machine that has been able to pick out and take off the battlefield not just

> the top level al Qaeda-level insurgents, but also increasingly is being used to target mid-level insurgents." (Grey/Edge 2011)

The Role of SIGINT

Typically the targeting is based on information from human agents on the ground and on the collection and analysis of communications, which can work in conjunction. For example, CIA informants are rumored to have placed drone-targeting chips on suspected militants in Pakistan (Stanford Law School; New York University 2012, 38). But HUMINT has lots of pitfalls such as the unreliability of local agents and it is often not sufficiently available in the more remote parts of the world. This means that US intelligence usually has to rely on SIGINT for globally locating individuals. According to journalist Shane Harris, the NSA's ability to exploit SIGINT and to wage offensive cyber warfare played a key role in turning around the war in Iraq during the 2007 surge. He wrote "hacking into the communications network of the senior al-Qaeda leaders in Iraq helped break the terrorist group's hold on the neighborhoods around Baghdad. By one account, it aided US troops in capturing or killing at least ten of those senior leaders from the battlefield." (Harris 2014, 22)

The new NSA cyber capabilities have been also critical in the drone war in Pakistan that expanded in 2009. Important in this respect is the NSA's metadata collection program *Boundless Informant*, which was acknowledged by former NSA and CIA director Michael Hayden, who famously remarked: "We kill people based on metadata." (Cole 2014) The NSA even created a special targeting unit called Counter-terrorism Mission Aligned Cell (CT MAC) specifically tasked with finding and tracking terrorists (Miller; Tate; Gellman 2013). Cell phones and tracking chips are typically used for geolocating targets and for achieving greater precision of drone strikes. Jeremy Scahill and Glenn Greenwald, who publish the Snowden documents on The Intercept website, stated: "In one tactic, the NSA 'geolocates' the SIM card or handset of a suspected terrorist's mobile phone, enabling the CIA and U.S. military to conduct night raids and drone strikes to kill or capture the individual in possession of the device." (Scahill; Greenwald 2014)

Of course, the NSA tracking does not stop with just geolocating SIM cards, but also includes even more sophisticated ways of figuring out where a known terrorist may be located. NSA expert James Bamford recently wrote "that a NSA program known as TREASUREMAP is being developed to continuously map every Internet connection — cellphones, laptops, tablets — of everyone on the planet, including Americans." (Bamford 2015) This means that any wireless device can be tracked and everyone using the device could be located at least approximately anywhere in the world using NSA's SIGINT satellites and cyber capabilities.

'Patterns of Life' Analysis

If other intelligence is not available, drone operators might rely on the persistent monitoring of a target area or of individuals on the ground to detect hostile activities. This so-called 'patterns of life' analysis can combine ground-based intelligence with data gathered from the air to individually identify persons, who are or may be engaged in hostile activity (Pincus 2009). Former drone pilot Matt Martin has explained the practice in his book. Describing one incident when he served as drone pilot in Iraq: "I noticed several men acting suspiciously in the parking lot of a greasy spoon café across the street…the men began loading boxes into the trunk of a faded-red compact car…The driver…looked all around…I decided to follow the car when it pulled into the city traffic." (Martin/Sasser 2010, 81-82) It turned out that the men were indeed insurgents transporting ammunition after Martin had directed ground forces to the vehicle, who searched it. If the potential target had been located within a 'kill box', where the use of force is authorized and further analysis showed that the target 'acts' like a terrorist or militant, then the drone pilot could have decided to attack the target.

This practice of attacking individuals whose identities are not known based on patterns of life analysis has been called 'signature strike', which have been authorized by President Obama for Pakistan's tribal areas and for Yemen. An inherent problem is that there is little public information with respect to what kind of 'signatures' or observed behaviors allow initiating an attack, which raises suspicions about vague criteria inviting wrongful use of force (Stanford Law School/New York University 2012, 12-13). There are also fairly simple countermeasures that terrorists and insurgents can use for avoiding detection from drones, which were outlined in an al Qaeda paper discovered in Timbuktu in 2011. The paper suggested using a Russian 'sky grabber' to intercept drone footage, electromagnetic jamming of drone control signals, maintaining silence of wireless contacts, exploiting natural vegetation and most bizarrely, employing snipers for shooting down drones (AP 2011).

However, the idea of a human pilot observing a scene, then coming to conclusions about potentially hostile activities that are observed, as described by Martin, is already becoming outdated. The US Air Force has recently deployed in Afghanistan a very powerful video capture system called Gorgon Stare. It is designed for wide-area surveillance and can cover over 100 km2 with 368 cameras that take high-resolution images at the rate of 12 images per second (Trimble 2014). The system can generate from the data a 1.8 billion pixel composite image that enables analysts with the help of advanced imaging processing software to detect and track all moving objects in the area of view. The system can also store the massive amounts of imagery that it generates for 30 days for later forensic analysis. In other words, a few drones with *Gorgon Stares* could surveil entire populations across large territories.

Biometrics

The US military has introduced biometrics as a means for identifying friend and foe in their counterinsurgency campaign in Afghanistan and used it also extensively in Iraq, which is a real novelty compared to the Vietnam War. The goal is 'identity dominance'. A US Army Handbook on the use of biometrics explains:

> "Biometrics capabilities on the tactical battlefield enable a wide variety of defensive and offensive operations. Biometrics help ensure enemy personnel, criminals, and other undesirable elements are not allowed access to our facilities, hired to provide services, or awarded contracts. Biometrics is used to vet members of the Afghan government and military with whom our forces interact…Biometrics is a critical COIN nonlethal weapons system." (US Army 2011, 1-3)

In other words, the US military now routinely collects biometrics from populations where it conducts counterinsurgency operations to control access to secure areas and to find the 'bad guys' or to identify them after they have been captured or killed. For this purpose the US military collected the biometrics of 3 million Iraqis, as well as of millions of Afghans using handheld devices (Ackerman 2011). The systematically collected biometrics data includes fingerprints, retinal scans, facial recognition, DNA and more exotic types of biometrics that can uniquely and reliably identify a particular individual (e.g. 'earprints'). Ideally one could collect the biometrics of an entire population, which in combination with other data that is indicative of an individual being a 'bad guy', would make it possible to more easily find these individuals, or at least severely restrict their movements by having people pass through checkpoints and borders with biometric ID systems.

The technology of biometrical identification has become already very advanced. It is no longer critical that an individual cooperates in the collection and use of biometrics since some of it can be done discretely and from distance. Very promising in this respect is facial recognition technology, which has been already tested in London back in 2002 and which could soon be used nationwide in the US. The Russian government has already deployed a facial recognition system across Moscow that can scan 10 million images in less than seven seconds. The developer stated "the face on the photograph is measured using 30 identifiers, and the resulting mathematical matrix is very difficult to fool." (Soldatov/Borogan 2015, 177)

A watchlisted individual whose facial geometry data is available in a database could walk past a surveillance camera and the security forces would be immediately alerted. Such a system has been described by urban warfare researcher Stephen Graham: "DARPA (2003) is developing systems of micro-cameras and sensors that can be scattered discretely across built urban landscapes and that automatically scan millions of vehicles and human faces for 'known targets' and record any event deemed to be 'unusual'." (Graham 2006, 269) The Department of Homeland Security is funding the Biometric Optical Surveillance System (BOSS), which aims to identify people using facial recognition with 80 to 90 percent accuracy at

a distance of 100 m (Savage 2013). In principle, such a future biometric identification system might be placed on drones, high-altitude airships, or even on satellites and could be used for systematically tracking individuals globally.

At the moment, it is still technologically challenging to put biometric sensors on mobile platforms that are remote, moving, and shaky, which affects sensor performance. However, a system that combines various kinds of data from different sensors with different methods of biometric identification could then probabilistically determine whether the individual captured by a drone camera or satellite is potentially a 'bad guy' on a target list (Shachtman 2011). Some of the new methods might include 'human thermal fingerprints' (unique human body heat signatures), 'gait intelligence' (unique walking styles), or maybe remote measurement of individually unique brainwave patterns.

The War Comes Home

In the War on Terror the battlefield is everywhere. Derek Gregory pointed out that in the new geography of war "[v]iolence can erupt in commuter train in Madrid, a house in Gaza City, a poppy field in Helmand or a street in Ciudad Juarez." (Gregory 2011, 239) The logical consequence is that the US homeland or other Western countries are no longer a sanctuary, but part of the global battlefield, where terrorist or insurgent forces may operate and where counterinsurgency tactics used in the "borderlands" may be applied.

The signs are unmistakable that Western governments are incorporating counterinsurgency tactics, technologies and approaches tested in Afghanistan and Iraq into everyday policing and security operations in the homeland. This includes drones and other surveillance systems, the increasing use of 'tagging, tracking and locating' (TTL) technology like 'stingrays' (devices for tracking cell phones and downloading data from them) by the police and the growing outright militarization of the police in terms of their tactics, equipment and culture.

To a lesser extent this disturbing trend can be also seen in Europe. For example, the Statewatch report 'Eurodrones' has documented that over €500 million have been spent by the EU to develop surveillance drones for patrolling European skies in an effort of reinventing European security (Hayes et al. 2014, 7). The report states:

> "Despite the often benign intent behind collaborative European 'research' into integrated land, air, maritime, space and cyber-surveillance systems, the EU's security and R&D policy is coalescing around a high-tech blueprint for a new kind of security. It envisages a future world of red zones and green zones; external borders controlled by military force and internally by a sprawling network of physical and virtual security checkpoints; public spaces, micro-states and 'mega events' policed by high-tech surveillance systems and rapid reaction forces; 'peacekeeping' and 'crisis management' missions that make no operational distinction between the suburbs of Basra or the Banlieue; and the in-

> creasing integration of defence and national security functions at home and abroad." (Hayes et al. 2014, 7)

One can speculate whether it is the technological advances achieved in the process of fighting counterinsurgency campaigns in the third world that is leading to the introduction of these systems in the West as a form of recycling these systems, or whether Western interventions in wars of the third world are mere test laboratories for technology development aimed from the beginning at instituting tighter population control at home. In any case, governments may see more intensive surveillance as a necessary price of globalization and their growing inability to control their borders resulting from it. With a lesser control of borders, people, ideologies and conflicts can easily spill over from one country or region to another, causing a kind of instability that did not exist prior to globalization.

Domestic Surveillance

Western governments have systematically expanded the surveillance of their populations in numerous ways. Governments keep now extensive records on all of their citizens and even of foreigners who travel or transit through their countries, which are now easily searchable and retrievable from online databases that may be 'datamined'. This includes the collection and retention of birth records, education records, medical records, police records, biometrics and so on. Governments also admittedly collect 'open source' information on individuals through social media for the purposes of law enforcement and counterterrorism (Nagashima 2012). This collection may soon become systematic and automated. For example, research sponsored by the Pentagon aims at developing software for examining Twitter posts "to identify individuals mobilized in a social contagion and when they become mobilized." (Ahmed 2014) The apparent fear is that Islamic or other ideological subversion on the Internet could result in 'digital insurgencies' and mass civil unrest.

More controversial is the mass surveillance of private communications, which were once considered to be protected by constitutional safeguards. Documents leaked by NSA whistleblower Edward Snowden have provided solid proof of the existence of NSA domestic surveillance that collects communications metadata of 'US persons' in bulk and that can be queried by NSA analysts to find terrorism connections. It is known that the NSA built for this purpose its own version of *Google* that can query a communications database containing "850 billion records about phone calls, emails, cellphone locations, and internet chats." (Gallagher 2014) Furthermore, there is hard evidence that numerous Western governments participate in the NSA mass surveillance by giving them access to communications data of their respective populations. Internet security expert Bruce Schneier recently wrote in *The Atlantic* that governments are united by their desire to conduct mass surveillance globally, which would create strong incentives

> "to join the most extensive spying network around. And

> that's the United States. This is what's happening right now. U.S. intelligence agencies partner with many countries as part of an extremely close relationship of wealthy, English-speaking nations called the Five Eyes: the U.S., U.K., Canada, Australia, and New Zealand. Other partnerships include the Nine Eyes, which adds Denmark, France, the Netherlands, and Norway; and the Fourteen Eyes, which adds Germany, Belgium, Italy, Spain, and Sweden. And the United States partners with countries that have traditionally been much more standoffish, like India, and even with brutally repressive regimes like Saudi Arabia's." (Schneier 2015)

The collected communications data is then used for identifying and tracking terrorists and terrorist activities across the world, making it more and more difficult for individuals on watchlists to escape the global dragnet of an emerging "global security state", as journalist Tom Engelhardt has called it (Engelhardt 2014, 10f.). According to ACLU, there are already over a million names on the American TIDE terror watchlist (Terrorist Identities Datamart Environment) of which 680,000 names are on the master watchlist that is shared with law enforcement and 22 foreign governments (Handeyside 2013). In addition to the dataveillance of populations, Western governments seem to be keen on introducing ever more intrusive surveillance technology such as high-tech surveillance drones that could persistently monitor their populations from above, follow individuals around their daily lives and if necessary, apply lethal or nonlethal force.

Domestic Surveillance Drones

It seems inevitable that military drones will increasingly operate domestically for the purposes of border security, internal security and law enforcement. The US military has been already authorized to "collect imagery during formal and continuation training missions as long as the collected imagery is not for the purpose of obtaining information about specific US persons and property." (US Air Force 2012) Of course, drone technology has long proliferated into the civilian sphere. There are numerous factors why the domestic drones will grow significantly over the next few decades, most importantly their lower cost, endurance and relative ease of operation compared to manned aircraft.

The Department of Homeland Security operates *Predator* drones since 2006, mainly to patrol the US-Mexico border. The drones can be used for detecting smugglers and other security threats and they can be used for monitoring individuals and activities across the US. Although the use of domestic drones has been recently criticized by the General Accounting Office for its high cost and elusive results, DHS plans to expand its current drone fleet from ten to 24 *Predator* drones, which still needs to pass through Congress. The new *Predators* shall have, according to a DHS requirements sheet for the manufacturer, a sensor capability to determine whether an individual is armed and a SIGINT capability to track individuals by their cell phones, as well as the capability to do direction finding for mobile devices

and two-way radios for precise geolocation (McCullagh 2013).

Many law enforcement agencies in the US and in Europe have shown great interest in drone technology and some have already bought Micro Aerial Vehicles (MAVs) that they use for monitoring protests and tracking individuals. The FBI has reportedly spent $3 million since 2006 to procure a small drone fleet and has on occasion borrowed a *Predator* drone from DHS. The FBI now operates a fleet of surveillance aircraft that can track individuals and have them circle over large cities (Gillum et al. 2015).

Not surprisingly, there is a growing concern that the domestic use of surveillance drones could lead to gross violations of privacy. *The American Civil Liberties Union* (ACLU) has frequently pointed at the threat to privacy resulting from domestic drone use. In a recent article on the drone use during the Baltimore riots ACLU analyst Jay Stanley argued:

> "these are not your parents' surveillance aircraft. Today there are powerful new surveillance technologies that use aircraft to collect mass information about whole populations, potentially reaching far beyond what the police might need to manage unrest."

He further elaborates:

> "Every moving pedestrian and vehicle can be tracked: the beginning and end everyone's journeys, and the route taken in between. This gives the authorities the power to press 'rewind' on anybody's movements, and learn a lot of intrusive things about how they live their life." (Stanley 2015)

It is not just optical sensors that can be paired with drones, but also many other types of sensors. For example, *Predator* and *Global Hawk* type drones can be also outfitted with wall-penetrating imaging radars and thermal imaging that look inside houses and exactly locate individuals. A recent *Congressional Research Service* report expressed the concern:

> "the sophistication of surveillance technology available to drones, such as facial recognition or laser radar which can 'see' through walls, may lead some to question the relevance of prior Fourth Amendment jurisprudence concerning more rudimentary forms of surveillance technology." (Thompson II 2013, 16)

A major issue with drones is that citizens may have their civil rights violated with no possibility for them to prove it or to protect the privacy of their homes. Although there are currently no plans of having armed Predator drones patrol American skies, it remains a likely prospect that some police drones might be armed with more than just sensors in the future.

Armed Police Drones

The *UN Rapporteur for Extrajudicial, Summary, and Arbitrary Executions,* Cristof Hejns, has expressed the concern that drones could be armed with nonlethal weapons and used for domestic law enforcement and riot control,

which could result in human rights violations (Hejns 2014, 14-16). He lists numerous examples of riot control drones that are being marketed to police forces around the world such as a South African drone called *Desert Wolf* that disperses crowds with a malodorant, a US drone named *Chaotic Unmanned Intercept Drone* that can shock intruders with 80,000 V, a US *Shadowhawk* drone that can shoot 37 mm and 40 mm Taser rounds and a German drone that can attack protesters with tear gas. Other police and security drones might be outfitted with guns that shoot rubber bullets or that are equipped with nonlethal directed energy weapons like dazzling lasers, sonic weapons, microwave weapons (pain rays). For special tactical situations like hostage liberation police forces might use drones that carry lethal weapons to kill a dangerous criminal.

Nonlethal weapons should not be automatically considered to be more humane or any less problematic than the use of lethal force. Not only can 'nonlethal weapons' be lethal if used improperly or against vulnerable persons, they also might lead to more frequent use of force by police officers exactly because they are considered less harmful. Pairing nonlethal weapons with drones might lead to an escalation of the use of force against largely innocent civilians, as pointed out by Hejns. It removes, or at least strongly reduces, two factors that have tended to restrain police forces: 1) it creates much greater physical distance between police officers and the population at large thus reducing the psychological restraint for violence; 2) it makes it possible to automate the use of nonlethal force, allowing the security drones to Taser, tear gas, or pain ray individuals and crowds into submission based on preset parameters of threatening behavior.

Up to now, nonlethal police drones remain hypothetical – only in India has a police department introduced a drone armed that can disperse crowds with pepper spray – but both the technology and the interest by law enforcement agencies are there. What has up to now prevented armed police drones is the public controversy that would accompany such an unprecedented move towards 'Robocop'. Even unarmed police drones that are circling cities and are buzzing over crowds would have undoubtedly a huge psychological effect on people – unlike the invisible dataveillance they are a constant reminder that they are being watched and that any misbehavior in the eyes of the watchers could have consequences.

Global Counterinsurgency

It seems that the next world war will be a war of global counterinsurgency conducted by an emerging global security state led by the US and directed against a diverse set of state and nonstate anti-globalization forces. An eye-opening strategy paper of the UK Ministry of Defence claims that within the next two or three decades the "world is *likely* to face the reality of a changing climate, rapid population growth, resource scarcity, resurgence in ideology, and shifts in global power from West to East." The report argues that since no nation will be able to address these issues alone, it will be necessary "to establish an effective system of global governance, capable of

responding to these challenges." (UK MoD 2010, 10) In other words, it is expected that globalization would reach its logical conclusion and eventually unite most nations on earth in order to implement key solutions to global problems. However, the report also suggests that such a new "system of global governance" could be opposed by diverse groupings of individuals, communities and states and may fuel extremism and violence within states (UK MoD 2010, 12). This could increase political instability in the world and may result in more international conflict (UK MoD 2010, 38). Although the report suggests that there is a potential for a great power conflict, it also points out that the US is unlikely to be challenged militarily by new rising powers such as China. State actors may therefore use nonstate proxies to conduct "hybrid wars" (UK Mod 2010, 84). It follows that the West has to be ready to conduct counterinsurgency on a global scale to prevent the enemy from coalescing and from destabilizing critical states or world regions or even from destabilizing the West from within.

Controlling Populations

As political systems fail to address key societal issues such as the widening gap between rich and poor, economic crisis, environmental disaster and poor governance, it can be expected that parts of the world's population become radicalized and that governments around the world will increasingly face civil disorder and rioting. First signs of civil unrest in the West have been seen in the London riots of 2011 or the Ferguson riots of 2014. So when governments expand their surveillance of their populations it is not so much about fighting terrorism, which is for the most part a mere law enforcement issue, but rather about preparing for counterinsurgency which is an entirely different concept. A RAND study explains the difference:

> "Not all insurgencies employ terror, and not all terrorists are insurgents. Insurgencies have an alternative vision of how to organize society, and they use various instruments, ranging from public service to terror, to realize that vision. Terrorism may be embedded in and subordinate to insurgency. But terrorism may also exist outside of insurgency, animated by sheer revulsion toward the status quo, without offering or striving for an alternative." (Gompert/Gordon 2008, 7)

Counterinsurgency is different from counterterrorism as the latter only deals with disrupting relatively small terrorist groups, while the former has to deal with political ideologies that may have mass appeal. Insurgencies are driven by broader political movements that have their military wings that might or might not use terrorist tactics, but that are mostly dangerous because of their ability to subvert larger segments of populations and turn them against the government. As a result, counterinsurgents have to fight the enemy's ideology as much as they need to fight the enemy forces. Mass surveillance is utterly ineffective in finding a few dangerous individuals in a large population (the proverbial needle in the haystack), but it is potentially

very effective in terms of identifying who may be susceptible to 'extremism' and thus needs to be watched more intensely in order to prevent them from organizing into larger resistance movements.

Researcher Nafeez Ahmed has argued that the US and the European governments already prepare for some kind of major future disruption and mass civil unrest (Ahmed 2014). Tremendous amounts of military grade equipment have been transferred to police departments under the '1033 program' that began in 1997 (Balko 2013, 209). For example, from 2006 to 2014 police departments received 600 MRAP 18-ton tanks, 79,288 assault rifles, 205 grenade launchers, 11,959 bayonets, 3,972 combat knives, $124 million worth of night-vision equipment, including night-vision sniper scopes, 479 bomb detonator robots, 50 airplanes, including 27 cargo transport airplanes, 422 helicopters, and $3.6 million worth of camouflage gear (NPR 2014).

Although traditionally barred from operating on US soil, the US military is nevertheless also preparing for domestic contingencies. Nathan Freier from the Army's SSI suggested: "To the extent events like this involve organized violence against local, state, and national authorities and exceed the capacity of the former two to restore public order and protect vulnerable populations, DoD [Department of Defense] would be required to fill the gap." (Freier 2008, 32) The US military has since drawn up a still classified contingency plan for domestic civil unrest, codenamed CONPLAN 3502 (Hudson 2011). An article by Kevin Benson and Jennifer Weber published in the military *Small Wars* journal even develops the scenario of a TEA Party insurrection fuelled by a weakening economy, high taxes on the middle class and an influx of immigrants that increases anti-immigration sentiment in South Carolina in 2016. In this scenario, the governor of the state would request federal law enforcement assistance in the face of riots in Darlington and the US Army are sent in to restore order (Benson; Weber 2012). However, a more likely scenario is the gradual introduction of counterinsurgency policing to get citizens slowly accustomed to police in riot gear, armored vehicles and surveillance drones in the sky.

Americans are already watched from above to track their movements and to make it easier to apprehend dangerous individuals, if necessary. At the periphery of the global security state armed drones can be used to crush local insurgencies and to pacify foreign populations from afar.

Armed Drones and World Order

Drone strikes are not only intended to simply kill dangerous terrorists, but to have psychological effects on the enemy such as intimidate, deter and make them feel powerless. But it is not just terrorist groups that are being intimidated by drone strikes – entire populations might be controlled by the fear of instant death delivered by drones that constantly circle the skies. Military analyst Thomas Barnett claims that this would be a good thing:

> "Trust me, along with drones, these frontier-settling tech-

> nologies will most definitely infiltrate our society in coming years, just like the military's Internet and GPS did before. The results will be similar: that much more capacity for individuals to be identified, tracked and watched, meaning anti-social behavior will become that much harder to pull off…for those of us not interested in committing terror, crimes and mischief, the larger truth is that we'll actually experience more freedom from all of those things…The result will be the same the world over: the end of off-grid locations, nowhere to hide, etc. You will be held responsible for what you do. There will be no frontiers left in which you can disappear. Anti-globalization forces like al-Qaeda will spring up here and there along this historical pathway, and each will have their moments before succumbing."Barnett 2011)

A different perspective of the psychological effects of drone strikes is offered in the Stanford Law School and New York University study *Living Under Drones*. The authors of the study claim that the population in the tribal areas of Pakistan is traumatized and that their normal lives have been seriously disrupted by the constant fear that they might become a victim of drone strike by sheer accident. People stay at home, are afraid to attend public gatherings such as funerals, are reluctant to go to school or work and even start distrusting people in their community, who might plant tracking chips on them (Stanford Law School/New York University 2012, 80-101). From a counterinsurgency perspective, such psychological effects on a population could be considered to be conducive to the overall aim, namely to prevent people from organizing resistance or deter them from joining a resistance group. But drone warfare is hardly any more humanitarian just because it can be much more targeted, especially if merely having the wrong political views (susceptibility to extremism) or the wrong friends (terrorist association) can potentially get a person on a 'kill list'. Furthermore, it may actually achieve an opposite effect and motivate retaliation, result in more widespread radicalization and the destabilization of an ally (Hudson et al. 2011, 126f.).

Conclusion

The Pentagon in collaboration with numerous other governments is creating a world where there is for the average individual nowhere to hide and nowhere to run. People can be constantly tracked and their actions made visible to the authorities using a variety of ground-based and overhead surveillance. Who is identified as a threat will have the own name added to the 'disposition matrix' that will enable US government agencies to figure out how to best neutralize the individual in question, using drone strikes, kill or capture by Special Forces, or maybe a simple arrest by the police, if local authorities are cooperative. The ongoing quest for US global dominance is being turned into a never-ending campaign of global counterinsurgency against 'terrorists', 'extremists', 'rogue states' and really anybody else who may resist the change from the old order of a system of nation states to a

new order of a system of 'global governance', backed by a robotic global surveillance and global enforcement apparatus. The end result of these efforts cannot be predicted. Alfred McCoy contends:

> "If all or much goes according to plan, sometime in the third decade of this century the Pentagon will complete a comprehensive global surveillance system for Earth, sky, and space using robotics to coordinate a veritable flood of data from biometric street-level monitoring, cyber-data mining, a worldwide network of Space Surveillance Telescopes, and triple canopy aeronautic patrols. Through agile data management of exceptional power, this system might allow the United States a veto of global lethality, an equalizer for any further loss of economic strength." (McCoy 2012)

However, he cautions that the dreams of technological omnipotence may just as well result "in military debacle from the illusion of technological mastery."

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God, the Pilot, and the Bugsplat
Performance and the Drone Effect [1]

Sara Brady

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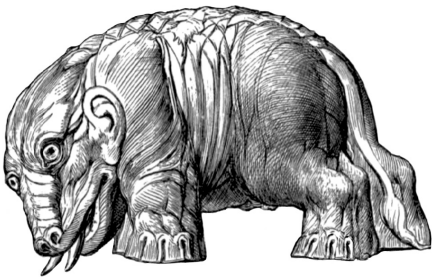
Abstract:

Engaging a performance studies lens, this essay examines the role of the drone in contemporary society with special attention paid to representations of drones in popular culture. Anchored by critical analysis of three examples – George Brandt's play *Grounded*; the major motion picture *Good Kill*; and the short film *5,000 Feet Is the Best* – I argue that the role of the drone in culture is complex and that the effects of drones are disseminated around the world in uneven amounts of good and harm. Where the drone exists and where the drone goes there is drone culture. Furthermore, drones exist in a larger context of drone states. I argue that wherever the drone goes, one constant remains: the possession, development, and deployment of drones of all kinds lead to a circumstance reminiscent of the *observer effect* in science: by observing a phenomenon, one changes the phenomenon. By having drones, particularly weaponized drones, the nation-state is permanently altered-for better and for the *worst*-by such possession: the *drone effect*.

Keywords: Drones, theatre, performance, visual culture, critical theory, critical cultural studies



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Drones: We Can't Resist

Drones are everywhere. They are here… but there. And drones are every*thing*: They are good and evil; savior and executioner; small and large; piloted and autonomous; military and civilian; top-shelf and DIY. They are remote, they are like toys, they are object theatre, they are the ultimate bow and arrow; they are war; they are peace. But oh, can they *deliver*. They can drop food and they can drop hellfire. And *watch*?! They can watch for *hours, days, weeks*. We *love* them. They are the farthest step *away* from … reality. In fact, they aren't even real—they aren't even drones. They are UAVs (Unmanned Aerial Vehicles); they are RPAs (Remotely Piloted Aircraft); but who would bother with such boring names? No, it's "drones" all the way.

I am not a scientist or technical expert. I study performance. So I can't pretend to talk about the drone as a machine. But I can talk about the drone as performance. Drones are spectacular; they perform for us. They are not puppets but they are not *not* puppets. They also create their own performances — their surveillance cameras deliver a show to those who watch; they make performers out of those on the ground. They frame life as a performance — and the unwitting actors must perform in a certain way… or else. Drones have also inspired performances that offer responses to the political, social, cultural, and ethical issues they conjure. In this essay I investigate and interrogate the ways in which the concept of the drone has inspired performances like *Grounded*, *Good Kill*, and *5,000 Feet Is the Best*, which not only originate from but also perpetuate popular, often misinformed perceptions of what drones are, how they function in the world, who they affect, and how they relate to culture, society, and especially, power.

Grounded

May, 2015. I enter a dim theatre with a thrust stage: the Anspacher at New York's Public Theater. I'm here to see a play about drones. From the top corner of the space, I look down at a set that — at first — seems to have nothing to do with drones or the sky they fly in; rather, the stage is full of *sand* — sand deep enough to cover the entire floor. Even audience members headed for the first row have to walk on the sand to get to their seats. As I take my own seat a few rows up, I notice a pyramid, about 2 x 2 feet, at the upstage left corner. The pyramid puts the sand into a different perspective. From where I sit, I feel like I have a view from afar — from the sky. The lights dim, and out of the dark a woman enters and walks across the pile of sand, stopping in the center of the desert-set. Soon a trickle lit by a pinpoint of light begins to fall on her helmet. After a few seconds it becomes clear that the trickle is yet more sand, coming from the light above and it continues to fall, steadily, over her body. It eventually stops, and the lights begin to brighten the stage more evenly. Finally, the woman, "the Pilot," focuses on her audience and begins to speak, spinning a story of her journey from a life as a jet fighter pilot to the sedentary everyday of a drone pilot-commuter.

With only one character *Grounded* delivers one version of the story of operating remotely piloted aircraft from the perspective of an experienced female Air Force pilot who, upon returning from maternity leave, is told she will not get her jet back, but instead fly a Reaper. The Pilot becomes a storyteller, explaining to the audience how she fought in Iraq, how she went on leave, how she met a guy who, she proudly claims "kisses me in the parking lot like I'm the rock star I am" (11), how she gets pregnant, gets sent home, marries Eric, has a little girl, and decides to return to "the blue." She loves the baby but after three years can no longer ignore her desire to return: "I'll scream," she says, "if I don't get out and up." (17) She longs to again be *above* — the blue is the sky, what the Pilot was "born for."

Her commander, however, disappoints by informing her that she will be stationed in a different desert: Nevada. The small pyramid perched in the back corner of the set suddenly makes sense. Vegas, of course. The Pilot is grounded. To be sent to the "chair force" is humiliating for her; it's the ultimate failure for a jet pilot. She has a point; one does not have to be a trained pilot let alone fighter pilot to learn how to fly a drone, and in fact, the costs of training novices are a fraction of the costs of re-training former fighter pilots. But the Pilot's commander assures her that not only is her assignment not a punishment for having a baby, it is the future: "They're not making F-16s anymore Major," he tells her (20). Soon, he promises, "The drone will be king" (20). She is dismissed.

Resigned, the Pilot describes how she, Eric, and Sam, their baby, settle in to a suburb outside of the city. She commutes to Creech every day, in her flight suit, to "Stare at the sand from above" (29) until another pilot taps her on the shoulder and takes her place, her shift over. Her flight suit is needed for the same reason actors wear costumes in dress rehearsal — it's a way to *believe* in what she does at work, and by believe I don't mean believe that it is right or good but that it is *real*. The weeks and months that follow become the Pilot's unraveling. She confuses the vehicles she sees through the drone's camera with her own; she confuses the reality of her own drive home through the desert with what she watches at work. Instead of seeing blue, she sees grey; on the screen at work, and at home. She gets lost in her own house; she gets lost looking out of her own eyes. She doesn't recognize her family; her daughter becomes mixed up with the child she sees on the screen; the child *is* Sam.

The Pilot clings to her uniform; she leaves it on too much, even at home — but still the flight suit isn't enough. After weeks of watching a target ("the Prophet"), and watching, and watching, and upon being given the order to fire a missile at the ground, she abruptly abandons her weapon, unable (unwilling) to distinguish between her own daughter safe at home and the figure of a child on the ground. But, she finds out, her moral interruption was in vain: she tells the audience "There was another Reaper above me I didn't know/there was another god above me but there was." (62) Her commander tells her "We had our eye on you Major/ For weeks/ The warning signs/Everything is Witnessed." (62) Her colleagues, she implies, do not hesitate to take the shot from the "god above" her. What to them

is perhaps the infamous "bug splat" **[2]** is for the Pilot much larger. Her inability to *not* see the child manifests the intention of another piece of drone art, the 2014 installation in Pakistan *Not a Bug Splat*, in which an image of a child killed by a drone strike large enough to be seen from high altitudes lay in a field. **[3]**

In the last moments of the piece, the Pilot, defeated, addresses the audience. The stage direction reads: "(*She takes in the audience, addresses them even more directly than before*.)" (63) "You," she says.

> "You who watch me
> Who observe me watch my every move here and I know
> you watch me I know there is a camera somewhere for
> Everything is Witnessed
> You who have slaughtered my child
> Sealed me in this tomb
> Away from my husband
> My blue
> You who seal me in a tomb and think you are safe
> Know this
> Know That You Are Not Safe
> Know That You Can Keep Me Here Forever You Can
> Bury Me in a Bunker of Grey But That Does Not Protect
> You for One Day it Will Be Your Turn Your Child's Turn
> and Yea Though You Mark Each and Every Door with
> Blood None of the Guilty Will Be Spared
> None
> None
> None
> (*She successfully performs her motion*.)
> boom
> (*Sound and lights out*.)" (Brandt 2014, 64)

At the Public Theatre, Anne Hathaway performed this final message to the audience with the exceedingly confrontational style suggested by the playwright—a tone and focus rarely seen in conventional theatre, where we don't point guns at the audience, criticize them (they have paid to watch, after all), or chastise them. The process of dehumanization that she has gone through is complete. The effect of the drone — the drone effect — is complete. What she is left to understand is that "Everything is Witnessed." War, for this Pilot, is real, not real, too real. It's normal, it's peace, it's a grey screen. She knows now that watching doesn't make you innocent; being watched doesn't make you guilty. *No* one is *not* watched, and this is where the drone effect inhabits the everyday. By the end of the play, the mall has become just as scary a place for the Pilot as war. There, we are watched, and the Pilot understands over time that just as she looks at her target ("the Prophet") she is looked at by surveillance cameras in her local shopping center. She begins to understand that the war zone, the battlefield, the theatre of war are arbitrary terms, and that the reality of "war" is far more complex.

As she finishes her final monologue implicating the audience, I am struck by the silent bodies surrounding me. They are captivated — I can smell the liberal guilt. When the final blackout yields to the lonely curtain call, the

[2] A 2012 Rolling Stone by Michael Hastings, "The Rise of the Killer Drones: How America Goes to War in Secret," revealed the use of the term "bug splats" for drone strike casualties. See http://www.rollingstone.com/politics/news/the-rise-of-the-killer-drones-how-america-goes-to-war-in-secret-20120416.

[3] See notabugsplat.com.

audience applauds the moviestar Anne Hathaway with great enthusiasm. As I shuffle through the New Yorkers heading back through the awkward stairways at the Public Theater, I listen to the praise around me. Everyone seems to make their exit exuding indignation around the drone issue.

This, I thought, is our culture now: this is drone culture.

Drone Cultures

George Brandt's 2013 play *Grounded* is but one of many pop culture meditations on the drone in culture. It is important to contextualize the cultural milieu that has produced *Grounded* and the other examples analysed in this essay. Adam Rothstein picks up on this ever-increasing fascination in his essay "Drone Ethnography" telling the reader: "You are obsessed with drones. We all are. We live in a drone culture, just as we once lived in a car culture. The Northrop-Grumman RQ-4 Global Hawk is your '55 Chevrolet." (Rothstein 2011). Cultural texts about the drone have emerged out of a growing awareness around the world of the use of surveillance and weaponized UAVs by the U.S. military and the C.I.A. This awareness, made visible in the mass media, implicates American culture. The U.S. is only one of many nations using drones — and it is important not to forget that the terms drone, UAV, and RPA (alongside their good friends, robots) encompass an extremely broad range of machines that vary in size from that of an insect to a jet — and yet the power of American exceptionalism allows popular perceptions to emphasize the Americanness of the drone *pilot*. Americans are riveted by the idea that their "heroes" who used to fly jet fighters — who, on the morning of 11 September 2001 were prepared to give their lives to stop planes from reaching their targets **[4]** — are now stuck in containers in the desert playing video games with real missiles. American culture has "gotten to know" drones. But what exactly is drone culture?

Citing Trevor Paglen's photograph entitled *Reaper Drone* (2012) taken from two miles away, Lenny Simon credits artist and geographer Paglen with "represent[ing] the space that drones inhabit in the public imagination." (2013) Looking more like a mistake than an example of powerful conceptual art, the grainy photograph "is extremely distorted", but "the hulking Reaper is immediately recognizable as a drone." Simon explains that this image, at once "highly obscured and abstracted and yet eminently recognizable", is one of many works by Paglen that captures the "tension between [drones'] outsize presence in mass media and the fact that they are rarely, if ever, physically seen." (ibid.) This tension — between visibility and invisibility, one of the many binaries produced by the drone — guides me as I try to pinpoint the nature of "drone culture." Actually, I should say drone cultures. I can think of at least four:

1) Drone culture could refer to a way of life for those who work directly with drones — those who are distant, but adjacent, and "safely" behind the drone. Those who — as American popular culture loves to represent — get to fight a war and still make it to their kids' baseball games. Those who — as is

[4] Heather Penney, one of the first female F-16 pilots, was given orders on 9/11 to stop flight 93 at any cost, even if it meant flying into the hijacked plane. See Hendrix (2011).

becoming increasingly clear — suffer from a unique type of post-traumatic stress. **[5]** The pilots in *Grounded*, *Good Kill*, and *5,000 Feet Is the Bes*t fall into this category.

2) Drone culture could also be about the lives of those *below* the drone; the people who are watched, threatened, traumatized, injured or killed by weaponized UAV. The people who hear the *droning* of the drone, day after day — a sound that some argue creates a unique form of "terror" over villages in Yemen, Pakistan, Somalia, and other countries. These are the "bugsplats".

3) Still another way of looking at drone culture, and the example that can be applied globally if not experienced similarly by all, is the massive geopolitical status quo within which a privileged few can buy, make, or operate a drone if they so chose (i.e., be "above"); while others can only hope that a drone will be their *deus ex machina*, an unlikely but sudden lifesaver carrying food or medicine. In this context, everyone shares only one characteristic: everyone exists, at one time or another, potentially "below" *some* drone.

4) Next to this actual global drone culture is the realm of expressive culture — the artistic representations of the drone, including poetry, fiction, photography, film, video, television, theatre, performance and installation art, music, and digital art. "A key feature of the drone art movement," explain the authors of "The Drone Primer", is that "the drone has served a dual role as both a subject of the artwork and a tool for creating it." (Gettinger, et al. 2014, 15) Drone culture — drone art — therefore, refers to the growing work of artists who *use* the drone as an artmaking tool, as is the case for the grafitti artist KATSU. Yet another way of looking would include those who *use* art to *respond* to the drone, as an artist such as James Bridle does. Drone art/culture is both high- and low-brow, subversive and sanctioned. Drone art/culture includes the work of Trevor Paglen, whose photographs have been shown in art galleries and Omer Fast's *5,000 Feet Is the Best*; but it also includes conventional plays like *Grounded* and Hollywood movies like *Good Kill*.

Of course there are many more than four ways to define drone culture. For all of these definitions, however, there remains one constant, relentless question: How does the weaponized, targeted-killing drone *relate* to the "harmless" machines that hobbyists, corporations, artists, healthcare providers, and many more are so eager to exploit for "good", for profit, and even for debate? They are all real objects, but the way they perform in our imaginations turns them into something we can't really process on a serious level — how can the mind process the aircraft that fires a laser-guided missile with a film student's new toy that flies in the park and films a scene? For Adam Rothstein, "Drones are a cultural node — a collection of thoughts, feelings, isolated facts, and nebulous paranoias related to a future-weird environment." (2013) How do we make sense — how do we *justify* — using the same word: drone? Or are these two — the weapon and the toy-tool — really not that different at all? Even the weapon-wielding drone is often used as a protector for troops on the ground, looking out for IEDs and nearby

[5] See, for example, Dao 2013.

enemy combatants. How can these functions be reconciled?

Drones Are Not Real. Drones Are Real.

Perhaps they can't. Adam Rothstein makes this clear using a lens of "fiction" vs. "non-fiction": "Drones are not real", he writes. "[T]hey are a cultural characterization of many different things, compiled into a single concept. [...] A[n] iParrot quadrocopter has more to do with a model train than it does with a Global Hawk, and yet when we write about 'drones' we are always referencing both of these together, and therefore, we are already out of the domain of non-fiction, even if we still surround ourselves in facts." (2013) Rothstein's analysis of the drone acknowledges how monumental the technology's impact is and will continue to be in the future.

It is crucial for anyone with a serious interest in understanding drone cultures to at least get a sense of this magnitude. For starters, the vast majority of UAVs are not armed (Abizaid/Brooks 2014, 22). Much of the job of drones is surveillance — and to that end, the U.S. has placed a lot of these planes in the air. A former counterterrorism official told the *New Yorker*'s Jane Mayer in 2009, "At any given moment [...] the C.I.A. has multiple drones flying over Pakistan, scouting for targets." In fact, "'there are so many drones' in the air that arguments have erupted over which remote operators can claim which targets, provoking 'command-and-control issues.'" (Mayer 2009) More recently, the *New York Times* published numbers on U.S. drone pilots and flights. There are currently 1,200 UAV pilots. Furthermore, the Air Force plans to decrease the number of "armed surveillance drones to 60 a day by October from a recent peak of 65" in part because so many pilots are leaving the program (Drew/Philipps 2015). Pilots have cited long hours, boredom, fatigue and stress as reasons for quitting. They spend most of their work hours essentially "flying" cameras that watch. Drones provide surveillance often for months before taking a shot.

That does not, of course, diminish the impact of civilian deaths and injuries attributable to drone strikes. The UK's Bureau of Investigative Journalism regularly updates their statistics page — here are some sample numbers that appeared in June 2015:

Pakistan CIA Drone Strikes 2004-2015
Total strikes: 419
Obama strikes: 368
Total killed: 2,467-3,976
Civilians killed: 423-965
Children killed: 172-207
Injured: 1,152-1,731

Yemen 2002-2015 US Covert Action
Confirmed drone strikes: 99-119
Total killed: 460-681
Civilians killed: 65-97
Children killed: 8-9
Injured: 88-221

The website indicates that there are additional suspected strikes in Yemen. The same page also lists confirmed strikes in Afghanistan as part of the military campaign there, and a smaller number of strikes in Somalia (BIJ 2015). Keeping track of people injured and killed in drone strikes, is, for better or worse, a task that has been relegated to investigative journalists, because the White House does not officially acknowledge many of the U.S. strikes. Furthermore, the Stimson Report points out that "few strikes are 'all military' or 'all CIA'", resulting in more potential ambiguity (Abizaid/ Brooks 2014, 14). Jane Mayer writes:

> "In contrast to Gaza, where the targeted killing of Hamas fighters by the Israeli military has been extensively documented—making clear that the collateral damage, and the loss of civilian life, can be severe—Pakistan's tribal areas have become largely forbidden territory for media organizations. As a result, no videos of a drone attack in progress have been released, and only a few photographs of the immediate aftermath of a Predator strike have been published." (2009)

Without documentation, the U.S. drone program itself is not visible for "average Americans", for those privileged enough to be spared the gaze or the weapons of the Reaper. For them, the drone is invisible, the drone is not real. Popular culture *makes* it real; mainstream representations of the drone perform its stories, whether on the news or in the movies. As Timothy Melley explains,

> "the public "knows" about covert action through popular *fiction*. A key cultural consequence of covert warfare, in fact, is that fiction is one of the few permissible discourses through which writers can represent the secret work of the state, which the public must ultimately approve "sight unseen." Foreign and domestic intelligence is thus a major subject of popular culture, central to thousands of films, television serials, novels, and electronic games." (2012, 9)

The plots of "covert" actions need to be pieced back together by observers: creators and audiences. Melley points out that these stories sometimes lead to "virtual propaganda for the National Security State," and at other times to "a major stimulus for postmodern epistemological skepticism." (10) For the drone, the result of this confusion and contradiction ultimately leads to far more attention paid to the weaponized UAVs, and in the resulting public perception, these machines dominate the popular imagination. Pop culture, therefore, enables the Predator and the Reaper to become known as the go-to definition of "drone".

Good Kill

With names like *Predator* and *Reaper* it can hardly surprise that Hollywood has fallen for the drone. The 2014 film *Good Kill*, like *Grounded*, presents a fictional representation of a drone pilot. If *Grounded* tends to turn on its comparatively elitist theatre audience with an awareness of the collective

harm that drones suggest, the major motion picture *Good Kill*, which ran in U.S. cinemas in May 2015, delivers a far more sinister pill. Taking its name from the military slang "good kill", the film's seemingly harsh criticism of a flawed policy is strangled in its own ideology from the start. Written and directed by New Zealand — born Andrew Niccol, *Good Kill* did not have the blessing of the U.S. government, and for this reason was financed in Euros (Pasternack 2015).

Ethan Hawke stars in *Good Kill* as another disappointed former fighter pilot who gets assigned to fly a UAV after years of combat missions. As in *Grounded* the desert landscape dominates the mise-en-scene — drawing clear comparisons between the deserts being watched and targeted on screen with the desert inhabited by bored pilots who would rather be miles above. The film makes clear that Egan is haunted by what he can see on his screen. In contrast, the Pilot in *Grounded* is often tortured by what she *can't* see, by the fuzziness of the picture. *Good Kill* portrays the drone strikes as calculated and precise; there are "good" ones and "bad" ones. When the team hits a bad guy, the viewer is pleased. When the god-like voice of the C.I.A. on speakerphone tells Egan to strike even when there is a woman or a child present, the bad guy is the C.I.A. The longing of former jet pilots to be able to get up into the sky and kill bad guys themselves, on their own terms, is portrayed in the film both by removing the decision-maker from the visual field on the film ("he" is on speakerphone) but also through the line of fighter jets lined up in a row, parked — grounded — on the base. Nearby rows of shipping containers are also lined up, actively flying drones thousands of miles away. Tommy Egan spends much of the film looking at the sky and looking at the horizon. Like *Grounded*'s Pilot, he seems to be constantly trying to get his bearings, trying to get perspective from the ground, trying to adjust the "normal" perspective that becomes increasingly distorted with hours spent in front of the screen. There is nothing normal at Creech, this movie wants to say. When Egan drives his (very fast, like *Grounded*'s Pilot) car to work, he stops along the way and greets a police officer standing in the road with a radar gun: "Hi Major", says the copy, "how's the war on terror going?" Tommy replies: "About the same as your war on drugs" and speeds off.

Good Kill attempts to show the tension between real and virtual, good and bad, peaceful and violent, ordinary and extraordinary. Like *Grounded*, much is made of the irony that Las Vegas, like Baudrillard's Disneyland, is home to the real-fake, and contains much violence. In Vegas the everyday is where a fantasy, the strip, confronts reality, which is depicted in *Good Kill* well within the liquor store Egan frequents, and where he at one point becomes violent. Egan, like his colleagues, are casualties of the buzz of war. Pilots get their own "rush" from flight, but troops on the ground also describe the heightened, violent reality that can become in its own way addictive. Egan is not just "home" from battle; he is confronted with having to wear his flight suit into battle every day for hours of mundane, mind-numbing boredom.

The flight suit is an issue for both pilots: *Grounded*'s has sex with her husband in it; it is the actor's only costume; it brings her comfort and torment. In *Good Kill*, Tommy Egan abruptly asks his commanding officer, Lt. Colonel Jack Johns, "Why do we wear our flight suits?" with a tone that points to an obvious fact no one wants to acknowledge: the suit is a costume worn for a performance in which one plays a pilot. Johns acts as well—early in the movie he delivers a quick and catchy speech to trainees ("younger than some of the food in his fridge") about drones ("the future"). Later in the film, and with some serious disillusionment under his belt, Egan sees Johns performing the same monologue for a new group.

Egan is disillusioned in the film because he *has* to be; it's the only way for the audience in the cinema will be able to process the story of the drone. There is only one story of the drone, just as there is only one story of the clone, robot, or alien with weapon capabilities. That story is fiction. As Tim Melley points out, "the public 'knows' about covert action through popular *fiction*." The film begins with the authoritative "based on actual events" tag, and inserts news stories sporadically. **[6]** At one point Tommy Egan, looking up at the sky, tells his wife, "Imagine praying for gray skies," explaining that civilians below the drones know they fly more often in clear skies. His comment seems to refer to the testimony of 13-year-old Zubair ur Rehman, who, in October 2013, told the five members of the U.S. Congress present:

> "Now I prefer cloudy days when the drones don't fly. When the sky brightens and becomes blue, the drones return and so does the fear. Children don't play so often now, and have stopped going to school. Education isn't possible as long as the drones circle overhead." (quoted in McVeigh 2013)

Zubair's words have been quoted in many publications. His testimony describing the day his grandmother was killed by a drone strike is not only compelling; it aggressively inserts the everyday reality of living "below" the drones. Embarrassing as it may have seemed, it makes sense that so many members of the U.S. Congress were not willing to be present to listen. Yet his words are erased in *Good Kill* as they are paraphrased and spoken by the *fictional* American pilot. In fact, this is the problem with *Good Kill* — and I'm being more than kind, because there are many problems with the movie (!). In *Good Kill*, the Hollywood protagonist is the figure that receives the story, suffers the emotional journey of realizing he can't go on, can't condone the drone, and purposefully (like *Grounded*'s Pilot) slips and misses the shot. That action — *not* taking the shot — is apparently what needs to be done; what we would do; what those of us watching should-would do. That action also *injures* the actor.

Good Kill attempts to expose the "moral injury" suffered by drone pilots — the particular kind of PTSD that someone killing remotely experiences. Although Niccol and Hawke spoke to drone pilots as the movie was in development, at least one former pilot is not happy. Brandon Bryant, who has become well known for speaking out about the unique and troubling realities of being a drone pilot, told Alex Pasternack that "he was approached

[6] For example, one scene in the film during which a drone strike kills several people and is followed up with another strike on the victims' funeral, sounds much like Jane Mayer's (2009) report:
"On June 23rd, the C.I.A. reportedly killed between two and six unidentified militants outside Makeen, and then killed dozens more people—possibly as many as eighty-six—during funeral prayers for the earlier casualties. An account in the Pakistani publication The News described ten of the dead as children. Four were identified as elderly tribal leaders. One eyewitness, who lost his right leg during the bombing, told Agence France-Presse that the mourners suspected what was coming: 'After the prayers ended, people were asking each other to leave the area, as drones were hovering.' The drones, which make a buzzing noise, are nicknamed machay ('wasps') by the Pashtun natives, and can sometimes be seen and heard, depending on weather conditions. Before the mourners could clear out, the eyewitness said, two drones started firing into the crowd. 'It created havoc,' he said. 'There was smoke and dust everywhere. Injured people were crying and asking for help.' Then a third missile hit. 'I fell to the ground', he said."

by the producers of *Good Kill* in 2013 and gave notes on an early script, but hasn't heard from the filmmakers since then." Pasternack quotes Bryant's criticisms of the film:

> "'Andrew Niccol took my story and warped it to his own,' says Bryant, who has seen the film. 'They snubbed me and created a terrible film with no intelligence behind it.' [...] Bryant says he fears the movie will be lost on its audiences. 'All it is going to do as it stands', he says, 'is make people who are in the service angry. The people who associate themselves with being 'grunts' are going to be further wound up and ignorant about the whole mess. Kids who think that this is video gaming IRL are going to eat it up without actually realizing the true impact of what it does to the human mind and soul. And Americans are going to find it mildly entertaining at best and forgettable at its worst. It doesn't allow people to question or care.'"(Pasternack 2015)

Bryant told *Newsweek*'s Lauren Walker that the film does not deal fairly with the real issues faced by drone operators. The "filmmakers [...] have a responsibility to weigh in on the remorse that many of them face." By not calling what the pilot goes through PTSD, Bryant told Walker, the filmmakers are "'marginalizing the traumatic effects of personal experiences.'" (Walker 2015) Considering that Egan is drunk for much of the film, throws his wife up against the wall and pounds his fist through it, drives while intoxicated, is haunted by what he sees on his console screen, and has trouble going on with the status quo of "normal" life, PTSD may not be named but it is implied. The filmmakers argue that they were trying to leave the conversation an open one without confining the pilot, Tommy Egan, to a diagnosis.

In the end, *Good Kill* is not only polemical, didactic, and heavy-handed; it's also weak — it has more in common with *Top Gun* than it should, it has too many two-dimensional characters, and it conflates drones with strikes, which leads not to the public debate the filmmakers wanted, but to more assumptions that all drones do is drop missiles. The reality is that a feature-length film is not capable of instilling the sense of boredom experienced by real drone operators. This is part of the reason why a film cannot capture the magnitude of the 'drone effect'. **[7]** However, *Good Kill* performs the drone effect *perfectly*. In a drone state disconnected with the reality of the drone — with the reality of who is above and who is below — the plot, theme, characters, production design, and audience reception of *Good Kill* doesn't come close to opening a discussion about the concept of the drone — not its past, present, or future. And yet, criticized or praised, *Good Kill* is "the movie about drones." *Good Kill* elides necessary discussions about the nature of drone cultures, drone states, and the drone effect. It is a movie that tells audiences something about drones that, under the guise of "actual events", produces only a fiction in which the drone is not real.

The Bow and Arrow

The claim that the drone is not real is, of course, a facetious one. The issue

[7] An exception might be *5,000 Feet Is the Best*. A 2011 short film by Omer Fast, 5,000 Feet juxtaposes a fictional interview with a drone pilot in a hotel room conducted documentary-style with a scene of an "American" suburban family headed for a country outing in an "occupied" Nevada. The family dies in a drone strike.

is perhaps not about whether it's real, but about what the distance between shooter and target really means. The Predator isn't just a weapon; it's the ultimate bow and arrow. It takes its place in a long history of advantage gained through distance in war. The authors of the 2014 Stimson report on drone policy explain:

> "Throughout human history, the ability to project force across significant distances has been a sought-after military capability, and innovations in the creation and use of long-distance weapons have at times enabled major social and political shifts. [...] In our own era, the development of lethal unmanned aerial vehicles (UAVs) has generated similar consternation. Like the crossbow, the longbow, the cannon, the machine gun, the long-distance bomber and the cruise missile, UAVs [...] are often viewed as a military "game-changer," offering soldiers and policymakers expanded tactical options against a broad array of targets. [...] And like other long-distance weapon innovations from times past, lethal UAVs have been both praised and vilified." (Abizaid/Brooks 2014, 17)

In other words, every time we change the game of war, we change everything. And *that's* why there are drones in the park. In *Wired for War* Peter W. Singer describes tiny drones that will follow people like a buzzing fly. The "harmless" drone isn't even necessarily harmless. The game is changed.

But what kind of game? Sitting at a console with video screens, buttons to press, joysticks to manipulate, is flying a drone like playing a videogame? That is what Philip Alston argued in his UN report: "because operators are based thousands of miles away from the battlefield, and undertake operations entirely through computer screens and remote audiofeed, there is a risk of developing a 'Playstation' mentality to killing." (2010, 25) As many other critics have argued, not only would the experience of flying a drone and releasing a weapon from a screen be problematic for its similarity to playing a videogame; by conducting war remotely and safely pilots cannot operate with the same sense of risk and gravity that they would in the actual war theatre.

Alston's argument makes enormous sense; and yet, it may not be accurate. The pilot interviewed in *5,000 Feet Is the Best* talks about how he returns home from work and plays videogames for several hours to wind down — an activity that implies something different than what happens at work. For the authors of the Stimson report, conflating the drone and the videogame is definitely a misconception.

> **"UAVs do not turn killing into 'a video-game.'**
> [...T]here is nothing new about discomfort with innovations in long-distance weapons. UAVs permit killing from a safe distance — but so do cruise missiles and snipers' guns. And ironically, the men and women who remotely operate lethal UAVs have a far more 'up close and personal' view of the damage they inflict than the pilots of manned aircraft, who speed past their targets in seconds from far above. In fact, some evidence suggests that UAV operators are particularly vulnerable to post-traumatic stress: they may watch their

> targets for weeks or even months, seeing them go about the routines of daily life, before one day watching on-screen as they are obliterated. […]" (Abizaid/Brooks 2014, 25)

Operating a drone is not playing a videogame, and yet, because it's *not* a bow and arrow — because the pilot sees through a screen close-up what a human would naturally never see from far away — s/he can experience trauma as if s/he were 'right there'. A similar argument could be made for snipers who see and watch a magnified image of their target from afar. Writing in the *New Inquiry* Aaron Bady even compared the famous U.S. sniper Chris Kyle, who killed hundreds with his rifle, to the drone. "[Kyle] was a drone, a machine for killing without conscience. You might even describe him as 'un-manned.'" (Bady 2015) On the one hand, the comparison is a provocative one — indeed, doesn't the military regularly dehumanize people as they train to be "warriors" with the ability to target and kill another human? On the other hand, the comparison doesn't hold; not only does it not account for the major issue of autonomy (i.e., humans have more autonomy and decision-making capabilities than drones), but it also misses the mark of the very human characteristic of creativity. In his memoir *American Sniper*, Kyle writes: "When you're in a profession where your job is to kill people, you start getting creative about doing it." (2012, 238) The question perhaps is less whether mediation makes killing a videogame, but whether killing can be called a game.

The fact that a console, screens, buttons and joysticks makes a drone operator *feel* like she is on PlayStation may make it easier to pull the trigger (the 7,000 mile distance certainly makes it safer), but the uncanny proximity offered on the screen and the particular mediation of images such as thermal detection, which allows for drone operators to watch as a body turns cold, make for a scene that could very well replay in a loop in the pilot's mind. Or, they may just be tormented by the *possibility*: Colonel James Cluff, who leads the drone operations from Creech Air Force Base, told the *New York Times* that an internal, yet-unreleased military study "found that the fear of occasionally causing civilian casualties was another major cause of stress, even more than seeing the gory aftermath of the missile strikes in general." (Drew/Philipps 2015). The ultimate bow and arrow clearly carries its own unique baggage:

> "What had seemed to be a benefit of the job, the novel way that the crews could fly Predator and Reaper drones via satellite links while living safely in the United States with their families, has created new types of stresses as they constantly shift back and forth between war and family activities and become, in effect, perpetually deployed."(Drew/Philipps 2015)

Don't forget the classified nature of most of the work-day, leaving pilots with little to talk about with their families. Being so far away from the danger of the battlefield that you commute to the war isn't necessarily what it is cracked up to be.

The Battlefield

It is really no wonder that some critics begin to think about the drone as something impossible to discuss in fact-based language. How can the drone be 'real' when it is essentially a website? Pilots look at what the camera shows them *via the web*. It's a webcam and the remote controls keep the plane in the air by relying on enormous amounts of data exchanged per second. It's a kind of war only possible in the information age: the war on terror. The post 9/11 status quo, originated in the Bush White House and taken around the world, has involved one fundamental shift in understanding conflict: Terrorism, once treated as a crime (whether war crime or plain-old crime) and prosecuted using the justice system, is now war. The Stimson report states: "Basic categories such as 'battlefield', 'combatant' and 'hostilities' no longer have clear or stable meaning. When this happens, the rule of law is threatened." (Abizaid/Brooks 2014, 12) Acts of terror are acts of war. Where there is terrorism, there is war. Where there is a terrorist, there is a battle. The battlefield can be anywhere. The battlefield is everywhere. Which is great, because that's what drones are for — to go *anywhere*. To get to inhospitable corners of the world where, of course, terrorists love to 'hide'.

Even without my own hopefully healthy dose of cynicism, it can't be denied that the particular nature of terrorism in the 21st century, as the Stimson report authors argue, challenges traditional war geographies. "The rise of transnational non-state terrorist organizations confounds preexisting legal categories. In a conflict so sporadic and protean, the process of determining where and when the law of armed conflict applies, who should be considered a combatant and what count as 'hostilities' is inevitably fraught with difficulty." (12) The Stimson task force members acknowledge that *where* the rules of war should apply is a tricky question. But assuming that anywhere and everywhere is the answer, the next problematic war question is *who*? Who gets targeted as an enemy combatant not worthy of due process but assassination?

> "While our military and intelligence communities have grown increasingly adept both at identifying and confirming the identities of al-Qaida affiliates and at precise and careful targeting, the criteria used to determine who might be considered targetable remain unknown to the public."(12)

The very nature of the war on terror and its proclamation in the form of the 2001 Authorization for Use of Military Force (AUMF) continue to justify "targeted strikes outside of 'hot' battlefields" (13). Although the Obama administration defends its actions as legal, there is little attention paid to adherence to law for numerous reasons, from the lack of public debate to creative and secret interpretations of phrases such as "imminent threat". These shortcuts are part of the larger drone culture that we now live in. They are part of the *drone state*.

The Drone Effect

In his philosophical inquiry into the concept of the drone, Grégoire Chamayou argues that the state that uses the drone is inevitably and completely changed by such use:

> "By inventing the armed drone one has also, almost inadvertently, discovered something else: a solution to the central contradiction that for several centuries has affected the modern theory of political sovereignty in matters of warfare. The generalization of such a weapon implies a change in the conditions that apply in the exercise of the power of war, this time in the context of the relations between the state and its own subjects. It would be mistaken to limit the question of weaponry solely to the sphere of external violence. What would the consequences of becoming the subjects of a drone-state be for that state's own population?" (Chamayou 2015, 18)

So by having drones, we are affected by drones. It may not quite be the observer effect — but there seems to be a *drone effect* inherent in this argument. We — those consituents of the drone state, the state-with-drones — are fundamentally changed by the possession and use of such technology. The idea is not completely new; the nuclear state has the same logic. The difference, I would argue, is the accessibility of the technology at hand. Although we are still very far from every home having a fusion-powered cooker, we have arrived at the moment of the drone, and the deliveries from Amazon are imminent (in the U.S.) if not already there (in China).

For Nicholas Mirzoeff (2015), the drone "epitomizes the new moment in visual culture." He writes:

> "War has gone back into the air—but with a twist. The now ubiquitous Unmanned Aerial Vehicle (UAV) or drone visualizes its operations from above, consistent with the long history of seeing the world as a battlefield from the air. [...] There is no longer a battlefield, only zones of surveillance. Those zones have moved beyond the official conflict areas to all the major areas of government concern that have been designated as 'wars', in the metaphorical sense, such as border security and drugs. The drone literally makes politics into war by other means. Political officials decide whether or not to target specific individuals and even watch the results."

The top of this chain is represented in the executive power of the U.S. Presidency and the so-called kill list. Philip Alston explained to Jane Mayer why kill lists, targeted killing, signature strikes and the like are a slippery slope:

> "Alston describes the C.I.A. [drone] program as operating in 'an accountability void', adding, 'It's a lot like the torture issue. You start by saying we'll just go after the handful of 9/11 masterminds. But, once you've put the regimen for waterboarding and other techniques in place, you use it much more indiscriminately. It becomes standard operating pro-

> cedure. It becomes all too easy. Planners start saying, 'Let's use drones in a broader context.' Once you use targeting less stringently, it can become indiscriminate." (Mayer 2009)

Mirzoeff further explains the political power wielded by the drone:

> "Here politics is again war by other means. The goal is no longer to win the war, but to make sufficient political gains, especially at home, to justify the action. Seen in this way, it is perhaps less surprising that the current means of visualized war are missiles fired from drones, controlled from home territory, based on sovereign decisions also taken remotely, at home." (Mirzoeff 2015)

For Mirzoeff, these actions are quite simply not only an extension of war's "distance", but a farther step away of the general from the battlefield. The drone, he argues, produces a "militarized way of seeing the battlefield" and the growth in drone numbers represents the extension of this militarization to other areas of everyday life, especially in the context of surveillance (ibid.).

In this sense, the drone strike is not far removed from the private or commercial use of drones; they are of the same kin; they *look* at the same "battlefield" (the park?). And "we" are potentially equally "below", within view. For both Chamayou and Mirzoeff, the effect of the drone is precisely the collapse of "above" and "below". As Melley argues, the covert operation will never be known, but will always be known — through *fiction*. Because the drone state exists, we (the whole world) are all its subjects. By developing and/or flying the weaponized drone, the U.S., the U.K., Israel, Pakistan, Russia, and Iran have produced a global drone effect.

COIN and the Drone

The drone effect makes us all potential targets. So far, however, the lived experience of weaponized drones around the world has been much more uneven than that. Life in much of the "battlefield" is dangerous and difficult. But for those privileged enough, civilian life is a peaceful life; a life of *violent* peace. Peace enabled by the violence happening elsewhere. Slavoj Žižek explains this cunundrum in terms of the word "terrorism" — the word that justifies the drone strike:

> "What is your [...] 'terrorism' compared to the terrorism which we simply accept, which has to go on day by day so that things just remain the way they are? [...] When we talk about violent terrorism, we always think about acts which interrupt the normal run of things. But what about violence which has to be here in order for things to function the way they are?" (quoted in Democracy Now 2011)

In a sense, the drone flying performs the idea of distance from violence. So high in the air, so powerful with its hellfire attached and its ability to assure its pilot complete protection from physical harm, the drone symbolizes a sanitized, preferred notion of war, and of culture. This sanitized theatre

of peace asserts the culture of counter-insurgency, the policy that General David Petraeus was credited with thoroughly revising in 2006. The drone enforces counter-insurgency: be good, abandon the insurgents, join "our" culture, or be targeted. Acquiesce. Or else. Nicholas Mirzoeff explains that "[i]n the era of United States global policing, war is counterinsurgency, and the means of counterinsurgency are cultural. War is culture." (2009, 1737). Terrorists, or insurgents, exist within the framework of the culture of counterinsurgency as the enemy — a distinction often subverted by the insurgents. Terrorist networks are more difficult to accurately identify and combat than, for example, Cold War enemies. War as culture had a more concrete role during the Cold War, when the enemy was a clearcut figure of opposing ideology. The turn-of-the-21st-century war-culture is more inchoate, returning to previous centuries with an emphasis on religion, imperialism, and colonialism in the form of counterinsurgency: the ongoing, perhaps eternal, process of attempting to "bring around" insurgents, rebels, resisters, protestors, those who go against the "host-nation" as the U.S. military refers to such states. Although the essence of COIN — hearts and minds — must happen on the ground, Mirzeoff describes the importance of the visual realm in counterinsurgency — the need for COIN missions to have a constant sense of the domain, of the map, the space, the place, the battlefield, the theatre of counterinsurgency. By providing much of the visual intelligence, the drones, looking from above, allow troops below to see what others — surrounding civilians, possible insurgents — cannot.

The 2006 Counterinsurgency Manual published by the U.S. Army defines insurgency and counterinsurgency in broad terms:

> "**Insurgency** and its tactics are as old as warfare itself. Joint doctrine defines an insurgency as an organized movement aimed at the overthrow of a constituted government through the use of subversion and armed conflict (JP 1-02). Stated another way, an insurgency is an organized, protracted politico-military struggle designed to weaken the control and legitimacy of an established government, occupying power, or other political authority while increasing insurgent control.
>
> **Counterinsurgency** is military, paramilitary, political, economic, psychological, and civic actions taken by a government to defeat insurgency (JP 1-02). These definitions are a good starting point, but they do not properly highlight a key paradox: though insurgency and COIN are two sides of a phenomenon that has been called revolutionary war or internal war, they are distinctly different types of operations. In addition, insurgency and COIN are included within a broad category of conflict known as irregular warfare." (2006, 1)

Counterinsurgency must bring these insurgents — who must be distinguished *from* the general public and yet whose defeat relies on the conversion of the same general public—into acquiesence; into harmony — through an intercultural communication not distinctively marked by difference. "Victory", the Manual reads, "is achieved when the populace

consents to the government's legitimacy and stops actively and passively supporting the insurgency." (1ff.) The targeted and signature strikes are intended to hasten such a victory — but many fear that these actions — with their civilian casualties — merely serves to create new insurgents.

The Moral of the Stories

Civilian casualties, collateral damage, and the targeting of U.S. citizens: These ideas populate the most salient questions regarding drones and the type of war waged by UAVs. Is it right — is it justified — to target designated "enemies" and remotely fire a weapon that may do more damage than planned? Or are such missions the end of morality for the U.S? Torture was bad enough, but now we *really* don't have to get our hands dirty. Obama has used drones more than Bush. And what about the pilots of said drones? Aren't they in an awkward position?

Ah, the pilots.

In the U.S., where we love the idea of the hero/ine, fictional representations of drone culture have focused on the protagonist-pilot. Not surprisingly, politically charged documentaries such as Robert Greenwald's *Unmanned: America's Drone Wars* (2013), Jeremy Scahill's *Dirty Wars* (2013), and Tonje Hessen Schei's *Drone* (2014) have emphasized political and legal issues. *Good Kill* and *Grounded* both take on the drone issue through the use of a main character who pilots a drone. Both stories clearly attempt to approach the issue with kid gloves, at times desperately trying to valorize the "veteran" while stirring up juicy drama. However, neither story handles the drone effect in a critical way. If documentaries are inevitably wrapped up in the "truth" of their own political agenda, and fictional films are tangled in narrative, then perhaps an "art film" can help.

Omer Fast's *5,000 Feet Is the Best*

The Berlin-based artist Omer Fast is a filmmaker whose works collapse the distinction between documentary and fiction. His 30-minute film *5,000 Feet Is the Best*, which premiered at the Venice Biennale in 2011, juxtaposes a 'real' interview conducted with a drone operator and a fictional nonlinear narrative of an interview with a drone pilot. Fast, who grew up in Israel and the U.S., works through repetition, detached voiceover, and anecdotes throughout the film. The piece opens with the actor Denis O'Hare walking through a hotel hallway, passing a stranger (or another drone pilot?), and knocking on a door. Someone unseen opens the door, and the shot cuts to the inside of the room and a seated man, who asks: "Everything OK?" The camera pans to reveal O'Hare comfortably lounging on the hotel bed. Everything is OK, he assures the man, and asks him "So what do you want to talk about?" Like a therapist, the man asks: "That's what I was going to ask you." But O'Hare, like a reluctant patient, scoffs. "Man, I don't want to talk about anything. You're the one paying, remember?" The composition and tone of the scene recalls a therapy session as much as a prostitute's trick.

The opening sequence continues with a loud beep, that, the viewer realizes, is a noise only the pilot hears. He seems stressed, annoyed. The interviewer probes him to explain the difference between flying a drone and flying a plane. Instead of answering, the pilot tells a story. This scenario is repeated in the film three times, and is interspersed with footage of Fast's interview with a drone operator. That pilot's face is blurred on screen as he describes the technical details of working a Predator. When he talks about his PTSD, about the view from above ("5,000 feet is the best", he says. "You have more description [...] plus, at 5,000 feet I can tell you what shoes you are wearing") the screen cuts to aerial shots. The first begins with what appears to be a young man riding a bike in a desert landscape. We assume, as we listen to the pilot talk about the level of detail he could see from 5,000 feet, that the desert we watch is somewhere far away from the hotel room. As the bike enters a residential area, the viewer may be caught off guard — the roofs look more like an American suburb than a Middle Eastern village. The bike continues, the camera follows, and it becomes clear that we are watching from above ... the outskirts of Las Vegas, Nevada. Many drone pilots — including those depicted in *Grounded* and *Good Kill* — live in these suburbs and work an hour away from Las Vegas at Creech Air Force Base. It is the shot of the desert in *5,000 Feet,* however, that most effectively brings the two landscapes together: the landscape of the American desert and that of Afghanistan/Pakistan/Iraq/etc.

Fast layers the drone's interview — and the drone's *view* — with three stories that seem completely unrelated to the life of a drone pilot. In the first, O'Hare describes a train enthusiast who secretly hijacks a commuter train, making it run on schedule all day before — upon returning home where he is locked out of his own house — getting arrested for breaking and entering. The second is more clearly related to Las Vegas: O'Hare relates the con scheme that a couple use to work the casinos, robbing horny men and leaving them trouser-less in hotel hallways. Just as the viewer begins to question where these stories belong in drone culture, the third story justifies the first two. In this tale, a family of four embark on a weekend getaway. Without any explanation, O'Hare describes the life this family leaves in a Vegas suburb under what appears to be an Asian — Chinese? — occupation. They dutifully show their papers at a checkpoint and leave the city. They drive to a rugged area with bad roads. The father — the only one still awake in the car — sees some men with shovels and a pickup truck ahead. O'Hare explains that this is a common sight to the man. They may be farmers, shepherds — or maybe something else. The man just wants to pass. And he does. But the camera shows the scene abruptly from the view above—from the drone, which strikes the shovel men as well as the family as their car drives away. Finally, the dead family exit their car and continue to walk down the road with bloody head injuries: "The family continues their journey. Their bodies will never be buried", O'Hare says. The scene returns to the hotel room and then to an aerial shot — not from directly above but from the horizontal angle — the view from a helicopter — and the voiceover begins a story told by the "real" pilot of one particular event. He

describes a mission involving a hellfire strike on men who placed a roadside bomb. After getting all of the necessary approvals, he explains, the drone sent a laser beam of light onto the target. He calls it the "light of god" — a secret warning to troops who can see it with night vision goggles. "It's quite beautiful", he says.

Conclusion: *We're all God, We're all Bugsplats*

I will end rather abruptly, as Fast's film does. The real pilot stopped the interview, and Fast allowed *5,000 feet* to leave the viewer with the same unfinished feeling he undoubtedly felt when the pilot cut off his story. What I have worked toward in this essay is to understand how the drone has created and will continue to influence a status quo that implicates power and those who have no choice but to trust power. The paradigm of performance allows us to see the drone as a performer and spectator: the drone completes the job (performer) and the drone will endlessly watch unwitting performers on the ground (spectator). The drone is god, and since I can buy a drone, that makes me god. But the drone is also above me, and that makes me a bugsplat. Once I begin to think in these terms, I begin to understand the drone effect. And the lens of performance, which enables representation, opens a space in which we can try to make sense of the drone—through film, installation, theatre, performance. The drone state exists, and the drone effect has come to pass. Performance may however offer a useful way to navigate this new time and space.

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The Drones of Others: An Insight into the Imagination of UAVs in Germany

Sabine Selchow

Abstract:

Unmanned aerial vehicles (UAVs) have come to be a central military technology in the current era and have also recently entered the civil sector. Like any technology, UAVs are not just a technical object with distinct technical qualities but also the product of social negotiations and imaginations in public discourses. This article takes the word *drone* as a distinct component of these negotiations and imaginations of UAVs. With an interest in the German imagination of UAVs, the article presents an analysis of what is captured in the word *Drohne* (*drone*) in a corpus generated from an established German news platform. This analysis provides insight into the meanings attached to the word *Drohne*, such as 'military power', 'hyper-progress' and 'threat to extant technology'. Importantly, it uncovers the distinction between two kinds of 'Drohnen': actors and tools, and unveils a geography of 'Drohne', in and through which 'Drohnen' are 'managed'. With that, the analysis reveals an intriguing subtle theme in the social negotiation of UAVs in Germany. In this theme the technology 'Drohne' is imagined as potentially 'game changing' in nature. At the same time, it is symbolically 'tamed' and organised through a (modern) understanding of bordered social 'containers' in which 'Drohnen' are imagined to exist and are subject to 'compartmentalised' responsibilities.

Keywords: drone, UAV, Germany, social construction, collective imagination, public discourse

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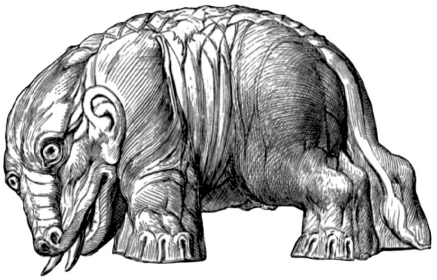

Introduction

Aerial vehicles without a human operator on board that fly via remote controll or guided by dynamic automation systems (UAVs) have come to be a central military technology in the current era. They are appreciated by their proponents as "[g]ood for 'dull, dangerous and dirty' tasks" (Brooke-Holland 2015, 6). Over the past years, UAVs have also come to be of interest beyond the military sector, for public non-military and civil uses and as consumer goods.

With the general spread of UAVs and especially their deployment for 'targeted killings'/'extrajudicial executions' in Afghanistan, Pakistan, Yemen, Somalia and elsewhere, the technology has entered public debates. In addition to concrete concerns about the legality of the use of armed UAVs in combat zones, they are perceived as potential 'game changers' in regard to state-sponsored violence, e.g. as a(n advanced) first step in a trajectory towards the development and deployment of autonomous weapons. There are also increasing concerns about the potentially new kind of surveillance they enable. More generally, the production and deployment of UAVs produce 'global risks', i.e. potential consequences that can no longer be captured through established (modern nation-state) conceptions (Beck 2009).

Like any technology, UAVs are not just technical objects with distinct technical qualities and a pre-set pathway. They are the product of social, political and cultural processes, which feed into their invention and development and shape the context in which they are imagined, i.e. in which they are ascribed with meanings and functions. An important aspect of the shaping of this context are social negotiations of the technology in public discourses. These negotiations and imaginations "provide both conditions of possibility and limits on possibility; that is, they make it possible to act in the world while simultaneously defining the 'horizon of the taken-for-granted' (Hall 1988: 44)." (Weldes et al 1999, 17)

This article takes the word *drone* as a distinct component of these negotiations and imaginations of UAVs. What is special about the word *drone* is that it is used by many as a signifier for all kinds of civil and military UAVs. It brings together and contains meanings from different discourses. As such, it can be taken as a burning glass, in which meanings are thickened and crystallised; it can be seen as a magnet that attracts attention, binds all sorts of meanings from different (including military and civil) discourses and carries them from one (UAV-related) debate to another.

With an interest in the German imagination of UAVs, this article presents an analysis of what is captured in the word *Drohne* (*drone*) in a corpus generated from an established German news platform. This analysis provides insight into the meanings attached to the word *Drohne*, such as 'military power', 'hyper-progress' and 'threat to extant technology'. Importantly, it uncovers the distinction between two kinds of 'Drohnen': actors and tools, and unveils a geography of 'Drohne', in and through which 'Drohnen' are 'managed'. With that, the analysis reveals an intriguing subtle

theme in the social negotiation of UAVs in Germany. In this theme the technology 'Drohne' is imagined as potentially 'game changing' in nature. At the same time, it is symbolically 'tamed' and organised through a (modern) understanding of bordered social 'containers', in which 'Drohnen' are imagined to exist and are subject to 'compartmentalised' responsibilities.

UAVs: potential 'game changers', 'global risks' and social constructions

UAVs have come to be a central military technology in the current era, an assemblage of systems within an assemblage of systems that is used within a 'networked' approach to warfare. The technology of UAV is proliferating (e.g. GAO 2012). Today, "there is not a single new manned combat aircraft under research and development at any major Western aerospace company" (Singer 2012), but a mushrooming number of programmes that focus on UAVs. Over the past years, UAVs have also come to be of interest beyond the military sector, for public non-military and civil uses and as consumer goods. They are employed in the context of border protection, to surveil protesters, for disaster response, land mapping, and as consumer goods. "[F]ive years ago consumer drones didn't exist. Even two years ago, low-cost and easy-to-use commercial drones were largely the subject of futurism. Today the [...] global market for nonmilitary drones has already ballooned into a $2.5 billion industry, one that's growing 15% to 20% annually." (Dillow 2014).**[2]** The interest in developing (sub-systems that constitute) UAVs is not only fueled by the market for the relevant hard- and software but by an interest in (personal) data, "the new 'oil'", as the World Economic Forum (2011, 15) calls it. Following Dillow (2014), the "UAV boom in the heart of techland makes a lot of sense once you realize that America's drone industry is tied up inextricably with the ongoing explosions in data analytics and the so-called Internet of things."

UAVs can be seen as potential 'game changers' in regard to state-sponsored violence in that the technology could be the (advanced) first step in a trajectory towards the development and deployment of autonomous weapons and a kind of warfare in which humans and immediate human decisions disappear (e.g. Singer 2012). Furthermore, UAVs are potential 'game changers' in regard to the new kind of surveillance and (big) data generation they enable. **[3]**

More generally, the development and deployment of UAVs can be seen as producing 'global risks' (Beck 2009), i.e. as having potential consequences that cannot be treated as if they were 'tameable' through more knowledge, that are potentially 'non-knowable', as well as potentially 'socially delimited in space and time' (Beck/Grande 2010, 418). As such the development and deployment of UAVs brings into question the assumption that it is possible to control and compensate for their potential consequences in a way that used to be the 'natural' way of dealing with unintended consequences of industrial-economic decisions, namely through the modern concept of 'risk', and based on the idea of bordered national societies (Beck 2009). On the contrary, they

[2] As for the European Commission (2012) the development of UAVs for the use in civil contexts is seen by many as *the* new "opportunities to boost industrial competitiveness, promote entrepreneurship and create new businesses in order to generate growth and jobs."

[3] For the insight that some UAVs generate 'big data' through a device called 'Air Handler' see Andrejevic and Gates, 2014.

inevitably bring the 'global other' into the decisions and actions of other 'global others', no matter if this is understood and acknowledged, or not (Beck and Grande 2010, 417). As such, the development and deployment of UAVs produce a social reality that questions the supposed 'naturalness' of its established modern nation-state institutions and their underlying logic; it reveals them as 'zombie institutions' (e.g. Beck in: Boyne 2001).

Like all technologies, UAVs are more than technical artefacts with a distinct set of qualities that are applied and have an impact on the social world. They are not simply about a set of options and trajectories that social actors are confronted with and have to adjust to (e.g. Rothstein 2015; in general, MacKenzie/Wajcman 1999; Bijker et al. 2012). They are the product of social, political and cultural processes, which feed into their invention and development and shape the context in which they are used and ascribed with meanings and functions (in general, Zurawski 2015), and in which they are perceived as producing 'global risks' (or not).

One of the multiple aspects that play into the social production and reproduction of UAVs are symbolic references to this technology in public discourses. In these discourses the frame of meanings is established, within which the technology UAV and the way it is used makes sense (or not). As Carlson (1992, 177) highlights, the fashioning of the frame of meanings around a technical artefact is an essential aspect for its 'success' and acceptance. With every public engagement this frame of meanings is shaped and socially ratified, which opens and closes possibilities of the technology's uses and functions. It matters how UAVs are imagined.

The label *Drone*

In the case of UAVs there is an intriguing aspect about the public engagements with the technology. This is the word *drone*. It is used as the label for all kinds of manifestations of UAVs – from the infamous *MQ-1 Predator,* which is used for 'targeted killings'/'extrajudicial executions' in Afghanistan, Pakistan, Yemen, Somalia and elsewhere, to €25-hobby-UAVs, like the *JJRC H20 Nano Hexacopter*.

The word *drone*, as Zaloga explains, "is one of the oldest official designations for remotely controlled aircraft in the American lexicon." (quoted in Mehta 2013) It dates back to 1935 when it was used to refer to aerial vehicles that were built to serve for gunnery practice. As Zaloga (ibid.) points out, the label *drone* was chosen in reference to the British Royal Navy's system with the same function that was called DH 82B *Queen Bee*. The *Queen Bee* served as a template for the US 'drone'. Hence, the word *drone* was chosen.

Even though these 'drones' were developed from 'passive' targets into 'active' (observation-)vehicles, until today the label *drone* has remained a central linguistic sign in the social negotiations and imaginations of the technology UAV. This is despite the fact that there is some discomfort with the word in official (US) military circles as well as among industry representatives. For instance, the President of the Association for Unmanned

Vehicle Systems International (AUVSI), Toscano (2013), rejects the word *drone* as he perceives it to have "a hostile connotation and does not reflect how UAS are actually used." **[4]** The WiFi password in the media room at the 2013 AUVSI Convention was 'DontSayDrones' (Wolfgang 2013). In a similar vein, an internal US government website, that was published via Wikileaks, warns that "[a]dversaries have developed propaganda campaigns that target UAV use." (NSA URL) In these campaigns, the US National Security Strategy claims, they use the term 'drone strike' as a "loaded term" that "evokes many things to English-speaking audiences, which may invoke in an emotional reaction. This is what propaganda intends to do. Drones connote mindless automations with no capability for independent thought or action." (ibid.) Given the NSA's understanding of the word *drone* as a loaded and propagandistic word applied by their 'adversaries', its use in the following abstract from a U.S. Department of Defense (DoD) News Article about developments in Iraq and Syria is intriguing:

> "Also related to operations in Iraq and Syria, [Pentagon spokesman] Warren discussed an ISIL drone destroyed near Fallujah yesterday and a remotely piloted aircraft downed in Syria on March 17. On the ISIL drone, Warren said the department had assessed it to be a commercially available remotely piloted 'model airplane', and the sort of device that anyone could buy commercially. [...] On the remotely piloted aircraft downed in Syria, Warren confirmed that [...] U.S. military controllers lost contact with an unarmed U.S. MQ-1 Predator remotely piloted aircraft operating over northwestern Syria." (Pellerin 2015)

It is apparent that the US DoD applies the word *drone* to address ISIL's UAV and uses the expression *remotely piloted aircraft* for its own *Predator* UAV. It applies the same rhetoric strategy that it warns its 'adversaries' use to discredit US strikes with UAVs.

What makes the word *drone* an intriguing aspect of the public engagements with the technology UAV then is that there seems to be more to it than its referential function. It seems to prompt emotions and trigger strong connotations. It is filled with complex meanings and associations. In the word *drone* ideas of UAVs from different discourses come together. As such, it can be taken as a magnet that attracts attention and meanings, as a burning glass that thickens meanings, binds them and carries them from one discourse to another, helping to weave together public imaginations of UAVs. In this sense, to unveil what is in the word *drone* entails gaining insight into a distinct component of the imaginations that form UAVs.

Investigating *Drohne* in Germany

As in English language discourses, in Germany, too, the word *Drohne* is used as a signifier for all kinds of civil and military UAVs. So, what is behind the word *Drohne* in Germany? How is a 'Drohne' imagined and what does it bring into the social construction of UAVs, a technology which has only recently become subject to critical public discussions in Germany?

[4] In a similar vein, in a written statement provided to the UK Defence Committee (2014) General Atomics Aeronautical Systems, the producers of *Predators* and *Grey Eagles*, criticises that "[r]eference to RPA [Remotely Piloted Aircraft] as 'drones' has a pejorative connotation that belies their proven beneficial role in humanitarian crises."

In order to take a step towards answering these questions a corpus is needed that captures the use of the word *Drohne* across (military and civil) debates. The corpus needs to be wide enough as to enable the detection of patterns and the development of general claims and, yet, still manageable for a systematic qualitative approach. For the establishment of the corpus it is particularly important to take into account a diversity of uses of the word from across debates because, after all, what is intriguing about the word *Drohne* is that it constitutes something like a magnet, in which meanings from different discourses come together and are thickened. It is not about finding out what is meant by 'Drohne' in a particular debate, e.g. in the debate about the use of UAVs for 'extrajudicial killings', but about ideas associated with the word *Drohne* more broadly.

For this present study I generated a database with uses of the word *Drohne* from the German edition of the online news platform *Spiegel Online* (Spon). Looking at the use of *Drohne* in a news medium is advantageous in a practical sense because, there, the word is deployed in diverse (including military and civil) contexts. At the same time, one can premise that the language use(d) in established news outlets mirrors, captures and also somewhat shapes the broader (socially ratified) language. An *online* news platform is a particularly valuable source in this respect because it generates a high number of outputs by different authors.

Spiegel Online is the online presence of the German news magazine *Der Spiegel*, a weekly, centre-left publication that was established in 1947. Spon is the oldest online presence of a news magazine in the world (Ehrenberg in Bönisch 2005, 52), and one of the three farthest-reaching news portals in Germany (Statista, 2015). At present, a team of 150 journalists produces *Spiegel Online*. Together, *Der Spiegel* and *Spiegel Online* are the second most cited German news sources (Presseportal, 2014). The nature of Spon's content is a mix of quality and background journalism, as well as tabloid content and a set of opinion columns. The range of themes covered is wide, with categories ranging from 'Politics' to 'Net-world', including sub-themes such as 'Games', 'Gadgets', 'Apps' and 'Copyright'.

In order to have a manageable database I chose to focus on the use of the word *Drohne*, and its modifications, during one full year in Spon, namely 2014, while being aware that a study of the use of the word in such a confined corpus should be extended and complemented in the future with studies of bigger corpora, including uses of the word in differently politically positioned sources, such as the centre-right news platform *Focus Online*.

My Spon-corpus contained 1,046 appearances of the word, across 238 articles. The overall aim of the analysis was to gain insight into the meanings attached to the word *Drohne*. For that a qualitative approach was chosen. The analysis was open in the sense that it was not guided by pre-set hypotheses or a pre-set and standardised coding scheme. The only categories I applied from the outset were 'military theme' and 'civil theme'. Overall, codes and categories were 'flexible' (Schreier 2013, 171) and data-driven, i.e. generated from within the text corpus. A combination of established political language and content and text analytical research strategies was applied (e.g.

Charteris-Black 2014; Fairclough 2001; Schwarz-Friesel/Consten 2014; Mayring 2010; Schreier 2013). Although these strategies contained methods that are usually found in quantitative studies, such as the determination of collocations, **[5]** the distribution of the word in a distinct text and across the global corpus, explicit problematisations of the word, and evaluative contextualisations (e.g. Girnth, 2002, 67), findings about linguistic aspects of the text corpus served only as a means to a semantic end. In the manner of qualitative content analyses, the analysis was about the detection of patterns through the re-organisation of the content. Despite being open and flexible in nature, the analysis and interpretation were coloured by the earlier outlined pre-analytical understanding of UAVs as potential 'game changers', 'global risks' and social constructions.

[5] I used the computer programme *AntConc* for this.

Overview: *Drohne* in the Dataset

The word *Drohne* and its modifications appear 1,046 times in the corpus, in a total of 238 articles. In 169 instances, it is used in constellations such as *Drohnenkrieg* ('drone war'). In 79 instances it is used in constellations such as *Aufklärungsdrohne* ('reconnaissance drone'). The word *Drohne* and its modifications are used in 141 articles that relate to the 'military' and in 97 articles that fall into the category 'civil'. The articles that relate to the military can be divided into reports about the use of UAVs in combat zones and articles that are about issues such as debates about the necessity for Germany and Europe to develop an UAV that could be armed, Obama's broader security policies, including the US use of UAVs, or Israel's strong position in the UAV market. 32% of the articles are specifically about the referent of the word *Drohne*; in the others *Drohne* is used in a broader context.

'Drohne': Thing, actor and tool

The first insight to be gained from the corpus is that a 'Drohne' is, first and foremost, a generic 'thing'. It is striking that throughout the corpus the word *Drohne* is used without clarification or specification as to the concrete nature of its *signified*. No matter whether the word is used in reports about 'targeted killings'/'extrajudicial executions' in Somalia (Spon 2014a) or in relation to Walt Disney's plans to use a 'Drohne' to carry giant puppets in a parade (Spon 2014b), the word *Drohne* is applied without specification of what kind of technical artefact it actually refers to in the respective context. Will Disney's 'Drohne' be armed? Is the 'Drohne' that killed Tahlil Abdi Shakur in Somalia the same as the one that Facebook is developing for the purposes of extending internet access to remote parts of the world (Spon 2014c)? A 'Drohne' is a 'Drohne' is a 'Drohne' in the corpus, a generic 'thing' that is not perceived as requiring further explanation as to how it looks and what kind of artefact it is.

Closer investigation then reveals that there are two kinds of this generic thing 'Drohne'. First, a 'Drohne' is an 'actor' that *does* something. A 'Drohne'

kills, attacks, hits and targets – and it does this autonomously, as a self-guided actor, as a subject: 'On Wendesday morning a US-drone [...] hit four Pakistani Taliban' (Spon 2014d; here and in the following all translations are my own); 'US-drones kill dozens of Qaeda-fighters' (Spon 2014e); 'Fighter jets and drones are said to have attacked [...] jihadists' (Spon 2014f). Second, a 'Drohne' is a 'tool'. As such, it does not act autonomously but is *developed* and *used by* social actors, such as Facebook and Amazon, or by a photographer, who takes aerial pictures of the city of Chernobyl (Spon 2014s).

The imagination of 'Drohne' as a generic thing that operates either as an autonomous 'actor' or as a 'tool' is interesting because it is linked to a distinct 'geography of 'Drohnen'' that is manifest in the corpus.

The Geography of 'Drohnen'

There is a distinct geography of 'Drohnen'. This geography is constituted by what can be imagined as 'fields' of meaning. Each of the two kinds of 'Drohnen' (actor and tool) operates in one of these two 'fields'. Putting it the other way around, the two kinds of 'Drohnen' constitute two distinct 'fields', which form a geography of 'Drohnen'. Notably, these two fields do not fall into line with the categories of 'military' and 'civil'.

Field 1: US-led fight against insurgency and terrorism

The first 'field' of the geography of 'Drohnen' that is apparent in the corpus relates to the US-led fight against insurgency and terrorism in places such as Afghanistan, and Pakistan. It is grounded in an homogenous idea of 'Drohne' as an autonomous actor, i.e. in the idea of the first of the two kinds of 'Drohnen'. In this field, a 'Drohne' is a subject that *does* something. Although 'Drohnen' are usually explicitly accredited to the US in this field, as in 'a US-drone killed', they are presented as acting on their own. There is no mentioning of a human or social agent in reports about 'Drohnen' here. Hence, there is no mentioning of anybody who could be held responsible and called to account, guiding or controlling 'Drohnen'.

A 'Drohne' *does* something in this field. What this is, is limited to what a weapon does. The actor 'Drohne' in this first field takes the form of a *weapon*. This is not spelt out, i.e. there is no use of modifications of the word *Drohne*, such as *bewaffnete Drohne* ('armed drone') or *Kampfdrohne* ('combat drone') that would clearly point to the nature of the 'Drohne' as a weapon. The idea of 'Drohne' as an autonomous weapon is apparent simply in that the majority of texts in the corpus use the word *Drohne* in reports about the death of insurgents, terrorists or civilians. Almost without exception, these are reports about how a 'Drohne' 'killed' or 'attacked' or 'hit' a target. There are almost no 'Drohnen' in this first 'field', that is, in the US-led fight against insurgency and terrorism, other than 'Drohnen' understood as 'autonomous' weapons. There is no mentioning of 'Drohnen' conducting intelligence, surveillance or reconnaissance tasks. 'Drohnen'

kill.

Yet, *how* a 'Drohne' actually 'kills' is rarely explained. Only in two instances is it mentioned that the respective 'Drohne' killed by shooting a missile at its target. The weapon 'Drohne' simply kills, the result of which is evident, but the act as such is not explained. It is treated as if it was a 'technicality'; the details of the act of killing are treated as if they were common knowledge and not worth mentioning.

At the same time, 'Drohnen' are presented as a supposedly 'natural' or standard feature of the US-led fight against insurgency and terrorism in places such as Afghanistan and Pakistan. This is apparent in the fact that the word *Drohne* is often positioned in line with conventional weapons, military equipment and strategies. It is catalogued as one of them, for example: 'Obama approves additional combat missions in Afghanistan [...] Fighter jets, bombers and drones are said to also be deployed' (Spon 25), or 'In Iraq, too, drones and fighter jets are said to have attacked 28 targets' (Spon 2014g). This normalisation of 'Drohne' as a weapon within the US-led fight against insurgency and terrorism in places such as Afghanistan and Pakistan is further realised in that the fact *that* 'Drohnen' are part of this fight is rarely expressly presented as a distinct choice and practice. 'Drohnen' are mentioned in the context of concrete incidents in the fight against insurgents, in which they happen to play a role as a means to an end. However, the fact *that* there are 'Drohnen' acting as 'autonomous agents' is not the subject of reflection. They just 'are'.

An important meaning that is attributed to (the actor) 'Drohnen' in this first field of the geography of 'Drohnen' is the idea of military power. An illustrative example for this point is an article that talks about a propaganda video by ISIL (Spon 38). The article explains that the video shows aerial pictures of Kobane, which, as the film is said to explain, have been shot by a "Drohne' of the Army Islamic State'. "Drohne' of the Army Islamic State' is put in quotation marks. This means the information is treated not as a fact but as a quote from the video itself. This indicates how seriously the possibility is taken that ISIL could be in possession of a 'Drohne' – even if it was only a device with a camera (see also Spon 2014i; Spon 2014j). To possess a 'Drohne' means to be powerful and to be taken seriously.

Field 2: The world beyond the US-led fight against insurgency and terrorism

The second 'field' that forms the geography of 'Drohnen' is constituted by the second kind of 'Drohne', namely 'Drohne' imagined as a 'tool'. It relates to everything beyond the US-led fight against insurgency and terrorism in places such as Afghanistan and Pakistan. In this field, 'Drohnen' are not autonomous agents that do something themselves but are grounded in social action. Somebody does something *with* a 'Drohne'. Interestingly, in contrast to the first 'field', 'Drohnen' are not just mentioned as a part of a wider story here, i.e. it is not that they just 'are'. Rather, they are relatively often the main focus of the respective articles. This means that, although

they are less 'active' as a 'tool' than they are as an 'actor', they are the subject of a more express focus. 'Drohnen' understood as 'tools' are more visible than the actors 'Drohnen', which kill in Afghanistan and elsewhere. In the second field, 'Drohnen' actually and notably 'exist', are mentioned and talked about explicitly.

This second field is more nuanced than the first one. Here, three meanings are attributed to (the tool) 'Drohne':

First, 'Drohne' stands for hyper-progress. This is apparent in instances in which their use by commercial actors is discussed. Here, 'Drohnen' represent the cutting edge of progress and technology. They are treated as providing a tantalising glimpse of the future. This is not expressly articulated but is apparent, for instance, in those texts which are about various technological advancements and end with reference to 'Drohnen' as the ultimate sign of progress. 'Drohnen' are mentioned as a kind of cliffhanger into the future, the next, ultimate step towards technological advancement (e.g. Spon 2014k; Spon 2014l).

Second, 'Drohne' is understood as a political decision. It is understood as a political decision, for instance, for the German defense minister or for the US President. Notably, when it is about 'Drohne' as a political decision, the term *Kampfdrohne* (combat drone) is used. This is interesting because 'combat drones' do not exist in the first 'field', in the field of the US-led fight against insurgency and terrorism in places such as Afghanistan and Pakistan, that is, in the field in which they are actually applied. There, it is simply 'Drohnen' that kill, not 'combat drones'. 'Combat drones' only exist in the political debates about them but not on the ground in those areas in which they actually 'kill autonomously'.

Third, 'Drohne' stands for a potential threat to extant technology especially critical infrastructure. This is apparent in articles that deal with 'Drohnen' flying over nuclear plants in France and Belgium and near Heathrow airport in the UK, in particular, as well as in close proximity to civil airplanes, in general. On the one side, 'Drohnen' are presented here as autonomous 'things' – similar to the 'Drohnen' in the first 'field'. They disrupt the everyday. In fact, they are constructed as *creatures* that suddenly 'appear' (Spon 2014m) out of the blue; they are 'spotted' (Spon 2014m) and 'located' (Spon 2014n) from the ground while they are circling at a distance in the sky. It is a science fiction like scenario that is conjured up in these instances. Their appearance is 'mysterious' and causes surprise (e.g. Spon 2014m). They even leave 'experts' puzzled and in disagreement with each other about the threat they might pose (e.g. 2014n). On the other side, however, these creatures are imagined as being under control in different ways, for instance, through the banalisation of 'Drohne' as 'x-mas presents that are accidentally misused' (Spon 2014o), through suggestions including that 'pilots sometimes simply forget the regulations for the use of 'Drohnen'', and, in general, through reference to some concrete, even if unidentified, agent who remotely controls the 'Drohnen'. Unlike the 'things' that act autonomously in the 'field' of the US-led fight against insurgency and terrorism, 'Drohnen' in this second 'field' are ultimately grounded in

some form of responsible social agency. They might appear mysterious and hold the potential to be scary and threatening, but, ultimately, they are 'explicable', hence, predictable: whatever threat they might pose it is 'from this world', it is manageable; somebody is behind them.

In summary, the analysis reveals that there are two kinds of 'Drohnen' in the world that is constructed in the corpus: actors and tools. It is remarkable that although the word *Drohne* refers to very different kinds of UAVs, such as medium altitude, long endurance UAVs (MALE) and medium and small commercial and hobby quadcopters, this is not made clear. Throughout the corpus the word *Drohne* is used without clarification or specification as to the concrete nature of its *signified*. Furthermore, each of the two kinds of 'Drohnen', actors and tools, constitute a distinct 'field': the US-led fight against insurgency and terrorism in places such as Afghanistan and Pakistan, and everything beyond this fight, respectively.

Confined contexts: Belgium, France, 'business'

The second 'field', i.e. the world beyond the US-led fight against insurgency and terrorism, is further sub-divided. It contains different 'contexts', in which 'Drohnen' exist and are symbolically 'caught'. These 'contexts' are less stable than the two above identified 'fields'. They are not the product of (two) robust meanings of 'Drohnen' (actor and tool) but come into being through a *textual practice*. The symbolic 'capturing' of 'Drohnen' in distinct 'contexts' is realised in that articles that discuss 'Drohnen' and the respective issue around them do so in a narrow and 'closed' way. For instance, in reports about the appearance of 'Drohnen' over nuclear plants in France and Belgium, 'Drohnen' are narrowly framed as an issue for France and Belgium. In this sense, 'Drohnen' are locked into a distinct geo-political context, i.e. into the context 'France' or 'Belgium'. The texts do not open to a more generalised discussion of 'Drohnen' over nuclear plants in general, or in neighbouring Germany in particular. Reports of the development of 'Drohnen' by companies such as Facebook, Google and Amazon for commercial purposes provides another illustration of this point. The texts engage in relative detail with the respective issue but do not open the examination beyond the distinct case. Here, 'Drohnen' are symbolically locked into the social context: 'business'. In contrast with the main two 'fields', discussed above, these various 'contexts' within which 'Drohnen' are symbolically captured are not the product of a distinct meaning that is associated with the word *Drohne*, in other words, it is not that a distinct meaning of 'Drohne' is associated with each of these 'contexts'. Rather, they are the product of textual strategies, i.e. of the way in which 'Drohnen' are talked about.

The unit 'at home'

Finally, the symbolically produced geography of 'Drohnen', with its two 'fields' and the distinct 'contexts' that constitute the second of these 'fields',

is obviously written and constructed from a particular perspective. This is the perspective 'Germany', or – to put it more generically – the perspective of the 'at home'. It is from the perspective of the 'at home' that the geography of 'Drohnen', with its clearly demarcated 'fields' and its various 'contexts', is 'visible', i.e. comes into being.

This brings us to a final insight. Besides being the perspective from which the geography of 'Drohnen' arises, 'Germany'/'at home' is also a 'unit' within the second 'field', similar to the above mentioned 'contexts'. Yet, it is more 'stable' than these 'contexts' are. This is because it is (like the two 'fields') grounded in a distinct idea of 'Drohne'. In general, 'at home' 'Drohne' is a tool, as it is characteristic for the second field. In particular, however, 'at home' 'Drohne' has a discrete characteristic: it is an anthropomorphised and domesticated creature – more precisely, 'at home' (the tool) 'Drohne' is perceived as a kind of pet that unfolds its 'potential as soon as one let's it off the leash' (Spon 2014p), that lands in one's hand like a butterfly, and, although it might lose its way, that can be caught, 'tamed' and taken back to where it belongs (Spon 2014q). **[6]** It is a safe and manageable creature that is used, sometimes gets out of hand, but is ultimately under control.

The Drones of Others

The analysis of the word *Drohne* in the chosen text corpus brings to light a set of different senses of 'Drohne' and their complex management. 'Drohne' is perceived as hyper-progress, as a potential threat to extant technology and infrastructure, as a political decision and as a sign of military power. Bringing everything together, we see a two-fold symbolic practice through which 'Drohnen' are managed, ordered and, ultimately, symbolically 'controlled'. A geography of 'Drohnen' is apparent in which 'Drohnen' are compartmentalised and quarantined into different symbolic spaces. At the centre of this geography is the 'at home'. 'At home' is both the perspective from which the geography is produced and a 'unit' in which a distinct kind of 'Drohne' exists, namely an anthropomorphised and domesticated creature that is used by different social actors for different kinds of tasks. Particularly interesting is the sharp and clear demarcation between the perception of 'Drohne' as an autonomous actor in the 'field' of the US-led fight against insurgency and terrorism in places like Afghanistan and Pakistan and everything beyond it, including the 'at home', where 'Drohnen' are perceived as tools that are under control and embedded in social action.

The symbolic border that is drawn between these two fields and their distinct ideas of 'Drohnen' holds certain ideas of 'Drohnen' 'outside' of the 'at home' and makes others a reality 'inside'. Not only is the existence of 'Drohnen' in this US-led engagement presented as an issue beyond and outside of the realm of the ('German') everyday and, in effect, beyond the realm of social actors and responsibility in general, the clear positioning of it into one 'field' makes it actually an '*unimaginable*' possibility in the 'at home'. 'Drohnen' of the kind that kill in the first 'field' are even beyond *fiction* in the 'at home' (see Spon 2014r). In this sense, the analysis of the

[6] The way the incident is treated, in which a US Hunter-'Drohne' flew uncontrolled over a residential area in Southern Germany close to a US military base, gives additional insight into the imagined nature of 'Drohne' 'at home' (Spon 2014q). The Hunter-'Drohne', the predecessor of which, as we have seen above, autonomously kills people in the context of the US-led fight against insurgency in places like Afghanistan and Pakistan is presented here as if it was the neighbour's dog that ran away and got lost, straying through the neighbourhood. Once the annoyed neighbours contacted the US military base to find it and take it back home, the 'owners' apologised and assured everybody publicly that they would invest in additional training so that the Hunter-'Drohne' would not 'lose its way' again.

corpus unveils that these 'killing' 'Drohnen' are the drones of others. They exist in the distance and far away from the 'at home'.

Finally, the clear compartmentalisation of 'Drohnen' as, on the one side, 'killing' actors 'outside', in the field of the US-led fight against insurgency and terrorism in places like Afghanistan and Pakistan and, on the other side, tools 'inside', in the field beyond Afghanistan etc, accounts for an important connotation that the 'Drohne' is associated with in the constructed unit 'at home'. This is the idea of 'Drohne' as something spectacular, fascinating and noteworthy. 'Drohnen' are worth mentioning; there is something exciting about them that attracts attention. This is apparent in instances in which the use of a 'Drohne' is specifically stressed although it is not at the centre of the respective story. For instance, an article about a filmmaker travelling to and providing pictures from the city of Chernobyl is headlined with 'Drone flight over a ghosttown' (Spon 2014s). His use of a 'Drohne' to shoot aerial pictures is highlighted, i.e. perceived as particularly worth mentioning. Yet, as it turns out, the aerial pictures are only one aspect of his documentary. The fact that he also went to the city in person, equipped with a *Geiger* counter, is only a side-note in the article – what matters is the use of the 'Drohne' (see Spon 2014s; similarly Spon 2014t). This connotation of the spectacle arises exactly in the face of the first of the two established 'fields', in which autonomous 'Drohnen' kill. The apparent fascination with 'Drohne' is the result of the idea that a different 'Drohne', the drones of others, which are not just anthropomorphised and domesticated creatures that are under control and used for various tasks but actors that 'kill autonomously', are lurking 'out there'.

Conclusion

UAVs are more than the sum of their technical qualities. They are embedded in and a product of broader social, political and cultural ideas and imaginations. This article started on the premise that the word *drone* constitutes a distinct component of these negotiations and imaginations of UAVs. The word brings together and contains meanings from different discourses; like a magnet it binds all sorts of meanings from different (including military and civil) debates and carries them from one (UAV-related) debate to another. To study which meanings are attached to the word *drone* is then not to study imaginations of or debates about the technology UAV as such but to focus on one aspect of these imaginations.

Motivated by an interest in the German imagination of UAVs, the article presented an analysis of the current use of the word *Drohne* in a corpus generated from an established German news platform. This analysis provided insight into the meanings attached to the word *Drohne*, such as 'military power', 'hyper-progress' and 'threat to extant technology'. Importantly, it uncovered the distinction between two kinds of 'Drohnen': actors and tools, and unveiled a geography of 'Drohne', in and through which 'Drohnen' are 'managed'. While 'Drohnen' 'at home' are imagined as manageable tools, 'Drohnen' in the US-led fight against insurgency and

terrorism in places such as Afghanistan and Pakistan are seen as actors that kill autonomously and independently of human agency and responsibility. While these 'Drohnen' are a natural reality in the distinct field of this fight, their existence is unimaginable 'at home'.

Taking a broader view now, we are able to reveal an intriguing subtle theme apparent in the corpus that plays out in the social negotiation of UAVs in Germany. In this theme two imaginations of the technology 'Drohne' interplay:

First, the corpus reveals an understanding of the technology 'Drohne' as potentially 'game changing' in nature. 'Drohne' is imagined as a global technology, which brings out a set of different technical artefacts, which together constitute a homogenous group. This is apparent in that their specificities are obscured behind the label *Drohne*. As we have seen, the word *Drohne* is used without explicit reflection on what kind of artefact it refers to. Clearly, there is something that all the referents of the word have in common and what makes them a 'Drohne'. What this is, however, remains unarticulated, i.e. taken as assumed knowledge. A 'Drohne' is a 'Drohne' is a 'Drohne'. This is intriguing because it implies a distinct potential of the artefact 'Drohne'. It implies that there is the idea that any 'Drohne' has the potential to turn into something else on the spectrum that is the nebulous technology 'Drohne'. In other words, it indicates the idea that the 'Drohne' used in a Disney parade holds the potential to turn into an autonomous weapon, and the autonomous weapon has the potential to turn into a dog-like companion. There only seems to be a thin line between the 'Killerdrohne' (killer drone) and a 'Drohne' deployed to deliver an Amazon book. It indicates an understanding of the technology 'Drohne' as 'game changing' in nature, in the sense of a technology that challenges the way in which to deal with it. This is because it holds the potential of a spectrum of appearances – from a photographer's tool to an autonomous killing actor. This perception is evident in the fascination and sense of spectacle that surrounds the idea of 'Drohne' in the corpus, i.e. in the 'at home'.

Second, the corpus reveals an understanding of the spectacular (potentially 'game changing') technology 'Drohne' as a product of modern progress and part of and subject to the (international) world as we know it. This is evident in that it is naturally imagined through the revealed geography. The existence of 'Drohnen' is symbolically 'tamed' and organised through a (modern) understanding of bordered social 'containers', in which 'Drohnen' are imagined to exist in different fields and contexts, e.g. in France or in the context of 'business'. The 'at home' is far away from the drones of others, indicating an understanding that the (potentially 'game changing') technology 'Drohne' and its artefacts are subject to clear compartmentalised spheres, in which they are dealt with, and, in fact, in which they are an issue of 'compartmentalised' concern. For instance, the ascription with responsibility for the development and the deployment of 'Drohnen' through reference to distinct social actors, such as Facebook, the German defense minister etc., indicates that the technology of 'Drohnen' is not a global political issue but, for instance, the 'business' of a business,

such as Facebook (e.g. Spon 2014c). In this sense, the analysis reveals that the development and deployment of 'Drohnen' is not perceived as producing 'global risk', i.e. potential unintended consequences that cannot be captured through established conceptions of borders, responsibility, (progressive) knowledge production, in fact, 'the political' as we know it. They are not perceived as a potential challenge to the modern 'nation state' way of thinking but are naturally 'tamed' in its narrative and symbolic compartments.

And yet, what is interesting is that the idea of the potentiality of the technology 'Drohne' – its (potential) 'game changing' nature – is lurking in this theme and might come to the fore to trigger an imagination of UAVs that might take into account the technology's distinct complexity as a 'game changer' and the nature of its potential unintended consequences, i.e. the 'global risks', which the development and deployment of the technology produce.

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African Drone Stories

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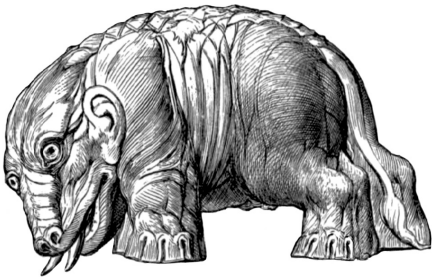
Abstract:

The process of normalizing drones throughout Africa has received little scholarly attention. Discussions of drone proliferation tend to assume that the drone industry is a monolithic, geographically concentrated entity, and that drone use will look the same and engender the same controversies, regardless of geography. The article aims to think through African drone proliferation by analyzing how drones and Africa are being construed as solutions to each other's problems, and by exploring the interface between images of Africa and the notion of the drone as a game changer for development and security. The article also reads the African drone in the context of the early deployment of surveillance drones in Africa in the 1970s, as well as the legacy of technological imperialism and colonial airpower. The perception of Africa as being in need of external drone intervention dovetails with the drone industry's efforts to identify and promote good uses for drones — efforts that are central to increasing the legitimacy of drones in the eyes of the Global North. Hence, the article argues that the 'African drone' has become a vehicle for the production and distribution of norms, resources, and forms of legitimacy that have implications for drone proliferation, both within and outside Africa. **[1]**

Keywords: Africa, drones, development, imperialism, leapfrogging, security



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In early 2015, I received an invitation to travel to Johannesburg, to attend the first-ever annual Unmanned Autonomous Systems Africa forum. **[2]** According to the invitation, "the use of unmanned systems is increasing across myriad of sectors on the African continent. Companies, government departments and NPOs [nonprofit organizations] are realising the cost and safety benefits that can be derived from unmanned systems." The forum promised to bring together manufacturers, operators, and users of unmanned autonomous systems, from a range of industries, to discuss the potential for such systems in Africa — including the potential for commercialization.

In the Global North, where the drone industry still has its most important markets, drones are widely seen as technologically immature; moreover, their proliferation is limited by a deep cultural stigma, as well as by concerns about potential threats to security and privacy posed by domestic drone surveillance. **[3]** Although the invitation to the forum noted that Africa also suffers from "barriers to implementation"—specifically, "legislation and lack of information" — the conference materials also made it clear that the "promise" of drones is in many respects a reality in Africa: the technology is now used across the continent.

So far, the many parallel processes that are normalizing drones throughout Africa have received little scholarly attention. To address this gap, I will explore a particular aspect of contemporary drone discourse: namely, the interface between images of Africa and the notion of the drone as a game changer.

"Game changer" is one of the phrases most often applied to drones; for many, drones hold the promise of changing not only how things are done and by whom, but what's possible within (or despite) a given context. In Africa, drones are explicitly spoken of as game changers in discourses on development (Maisonet-Guzman 2014), peacekeeping (Spooner 2015), humanitarian aid (Smedley 2015), and the "war on poaching" (Chiaramonte 2015). What's important for my purposes here, however, is that such discourses are linked to particular ways of imagining Africa itself. Thus, one of my goals is to unpack the mutually constitutive relationships that create "the African drone."

My goals and my approach are largely empirical: relying on my long-standing engagement with industry, academia, civil society, the media, and the public on the subject of drones, **[4]** I have put together a set of observations on the interplay between drones and Africa. My sense is that there is a particular African drone story worth telling at this point in time. As I see it, the concept of the African drone has become a vehicle for the production and distribution of norms, resources, and forms of legitimacy that have implications for drone proliferation, both within and outside Africa.

There is a rich literature dealing with images of Africa in the postcolonial and neoliberal context. **[5]** I propose that within contemporary drone discourse, Africa is construed as a site of intervention shaped by three factors: the legacy of colonial and postcolonial governance, the contemporary

[2] The title of the forum reflects the industry's preference: what I call "drones," it calls UASs (unmanned aerial systems), RPAs (remotely piloted aircraft), or UAVs (unmanned aerial vehicles).

[3] I rely on a broad conceptualization of the "drone industry": as used here, the term refers mainly to military manufacturers based in the United States, but also to established European, Israeli, and South African military manufacturers, as well as to start-up manufacturers in the United States and elsewhere.

[4] See, for example, Sandvik and Lohne (2014); Gabrielsen and Sandvik (2016), and Lidén and Sandvik (2016).

[5] See, for example, Mamdani (1996), Ferguson (2005), and Chabal (2009).

[6] The humanitarian emergency zone is where a global system of international organizations, donor and troop-contributing nations, and nongovernmental organizations operate in parallel with, as well as across, domestic state structures to respond to and administer a permanent condition of crisis (Ferguson 2006, 41).

logic of the humanitarian emergency zone, **[6]** and the rhetoric of emerging markets. External actors — that is to say, drone operators — are portrayed as the solution to the problems of ill health, poverty, and general "underdevelopment" that are specifically defined as African. In fact, in their discussions of drones, both industry and the media implicitly and explicitly invoke the otherwise unfashionable concept of underdevelopment, for which drones are held up as the appropriate antidote: the theory is that drones can not only help Africa move beyond insecurity, colonial ills, and humanitarian crises, but can prevent it from languishing in the immature stages of capitalism.

In the Global North, drones are generally perceived as "underdeveloped" technologies that are subject to a range of risks, from pilot error to mechanical failure, cyber-attacks, and bad weather. **[7]** Africa, however, is being constituted as a field with better opportunities for product development: a place where drones, freed from the restrictions on access to civil airspace that pertain in the Global North, can obtain legitimacy as "good" technology.

Thus, the perception of Africa as being in need of external drone intervention dovetails with the drone industry's efforts to identify and promote good uses for drones — efforts that are central to increasing the legitimacy of drones in the eyes of the Global North. Equally important is the industry's practical need to test and improve the technology by increasing flight hours and trial applications. Compared with the relative inaccessibility of United States (US) and European airspace, African airspace is an attractive testing site. I suggest that Africa is the perfect recipient of "good drone interventionism" — not only because the continent is construed as being eternally in need of externally imposed aid, but because of its (relative) inability to resist the rescue and/or investment efforts of outsiders, regardless of whether they target African territory or African airspace. **[8]**

The article consists of six principal parts: (1) a consideration of drones as game changers; (2) an analysis of the ways in which drones are presented as a means of "leapfrogging" past Africa's development problems; (3) a discussion of the imagined uses of the "Ebola drone" as a key player in the "war on Ebola"; (4) an examination of drones as a response to security problems (e.g., insurgencies and terrorism) that have been "created" by Africa; (5) an analysis of the ways in which Africa is supporting the rise of "good drones," and thereby helping to legitimize the technology; and (6) brief reflections on the future of drone proliferation in Africa and beyond.

Game Changers for Development and Security: Conceptualizing the African Drone

A game changer is a new element that significantly alters an existing situation or activity. In what senses are drones game changers? With their promise of real-time, more detailed views (as well as more detailed views) from above, drones are believed to offer enhanced situational awareness and faster and better-informed decision making down below. For weaponized

[7] The drone industry usually blames the immaturity of the technology on the restrictions limiting drone use in civil airspace.

[8] This inability can be traced, in part, to underfunded civil aviation authorities; outmoded or inadequate regulation of civil aviation; insurance and data-protection issues; and the scant amount of debate on drones in African civil society. But see Wanjala (2015) on legal challenges pertaining to the increasing number of drones in Kenya.

[9] Briefly summarized, a much-criticized politico-military rationale for the use of drones in war has been that the "drone stare" — a video feed in near-real time — allows the operator to see and strike with "surgical precision," not only minimizing civilian casualties but also making war cheaper and more humane by averting the need to put boots on the ground.

drones, the expectation is one of "surgical" precision in the selection and striking of targets. **[9]** Arguments about efficiency and low cost permeate discussions of civilian and military drones alike: drones are cheaper to fly than commercial aircraft, fighter jets, and police helicopters. They are also cheaper and safer than "boots on the ground." Drones provide more affordable and versatile surveillance and killing capacity, and they are soon expected to offer a range of advantages for cargo carrying. And in places where such activities would otherwise be practically or politically impossible, civilian and military drones enable information gathering, targeting, and supply. Finally, the appeal of drones as game changers can be traced to the belief that new technologies — in particular, robotics and information and communication technology (ICT) — can solve virtually any problem.

While the game-changer rhetoric is a staple of the drone discourse outside Africa, the focus here is on the ways in which the notion of drones as game changers corresponds to particular ways of imagining Africa and Africans. The construction of the African drone as a game changer is subject to political contestation and to the realities of professionalism, finance, and politics (Bijker and Law 1992; Herrera 2003), but it is also shaped by the continent's historical legacy of technological imperialism and colonial airpower (Headrick 1981; Omissi 1990; Killingray 1984). Thus, any reading of the perceived capacities and attractions of unmanned technology must also take into account the unbroken link to the African colonial context.

The deployment of drone technology in the African setting supports a set of political, military, humanitarian, and commercial rationales and projects that must be examined — not for the oft-cited "newness" of drone technology, but for the productive and historically embedded power that technology represents. Historically, technological innovations that have lowered the economic and human cost of penetrating, conquering, and exploiting new territory were among the preconditions for imperialism (Headrick 1979). The innate qualities of airpower, in particular — speed, predictability, and an unrivalled view from above — were important tools for colonial governance (Headrick 1979; Omissi 1990).

The first use of airpower in Africa occurred during the Italo-Turkish War, fought in Libya in 1911–1912. In their conquest of Morocco in 1912–1914, the French used aircraft for reconnaissance and bombing (Killingray 1984). British use of airpower to enforce civil control in sub-Saharan Africa began in 1916, in the Sudan and British Somaliland. And in 1920, airstrikes undertaken by the Royal Air Force against the Somali Dervishes became "one of the most potent arguments for air substitution elsewhere." (Omissi 1990, 54) Surveying the 1920s, a British Air Staff memorandum noted that "the use of air power as an instrument in the control of semi-civilized countries . . . became a permanent feature of our system of imperial defence." (Killingray 1984, 432f.)

The "politics of substitution" was a precursor to the boots-on-the-ground argument of today: in sub-Saharan African colonies, the idea of substituting airpower for infantry found a "more ready welcome from cost-conscious colonial officials and army officers." Thus, airpower enabled the British

Royal Air Force to "guard against incipient unrest from 'a semi-seditious, pseudo-religious under-current of pan-Ethiopian aspirations'" in East and Central Africa, and internal unrest (in Nigeria) and possible French aggression in West Africa (Killingray 1984, 441).

The use of surveillance drones in Africa initially emerged as a part of the colonial apparatus. South Africa's nearly forty-year history of military drone development and deployment, for example, is deeply embedded in the politics of the apartheid era. The first known prototype, the Champion, was developed by the South African Council for Scientific and Industrial Research in 1977 and delivered to the South African Air Force in 1978. Some of the Champions (most likely operated by South Africans) were also supplied to Rhodesia for use in the Zimbabwean liberation struggle (1964–1979), which was also known as the Rhodesian Bush War (Secret Projects 2014; Oliver 2015). Finally, a fleet of South African and Israeli drones "saw extensive combat duty across the southern African theatre between 1980 and 1987, operating from Mozambique to Angola." (Oliver 2015)

The contemporary emphasis on the "discretion" of drones and their minimal needs for infrastructure reflects previous thinking on colonial airpower. Writing on Iraq, Satia (2014, 7) notes that "with wireless communications and minimal infrastructure, air control enabled dominance of a region in which more overt colonial rule was a political impossibility." In an increasingly anti-imperial and democratic world, air control allows covert pursuit of empire: drones "offer a means of surmounting the awkward problem of engaging in military action over an ostensibly sovereign country." (Satia 2014, 7)

Against this backdrop of technological imperialism, I offer two analytical prisms — "technological utopianism" and "technological fantasies" — for making sense of how the African drone is being constituted in the realms of development and security.

Development and Drone Utopianism

According to Segal (1986), technological utopianism is a belief in technological progress as inevitable, and in technology as the vehicle for

> "achieving a "perfect" society in the near future. Such a society, moreover, would not only be the culmination of the introduction of new tools and machines; it would also be modelled on those tools and machines in its institutions, values and culture." (Segal 1986, 119)

I conceive of "drone utopianism" as a corollary of technological utopianism. In the cosmology of drone utopianism, technology substitutes for politics, becoming the solution for a raft of problems — from insecurity to resource inequality and injustice; it also offers a means of gaining mastery, in the present, over the risks and uncertainties of the future (Gabrielsen Jumbert and Sandvik 2016).

Currently, the most prominent manifestation of drone utopianism is

the rush on the part of the private sector — including giants like Amazon, DHL, and Google — to develop and promote the use of small cargo drones. **[10]** Most of the public discourse, however (including media coverage), has focused on the potential use of cargo drones to distribute aid (see, for example, Andrade 2013). In this discourse, such drones are portrayed as a panacea for all the problems attending relief provision, evoking a utopian vision of development that is void of discomfort, waste, physical insecurity, and the risk of jeopardizing foreign policy objectives or contradicting mission statements. In this vision, drones are not only rhetorically tasked with delivering aid, ending hunger, and providing health care, but with "connecting Africa" by effectively transporting goods, and thereby enhancing private enterprise. **[11]**

Thus, from the perspective of drone utopianism, Africa can be saved by technological progress. At the same time, drone utopianism itself depends, at least in part, on a particular idea of "Africa": in this symbiotic relationship, Africa needs drones, and drones need Africa.

Security and Technological Fantasies

Crang and Graham (2007) use the term "technological fantasies" to describe the creation of narratives that position emergent technologies as necessary — and effective — responses to dire security threats. These technological fantasies are not simply narrative devices used to achieve desired ends; they also actively shape larger security cultures and afford them influence (Monahan and Mokos 2013).

There is significant literature discussing the technological fantasies that can be found in the rhetoric surrounding the use of armed drones. Lidén and Sandvik (2016) have noted that the technological optimism associated with drones (military and non-military alike) is especially prone to viewing drones as the answer to various security issues. By this logic, drone strikes become the preferred mode of preventing and managing the "imminent threat" posed by individuals identified as insurgents or terrorists. The risk of drone-based containment strategies, however, is that nations will be dragged into war without any clear purpose, ethical rationale, or exit strategy. Thus, the kinds of operations and activities that drones enable have the potential to lock an unprecedented number of external actors into new trajectories of policy making, spending, and use of force — what Duffield (2007) has labelled "unending war".

Leapfrogging: Drones versus Roads

Leapfrogging refers to bypassing the stages of investment or capability building through which countries were previously required to pass in order to achieve a particular level of economic development (Steinmueller 2001); in other words, it refers to the opportunity to adopt advanced or state-of-the-art technology without first adopting its precursors (Fong 2009). **[12]** The notion is embedded, for example, in the idea that African countries

[10] The Kaman K-MAX, a US cargo helicopter first used in 2011, is the only known example of the long-term operation of a cargo drone. The K-MAX was deployed to supply troops at remote outposts in Afghanistan (thus protecting the lives of cargo-helicopter pilots, soldiers at the bases, and those who would otherwise have had to undertake dangerous journeys by road), as well as to support the more abstract goals of saving of lives by contributing to nation building in Afghanistan and protecting US homeland security in the war on terror.

[11] Later in the article, drones are discussed as instrumental for creating and sustaining new markets, and as ideal vehicles for bypassing ("leapfrogging") infrastructure investment.

[12] Borrowing from the scholarship on leapfrogging and ICT (Steinmueller 2001), I offer an analogy that has significant relevance to the African context: over the past decade, there has been great optimism regarding the leapfrogging potential of ICT in Africa (with regard to mobile phones in particular). Like ICT, drones are experiencing a rapid and continuing decline in cost, combined with a growing range of *applications*. Also like ICT, drones are easily transported, internationally available, and do not require massive infrastructure investments. Steinmueller (2001) describes ICT technology as appearing "readily transferable to whichever country can make productive use of them". I argue that the same assumption applies to drones, including the belief that they have the potential to contribute to development leapfrogging.

with poor road infrastructure could "leapfrog right from donkeys to drones" (Feltman 2014).

The rhetoric of humanitarian crisis permeates development discourse; the result is a fusion of the emergency ethos with concerns about underlying structural problems. This fusion yields a humanitarian logic that is explicitly transitional and utilitarian: for example, as part of "a new strategy of fighting poverty from the air", there have been several proposals to provide rural Africa with networks of humanitarian cargo drones (Chow 2012). In a related vein, several commercial players have described plans for cargo drones that will initially engage in humanitarian aid, but that will then transition to purely commercial activities, as they undergo further development and become able to carry more cargo. For example, Jonathan Ledgard, director of Afrotech, notes that the payloads carried by the first cargo drones will probably be "units of blood to keep alive children who otherwise would perish. But they will quickly evolve into larger and heavier craft until they can carry 20 kilos or more over distances of several hundred kilometers." (Ledgard 2014) Ledgard has also suggested that "one day, perhaps 40 percent of African trade could travel by drones. . . . That would boost economies and link cities, tribes and countries in lucrative trading channels." (Lagesse 2015)

Several features of the leapfrogging discourse are worth analyzing: first, leapfrogging is generally linked to the objective of rapid economic growth. In an environment where the absence of functioning markets is defined as one of the principal obstacles to such growth, some view drones as a means of overcoming "one of Africa's steepest challenges: a lack of transportation infrastructure that stymies trade." (Lagesse 2015) Second, the continent's lack of infrastructure — including power lines, airspace control, and commercial flights — is attractive to the drone industry: African airspace has been described as "less cluttered with flights that have slowed the adoption of commercial drones in North America and Europe." (Lagesse 2014) From this perspective, it is not drones but the absence of infrastructure that is the utopian factor.

Under the heading "Forget roads — drones are the future of goods transport", Andreas Raptopoulos, the founder and chief executive officer of Matternet, a drone start-up, has suggested that "following the lead of road systems in the West is a nearly impossible task for the African continent." (Raptopoulos 2013) Similarly, in an article titled "Making the Case That Africa Needs Drones More than Roads", Simon Johnson, the director of the Flying Donkey Challenge (a planned race between cargo drones around Mount Kenya), observes that "there's incredible growth happening there, but not a lot of infrastructure. Roads just can't be built fast enough. So why not use flying robots instead?" (Feltman 2014) One could argue, moreover, that in the African context, future infrastructure projects would be irresponsible: Raptopoulos has observed, for example, that not building roads means avoiding a "huge ecological footprint" (Raptopoulos 2013). And according to Jonathan Ledgard, drone highways entail "much less disruption to the environment than if new highways, tunnels or canals were

built." (Lagesse 2015; see also Ledgard 2014)

But will drones effectively eliminate obstacles to development? The leapfrogging discourse, with its images of "connecting Africa", uses drone utopianism as the basis for a utilitarian argument, yielding a moral economy that is intended to enhance the appeal of drones. Resistance to this argument usually takes the form of scepticism: critics ask whether the claims made for a technology's leapfrogging potential are realistic; whether, in an attempt to tap the potential of such technologies, developing countries should divert scarce resources from other projects; and what the expected returns, timing, and scale might be (Steinmueller 2001). The World Bank, for its part, has concluded

> "that a country's capacity to absorb and benefit from new technology depends on the availability of more basic forms of infrastructure. . . . It would be great if you could always jump straight to the high-tech solution, as you can with mobile phones. But with technology, as with education, health care and economic development, such short-cuts are rare. Most of the time, to go high-tech, you need to have gone medium-tech first." (Economist 2008)

The assumptions underlying utopian views of cargo drones should be subjected to critical scrutiny — not least because the implementation of such strategies has distributive consequences, particularly in relation to procurement and funding for research and development. For example, in discussing the potential of "Predators for peace", which would be used to deliver HIV/AIDS medication, Chow (2012) argues that drones can be game changers because they offer the potential not only to reduce or eliminate corruption, theft, and insecurity, but to circumvent interference from factors such as disasters and bad weather, which often compromise aid delivery. However, in response to Chow's endorsement of drones as a means of providing relief, an online reader commented, "This sounds like it's going to be really expensive. Do aid groups really have the money and resources to acquire and operate drone aircraft?"

Because the consequences of following leapfrogging strategies are a matter of life and death, proponents bear a heavy moral weight (Steinmueller 2001). In light of the ongoing struggle to secure access to health care and education for broad swaths of the African population, what does it mean, from an ethical perspective, to take seriously the argument (or even to make the argument) that the ambition to build roads should be forgone in favour of building drone highways?

The Ebola Drone: Technological Utopianism and the Insecurity of "Underdevelopment"

As a result of the abysmal state of national public health — as well as inattention and incompetence on the part of the international community — the Ebola outbreak that began in Guinea in late 2013 evolved into an epidemic, which was quickly redefined as a matter of security. By September

2014, President Obama had framed the outbreak as a national security issue (Klein 2014), and the United Nations (UN) had declared Ebola to be a threat to international peace and security (UN 2014). The "war on Ebola" soon proved to be fertile rhetorical ground, both for observers who took the metaphor at face value and for critics who decried the endless use of war metaphors (Gregory 2014).

As I have noted elsewhere (Sandvik 2014a, 2014b), a particularly puzzling aspect of this short-lived, imagined "war" was the convergence of the virus, unmanned technology, and notions of humanitarian governance. The "Ebola drone" arose from this convergence, as a material representation of ideas about the relationship between disease and security (both national and international); the means and ends of aid delivery; and the potential of drones not only to save Africa, but to save "us" — including the United States — from African ills.

As noted earlier, technological fantasies position emergent technological systems as necessary — and effective — responses to dire threats. This was precisely the type of work that the many narratives of the Ebola drone appeared to be doing, regardless of whether they appeared in mainstream media or in the more remote parts of the blogosphere. The deployment of AFRICOM (the US Africa Command), for example, can be viewed as a militarized medical response patterned on the war on terror. **[13]**

In keeping with the notion of technological fantasies, the proposals to use drones for reconnaissance, intelligence gathering, and surveillance were all premised on the idea that it was possible to "see" Ebola from a distance, so as to identify infected (and thus potentially dangerous) individuals (iHLS 2014). One observer suggested that drone reconnaissance could enable the military to see "what's happening in this village? Any signs of illness? Are people fleeing?" (Murphy 2014). Another suggested that if Global Hawks were stationed at the US drone base in Niger, they could easily fly over Liberia, providing surveillance that "could help the fight against Ebola by looking for unusual human behaviour, like a sudden vehicle exodus or overcrowded hospitals, which might give away an outbreak before it's reported." (Atherton 2014) Elaborate scenarios were devised to prove the value of the Ebola drone in producing ground truth:

> "Someone's sick, they call a cab to take them to the hospital, they may be shedding the virus [via fluids] in the cab. They reach the hospital and there's no beds; then they go home and they've contaminated these cabs. . . . It's the sort of subtle clue you can catch from space, with enough time, patience and, most importantly, attention. That's where drones come in, which could provide more eyes on potential hotspots." (Tucker 2014)

Thermal imagery was also proposed as a means of identifying those who had become ill (SPI 2014): in a discussion of DIY (do-it-yourself) drones, for example, one user observed that

> "people who have Ebola have an increased temperature as it is one of the symptoms and from what I have seen on News

[13] This perspective was reflected in the following comment, from division spokesman Lt. Col. Brian DeSantis: "Our job is to build Ebola treatment units and train health care workers. There is no mission for us to handle infected people, human remains or medical waste. . . . We will have our own facility separate from the population where we will handle force protection and life support, similar to our facilities in Iraq or Afghanistan." (Watson 2014)

> most of the checking at airports is done by individuals with infra-red thermometer. The UAV could highlight individuals who might have symptoms and they could be isolated or given treatment." (DIY 2014)

Of course, even if infrared science could successfully detect fever through layers of cloth and sweat, it could not have detected the cause of a fever.

Most remarkable however, was the utopian rhetoric surrounding the potential use of drones to drop off food, water, and — most importantly, medication — to Ebola-affected populations (Auerbach 2014). The Ebola drone was imagined as a useful way to carry what did not actually exist: a cure for Ebola. In the words of one observer, "a flying drone can prove useful to send medical supplies to remote locations. It would act as a simple way to either stop or slow down the spread of the Ebola virus," and would be a "safer alternative than people travelling to dangerous areas just to deliver materials." (Inveneo 2014)

Other proposals touted the ability of drones to mediate closed airspace: "Surely the United States can use them to bring protective medical gear to hospitals in countries like Liberia or Sierra Leone. Closed borders to commercial air traffic are no barriers to drones." Finally, drones were tasked with the old jobs of bringing hope—and pamphlets—to suffering peoples, as if ignorance and despair were behind the epidemic:

> "Drones also can bring hope and, say, by pamphlets deliver valuable information to West Africans. . . . Knowledge can combat disease and the fear that precedes it. People need to know how to protect themselves, how to discern the signs of sickness, . . . and how to treat the stricken or safely dispose of the dead." (Wilcox 2014)

It was the lack of genuinely convincing uses for drones, however, that most strikingly illustrated the presence of drone utopianism. As Luege has observed, the Ebola crisis lacked a "possible scenario . . . in which you can't deliver something more efficiently with a motorbike within the area that the drone can cover." (Luege 2014) According to Luege, the perception that drones could solve the Ebola crisis was founded, in part, on the misperception that "the challenge of fighting Ebola is . . . delivering drugs to remote areas" — when in fact, the Ebola outbreak became as serious as it did because it was urban in nature.

Those who viewed Ebola as a "supply-chain challenge" — that is, as a matter of logistics—were engaging in the classic technology-transfer argument, which holds that military technology is always better, and that using such technology for civilian purposes is feasible, responsible, and economic: given the region's bad roads and the shortage of trucks, the perception was that civilian drone technology could not deliver the "tons of supplies" that were needed. Thus, Auerbach (2014) argued, for example, that "military-grade drones" were the answer.

In the military sphere, part of the appeal of drones is their ability to undertake "dull, dirty, and dangerous" jobs — many of which are related

to supplying troops. According to one observer, the unmanned Kaman K-Max helicopter had been "extraordinarily successful at delivering supplies to American troops in remote parts of Afghanistan" and "could easily be repurposed to deliver humanitarian aid" (Auerbach 2014; see also Weisberger 2011); thus, the K-MAX could circumvent poor infrastructure and the risk of theft, while enabling remote management and reducing the number of personnel needed on the ground. The not-unexpected second part of this argument, however, was that the United States already owned the K-Max, which was sitting idle in storage (Auerbach 2014).

When viewed as a tool for protecting Western health care workers, the Ebola drone was imagined to be capable of many things—including seeing and sensing Ebola-infected individuals. And despite the fact that current drone technology allows for only limited cargo capacity and short flight times, the Ebola drone was imagined to be free of these constraints. Outside of its presumed practical applications, however, the Ebola drone can be understood as a reflection of efforts — on the part of both the drone industry and the drone DIY movement — to reshape public perceptions of drones as "spy" or "killer" drones.

Thus, the Ebola drone was defined as a humanitarian drone, capable of carrying medication and other aid where health workers were unable to go, either because of insecurity or bad roads. At the same time, however, the Ebola drone was largely a set of imaginings about the extended use of military drones. As conceived for deployment in the war on Ebola, it was endowed with the potential to be surgically precise, avoid the burden of placing boots on the ground, and allow for remote management.

Meanwhile, West Africans were strangely absent from the technoscape of the Ebola drone, a realm that was inhabited only by Western actors, who possessed the hardware, technical skills, and know-how required for crisis management. In the technological fantasies that animated the Ebola drone, the locals were presumed to be infected, potentially infected, or dead; thus, they were allotted roles either as threats (the "Ebola terrorism scenario") or victims (the humanitarian crisis scenario). Either way, whether as individuals or communities, they were largely devoid of agency.

Ultimately, the Ebola drone was in keeping with the rationales underlying a militarized approach to virtually any crisis; on a different level, however, the Ebola drone was also a utopian response to a lack of knowledge about how to deal effectively with a disease that had emerged from structural injustice, a post-conflict context, and "culture".

Drones as Solutions to African Insecurity

Continuing the theme of technological fantasies, I argue in this section that drones play an important role in dealing with perceived security threats — specifically, those arising from within Africa.

As one observer noted, during the period following the wars in Iraq and Afghanistan, Africa became "the next frontier" for UAV operations (Oliver 2015). Drones were first used in Africa by the South African apartheid

regime; in the contemporary context, the first known drone strike on African soil occurred in 2007, in Somalia, where the United States had been consecutively targeting warlords, Al-Qaeda, the Islamic Courts Union, and Al-Shabaab since 2001 (BIJ 2015). While the claim that drones "can yield game-changing interventions in the fight against terrorism in Africa" (Attuquayefio 2014) is contestable, drones have certainly enabled the expansion of the war on terror across the continent (Cole 2013; Dörrie 2013; Hinshaw 2013). The United States, the United Kingdom (UK), and France have established drone bases and used surveillance and combat drones in Chad, Libya, Mali, Niger, and Somalia (Mazzetti and Schmitt 2011; Public Intelligence 2013; Whitlock 2013; UAS Vision 2014; Tran 2015). Surveillance and combat drones are also increasingly in use by African militaries (Oliver 2015).

At the same time that it is part of the global war on terror, drone use in Africa has intermittently been infused with humanitarian motifs: in Libya in 2011, for example, drones were used in Operation UNIFIED PROTECTOR, the aim of which was to "protect civilians and civilian-populated areas from attack or threat of attack" — which included enforcement of the no-fly zone (NATO 2011). **[14]** Citing UN Security Council (UNSC) Resolution 1973 on Libya, which was passed on February 6, 2011, President Obama approved the use of armed drones, justifying their deployment as tools of humanitarian assistance for the protection of Libyan civilians (CBS 2011). During the deployment, 250 armed-drone sorties (flown by US and UK drone pilots between April 1 and September 2, 2011) resulted in 145 "strike sorties"—meaning that targets were identified and engaged (Woods and Ross 2011). The enormous humanitarian costs of the Libyan intervention were only belatedly acknowledged. By 2015, the terror motif had returned, and the United States was again looking to use armed drones in Libya, this time against the Islamic State (Entous and Lubold 2015).

In Mali in 2014, Operation Barkhane replaced Operation Serval, the previous French mission. The purpose of Operation Barkhane is to "regionalize" counterterrorism efforts in the Sahel, partly by helping to prevent the further development of terrorist safe havens in five countries: Burkina Faso, Chad, Mali, Mauritania, and Niger (Larivé 2014). As part of Operation Bahkhane, France is now deploying three Reaper drones for surveillance. According to the French Air Force (2015), the Reapers are "indispensable on [sic] a theatre of operations as large as Europe."

> "The Reaper drones have demonstrated their usefulness and performance by achieving all operations and intelligence in support of the Barkhane Force. . . . The valuable information they provide enables units to understand and remain aware of the environment in which they will operate and the threats they will face."

In his discussion of colonial airpower, Omissi (1990, 59) concludes that "air policing was perhaps most politically and militarily successful where financial, geographical and strategic logic pointed in the same direction."

[14] US drone deployments have also been imagined as having potential for international criminal justice: on a 2011 visit to Uganda, then-secretary of state Hillary Clinton expressed optimism that drones would soon be able to find Joseph Kony (Lee 2012).

While the African drone wars of today are part of a colonial legacy of intervention, they are also frustrated reactions, on the part of the Global North, to the failures of developmentalism and state-building projects. Some observers hold that armed drones have become a push factor for military action: instead of being dictated by a coherent overall strategy, the scope of military action is determined by the number of designated individuals drones can target. As one observer has noted with respect to Barkhane, "the fighting aspect of this mission could go on endlessly without the inclusion and implementation of a state-building dimension in each country of the Sahel region" (Larivé 2014) — an observation that is equally relevant to US and UK counterterrorism efforts.

One development that is receiving increasing attention is that just as drones support the proliferation of the war on terror in Africa, the war supports the proliferation of drones. More than fifteen African states have purchased drones, and at least six can manufacture their own (Menke 2014). In 2015, the South African company Denel Dynamics introduced the Snyper (an armed version of its Seeker 400 drone), which comes with four Impi-S missiles (Defence Web 2015).

The market for Israeli military drones continues to grow across Africa — thanks, in part, to the Israelis' historical collaboration with the South African drone industry. China, meanwhile, has exported five armed drones to Nigeria, to boost that country's efforts to fight Boko Haram. (The drones are CH-3s, which are manufactured by the China Aerospace Science and Technology Corporation; it is unknown whether they are under the control of the Nigerian Air Force or are being flown remotely by Chinese military contractors.) Observers have suggested that, taking its cue from US efforts to protect its oil supply in Iraq, China may be offering Nigeria armed drones in order to protect its investment in the Nigerian oil sector (McCarthy 2015; Maughan 2015).

As Omissi (1990) notes, airpower was previously used in Africa to address a wide range of issues, from insurgencies to tribalism, anticolonialist movements, and even tax evasion. Today, however, drones are increasingly seen as necessary and effective responses to what are framed as the key contemporary threats: namely, terrorism and militant Islamism. The relaxation, in 2015, of US export restrictions on weaponized drones; increased Chinese and Israeli exports; and the emergence of effective, home-grown, weaponized platforms will likely increase the use of drone strikes as substitutes for political settlements.

Effective targeting will create "milestones" — that is, legitimacy-producing signposts of success in the war on terror. Through the target-selection process, drones help define African security problems as security threats to the Global North. To the extent that they succeed in identifying, isolating, and eliminating such threats, drones are eradicating the need for more comprehensive strategies.

Africa's Security Problems: A Solution to the Problem of Drone Legitimacy

The focus so far has been on what drones can do for Africa; I turn next to what Africa can do for drones: specifically, the ways in which Africa's problems are being enlisted in the quest for drone legitimacy.

Against the backdrop of ongoing controversy about the drone wars, the drone industry's push to open US and European civil airspace to drones (by 2015 and 2016, respectively) has provoked broad public debate on new issues: namely, privacy and safety. As I have discussed elsewhere, the drone industry is attempting to strengthen its symbolic capital by promulgating the notion of "good drones" (Sandvik and Lohne 2014). In 2012, for example, the Guardian reported that the British lobbying group UAVS (Unmanned Aerial Vehicle Systems Association) had recommended that "drones deployed in Britain should be shown to 'benefit mankind in general,' should be decorated with humanitarian-related advertisements, and should be painted in bright colours to distance them from those used in warzones." UAVS wants, moreover, to "be associated with safe, civil applications that have a humanitarian, ecological and environmental benefit." (Gallagher 2012)

As an evolving concept, the good drone is attractive as a "politics of the possible", combining technological utopianism with images of possible future functions. The "good drone" discourse offers many explicit and implicit ideas of what is good: from efficiency, low cost, and improved bureaucratic decision making (based on a perfect vision of human interaction on the ground) to more far-reaching visions of global justice and social change (Gabrielsen Jumbert and Sandvik 2016). I would argue that by allowing practices with high degrees of legitimacy — peacekeeping, crime control, and conservation — to be juxtaposed with drone uses that, in other contexts, may be viewed as more controversial, the African context provides opportunities to strengthen the notion of the good drone.

Drones in Peacekeeping Missions

Peacekeeping missions are one example of drone use intended to address specifically "African" problems. Of the sixteen ongoing UN peacekeeping missions, nine are located in Africa (DPKO 2015). And in 2015, a UN Expert Panel on Technology and Innovation in UN Peacekeeping called for drones to be integrated into all UN peacekeeping missions (Pilgrim 2015). According to the expert panel, drones offer advantages in the realms of surveillance, reconnaissance, documentation, and (potentially) deterrence.

The panel's recommendation reflects an important shift from keeping the peace to *enforcing* the peace, which is a significant departure from the traditional UN peacekeeping principles of impartiality, limited use of force, and consent of the main parties. **[15]** The first mission to acquire a drone capability was MONUSCO, the UN Stabilization Mission in the Democratic Republic of the Congo. After the 2012 fall of Goma, at the hands of the M23

[15] Karlsrud (2015) has referred to this shift as "when the UN wages war."

guerrillas, MONUSCO was severely criticized for having been ineffectual and incompetent. In March 2013, the UNSC augmented MONUSCO with a Force Intervention Brigade, which was mandated to "take all necessary measures" to "neutralize" and "disarm" groups that posed a threat to "state authority and civilian security" (UNSC 2013a, 7–8). **[16]**

Just *before* passage of Resolution 2098 (UNSC 2013), which approved the actual purchase of UAVs by MONUSCO, the UN Office of Central Support Services, Procurement Division, released a bid for the provision of one UAV to be used by MONUSCO for three years. **[17]** Selex ES, an Italian company, won the tender, and the deployment date was slated for December 2013 (Apuuli 2014). In November 2013, however, M23 announced that it was ending its rebellion, meaning that the Selex ES never saw combat.

The MONUSCO drone raises several questions about the proliferation of peacekeeping drones in Africa. For example, Rwanda (which has been accused of aiding M23) initially opposed MONUSCO's deployment of drones, arguing that it "it did not want Africa to become a laboratory for foreign intelligence devices." (Charbonneau 2013) Other critics have argued that MONUSCO lacks the ability to analyze or act on the intelligence it gathers (O'Grady 2015). More generally, there are concerns about the ownership and safety of the data collected and stored by peacekeeping drones. Without adequate procedures and regulations in place, information leaks may undermine the credibility of peacekeeping drones (and peacekeeping in general) (Karlsrud and Rosén 2013). Peacekeeping drones can also impact civilian-military relations, as well as the relationships between peacekeeping missions and local populations. Nongovernmental organizations operating in and around Goma, for example, have voiced strong concerns that peacekeeping drones are blurring the line between military and humanitarian action, and that because communities have not been sufficiently informed about why drones are being used, they assume that the drones are being deployed for military purposes (World Vision 2014). **[18]**

Such objections can be viewed in the context of a larger debate about the UN's integration of its military, peacebuilding, development, and humanitarian efforts; although the intent of the integration is to increase coherence and effectiveness, it may impact humanitarian action—particularly in Africa, which is the world's premier humanitarian emergency zone. As is illustrated by repeated references, on the part of MONUSCO officials, to a 2014 incident in which a drone spotted a vessel capsizing on Lake Kivu and alerted peacekeepers, who intervened, MONUSCO views integration as an advantage (Reuters 2014). Furthermore, MONUSCO regards the drones as engaging simultaneously in reconnaissance, peace enforcement, and humanitarian data gathering (humanitarian organizations are given the opportunity to assign specific surveillance missions to the drones). **[19]**

Drones, Riot Control, and Crime Fighting

In the Global North, attempts to improve policing are increasingly taking the form of militarization. As Hall and Coyne (2014) have observed, the

[16] In April 2013, "in support of the transitional authorities of Mali," the UNSC authorized MINUSMA, the UN Multidimensional Stabilization Mission in Mali, "to stabilize the key population centers, especially in the north of Mali and, in this context, to deter threats and take active steps to prevent the return of armed elements to those areas" (UNSC 2013b, 7). Under this more aggressive mandate, drones were perceived as being needed for reconnaissance — and, as of this writing, MINUSMA was in the process of acquiring them. In 2014, the UN assigned a similarly robust mandate to MINUSCA, the UN Multidimensional Stabilization Mission in the Central African Republic (UNSC 2014).

[17] In 2006, MONUSCO's predecessor, MONUC (the UN Organization Mission in the Democratic Republic of the Congo), was supported by Belgian troops with drones. This early deployment ended when one of the drones was shot down and the other crashed, killing and injuring civilians.

[18] In September 2015, it was revealed that MONUSCO had failed to collect drone debris eight months after a crash, and had severely delayed paying compensation to the farmers whose fields had been destroyed by the downed drone (O'Grady 2015).

[19] MONUSCO official, personal communication, July 2015.

political economy underlying the militarization of domestic policing is premised on "crises" that prompt the government to take immediate action, but that ultimately become perpetual wars—the war on drugs and the war on terror being the primary examples. Hall and Coyne argue that as the police engage in military-style training, acquire military weapons, and employ military tactics in everyday operations, the protective state devolves into a predatory state that undermines the rights of the populace. One corollary is a shift in how the police conceive of the events and behaviours with which they are expected to deal: for example, criminality is redefined as insurgency and crime control as low-intensity conflict; in a militarized law enforcement environment, both require counterinsurgency tactics and equipment (Kraska 2007).

While putting guns on police drones remains highly controversial, ideas for using drones to deliver and deploy less-lethal agents for law enforcement purposes — such as smoke canisters (for crowd control) and steel spikes (to destroy tires) — have circulated since the late 1990s (Murphy and Cycon 1999). Globally, less-lethal weapons are fairly common in domestic policing, as are deaths caused by the use of such weapons. Proponents argue that arming drones with less-lethal weapons will reduce both collateral damage and threats to the security of police officers, while critics caution against the legitimizing effect of less-lethal weapons (Rappert 2003).

My focus here is on the South African context, which has allowed armed drones to emerge and may allow them to be deployed in civil airspace. The drone in question is the Skunk Riot Control Copter, which is manufactured by Desert Wolf, a South African company. According to the manufacturer, the Skunk is "designed to control unruly crowds without endangering the lives of the protesters or the security staff." The drone is equipped with both blinding lasers and onboard speakers to send verbal warnings to a crowd; it also has four high-capacity gun barrels capable of shooting up to four thousand paintballs, pepper-spray balls, or solid plastic balls at rates of up to eight balls per second, to be used in an extreme, "life threatening situation". According to the manufacturer, the Skunk was developed to "assist in preventing another Marikana" (Desert Wolf n.d.g) — a reference to a 2012 strike in South Africa, in which police killed forty-four miners (Smith 2014).

While Desert Wolf has explicitly targeted mining companies that might potentially have to deal with striking workers, the use of the Skunk can easily be extended to any kind of urban protest. Hennie Kieser, Desert Wolf's managing director, has observed that "removing the police on foot, using non-lethal technology, I believe that everyone will be much safer" (Kelion 2014). For its part, the International Trade Union Confederation has strongly objected to "the deployment of advanced battlefield technology on workers or indeed the public involved in legitimate protests and demonstrations." (Kelion 2014)

While improved crowd control seems to be part of a global domestication strategy for armed drones, I think that the specifically African context of the Skunk matters, in two ways: first, the prospective use of drones in riot

control is another example of the ways in which "African problems" are being enlisted to help drones gain legitimacy and market access; second, Desert Wolf, despite sensationalist coverage and widespread outrage against the product, seems to have gained some acceptance for its insistence on the inevitability of the use of force by police, and for the critical role of military-style drone technology in directing this force toward being "less lethal".

Drones and Poaching

The third way in which African problems are being pressed into service for the "good drone" project has perhaps the greatest appeal: namely, the use of drones in the African war on poaching. In recent years, the poaching of elephants, rhinos, and other wildlife has increased massively across the continent. As Wich, Scott, and Koh observe, conservationists' traditional techniques for monitoring wildlife and their habitats face cost, efficiency, and practical constraints, which necessitate the development of new methods. Drones have been used to monitor habitats and both terrestrial and marine wildlife, as well as to detect changes in land use (Wich, Scott, and Koh, 2016). In Zambia, for example, drones have been used to detect the presence of chimpanzees; they have also been used in Gabon, to detect the fruiting trees associated with chimpanzees (Van Andel et al. 2015).

While the combination of widespread drone use and improvements in data processing technology raises important privacy issues for conservationists, it is the use of drones in anti-poaching efforts that evokes the most difficult questions. Drones are currently being used to combat elephant and rhino poaching in the Democratic Republic of the Congo, Kenya, Namibia, South Africa, Tanzania, Zambia, and Zimbabwe (Snitch 2015). And as Wich, Scott, and Koh (2016) note, the use of drones to intercept and arrest poachers can lead to dangerous — even lethal — consequences.

According to the Game Rangers' Association of Africa, the massive market demand for illegal game has led to the death of about a thousand rangers over the past ten years. Poachers are often heavily armed, and rangers are increasingly likely to find themselves in combat situations (Game Rangers' Association of Africa n.d.g). But poachers are at bodily risk as well: in 2014, for example, in South Africa' Kruger National Park, one poacher was killed by a ranger who was acting on information gathered by a drone. As reported by the Shadow View Foundation, which was working in collaboration with local rangers, ShadowView had translated aerial information from the drone into strategic guidance for the rangers' ground forces; during the ensuing firefight, one poacher was killed (ShadowView 2014).

Whereas conservationists might argue that drones are merely visual aids for rangers, I would suggest that the use of drones inevitably changes in significance when conservation is reframed as a "war on poaching" — one that is implicitly or explicitly modelled on the war on terror and that relies, as does the war on terror, on military-grade weapons (Goldhammer 2014); and which draws ever larger orbits of civilian life into the national security

[20] As part of this framing, the United States claims that groups it has designated as terrorist (such as Somalia's Al-Shabaab and Uganda's Lord's Resistance Army) reap profits from the illegal wildlife trade (Goldhammer 2014). A 2014 White House fact sheet explains that "like other forms of illicit trade, wildlife trafficking undermines security across nations." (White House 2014)

orbit. **[20]** When framed in this way, drones become a cheap and effective tool in "the fight to save elephants and rhinos" (Goldhammer 2014), a view that sidesteps an important distinction: using drones to monitor animals and to target poachers are qualitatively and morally different activities. Thus, more debate is needed on the dual functions of drones in conservation work.

Conclusion

Through an empirical examination of African "drone stories", this article explores the image of the drone as a game changer for Africa. The scope of my investigation has been intentionally broad. I began by historicizing current developments, which revealed both the surprisingly early uses of surveillance drones in Africa, and the legacy of technological imperialism and colonial airpower. In my discussion of technological utopianism and technological fantasies (specifically with regard to leapfrogging and the Ebola drone), I focused on the links and overlaps between the twin trajectories of development and insecurity.

Finally, I observed that supposedly unambiguously "good" uses of drones, for purposes such as peacekeeping, crime control, and conservation, raise difficult questions — both about the use of force, and about the deliberate framing of drone uses in ways that evoke the war on terror. While peacekeeping, riot control, and anti-poaching efforts constitute very different responses to very different threats, drones are touted as game changers in all three cases. Moreover, each type of response is currently undergoing both militarization and reframing, in which drones play an important part. None of these uses are unambiguously "good"; thus, it is all the more important to attend to how these uses are constructed, and how they are reappropriated to enhance the legitimacy of drones more generally.

My overall goal was to think through African drone proliferation by analyzing how drones and Africa are being construed as solutions to each other's problems. To this end, I explored the assumption that drones can help Africa to move beyond "underdevelopment", while simultaneously helping to protect the Global North against security threats arising from within Africa. Finally, I suggested that the drone industry regards Africa as offering opportunities to enhance the legitimacy of drones in the Global North.

As civilian and military drone use proliferates within and outside Africa, I hope that my insights about the "African drone" can help illuminate drone proliferation wherever it occurs. Discussions of drone proliferation tend to assume that the drone industry is a monolithic, geographically concentrated entity, and that drone use will look the same and engender the same controversies, regardless of geography. The only way to counteract this view is to examine the specifics: that is, to uncover and describe actual examples of drone use — particularly outside the West, particularly by non-Western actors, and particularly among local communities, civil society, or others who find themselves under the military or commercial "drone stare".

None of these areas have received significant scholarly attention.

At the same time, it is important to beware of technological determinism. Drones do not eradicate human agency. We know little about emergent local practices of tinkering with donated drone technology, or inventing affordable, effective indigenous drones. As the production and use of drones spreads across Africa, Asia, and Latin America, it will be important to tell richer and more critical "drone stories", and to engage in further investigation of industry practices, policy making, and the everyday use and adaption of drone technology.

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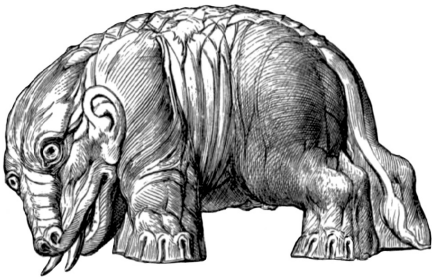
Heldendämmerung? Der Drohnenkrieg und die Zukunft des militärischen Heroismus

Ulrich Bröckling

Abstract:

The use of unmanned combat air vehicles challenges the established notion of military heroism, which is based on the idea of fundamental reciprocity: the power to kill and the risk of being killed. Within this logic, soldiers can become heroes if they bravely fight the enemy and put their life on the line. Drone pilots by contrast operate from a safe distance to the battlefield without any risk of injury. Hence, armed drones have been often described as the paradigmatic weapons of an upcoming post-heroic warfare. The article questions this point of view and argues that heroic interpellations are indispensable as long as there is a need for the willingness to self-sacrifice.

Keywords, engl.: post-heroism, drone war, targeted killing, asymmetric warfare
Keywords, dt.: Postheroismus, Drohnenkrieg, gezielte Tötungen, asymmetrische Kriegführung



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Am 4. Februar 2002 feuerte eine Drohne vom Typ *Predator* eine *Hellfire-Rakete* auf drei Männer in der Nähe der afghanischen Stadt Khost und tötete sie. Gerüchte kursierten, die CIA habe einen der drei wegen seiner Körpergröße und seiner grauen Haare für Osama bin Laden gehalten. Ein offensichtlicher Irrtum, wie sich bald herausstellte. Ein Pentagon-Sprecher erklärte im Nachhinein, man sei sicher gewesen, es habe sich um ein angemessenes Ziel gehandelt, musste jedoch einräumen, man habe nicht genau gewusst, um wen es sich handle (Sifton 2012). Journalisten berichteten später, die Getöteten seien Zivilisten gewesen, die auf dem Gelände eines verlassenen Mudjaheddin-Camps nach Altmetall suchten. Bei dieser Tötungsaktion handelte sich um die erste bekannt gewordene Operation einer bewaffneten Drohne. Zu Aufklärungszwecken wurden die *Predators* schon seit 1994 eingesetzt, mit einem Waffensystem hatte man sie allerdings erst kurz zuvor ausgerüstet. In der Testphase hatten Experten befürchtet, der rückwärtige Feuerstrahl der Raketen könne die Leichtfluggeräte zerstören. Das geschah nicht, und damit begann der rasante Aufstieg der *Remotely Piloted Aircraft* bzw. *Unmanned Combat Air Vehicles* (UCAVs), so die offizielle Bezeichnung.

Die Bush-Administration setzte in der Folge bewaffnete Drohnen in Afghanistan und Pakistan zunächst zur Tötung sogenannter *High-Value-Targets* ein, die Angriffe richteten sich gegen bekannte Talibanführer oder Mitglieder von Al Qaida. Unter Obama wurde das Programm massiv ausgebaut, allein während seiner ersten Amtszeit zählte man fünfmal so viele Angriffe wie in den acht Jahren der Bush-Administration. Inzwischen machen Drohnen ein Drittel der US-amerikanischen Kriegsluftflotte aus (Suebsang 2013). Die US-Regierung betreibt zwei Drohnenprogramme: Ein militärisches, das feindliche Kräfte in den Kriegsgebieten in Afghanistan und dem Irak bekämpft, und ein geheimes unter Verantwortung der CIA, das sich gegen Terrorverdächtige in der gesamten Welt richtet und auch in Gebieten operiert, in denen keine US-Truppen stationiert sind (Mayer 2009). Dokumentiert sind verdeckte Drohnenangriffe vor allem im Jemen, in Somalia und Syrien.

Die Obama-Administration weitete indes nicht nur die Einsatzgebiete, sondern auch die Ziele der Angriffe aus. Neben der Tötung namentlich bekannter Terrorverdächtiger, die auf einer vom Präsidenten unterzeichneten Todesliste aufgeführt sind, setzt sie auf sogenannte *signature strikes*. Diese richten sich gegen „groups of men who bear certain signatures, or defining characteristics associated with terrorist activity." (Klaidman 2012, 41) Die Identität der Zielpersonen ist zunächst noch unbekannt, ‚signiert' werden sie aufgrund ihres Verhaltens. Anhand einer Lebensmusteranalyse werden persönliche Profile angelegt, die sich auf die von den Überwachungskameras der Drohnen gesammelten Fakten, aber auch aus anderen Daten, beispielsweise aus der Auswertung von Mobilfunkverbindungen speisen. In der Summe ergibt das *Profiling* ein Gesamtbild der zeitlichen, räumlichen und sozialen Verhaltensparameter eines Menschen. Auf diese Weise wird das Töten sukzessive automatisiert; Algorithmen entscheiden, wer sterben muss (Markwardt 2014). Welche Merkmale die Zielpersonen im Einzelnen

als Verdächtige ausweisen, das bleibt geheim. Zivile Opfer werden kurzerhand wegdefiniert: Nachdem John Brennan, Obamas Berater in Sachen Terrorbekämpfung, 2011 stolz verkündet hatte, die Technik sei inzwischen so weit fortgeschritten, dass es im Jahr zuvor so gut wie keinen kollateralen Todesfall gegeben habe, deckte die *New York Times* auf, dass die amtlichen Dokumente alle Männer im wehrfähigen Alter, die sich im Gebiet des Drohneneinsatzes aufhalten, pauschal als Kombattanten einstuften. Korrigiert wurde dies, sofern explizite Hinweise auf die Unschuld der Getöteten auftauchten, allenfalls posthum. **[1]** In Regierungskreisen kursierte ein Scherz, nach dem die CIA bereits überzeugt sei, ein Trainingscamp für Terroristen gefunden zu haben, wenn Drohnenkameras drei Männer entdeckt hätten, die Freiluft-gymnastik betrieben (Luther 2013).

Recherchen unabhängiger Journalisten belegen demgegenüber einen hohen Anteil getöteter Zivilisten; ihr Anteil bewegt sich zwischen 12 und 35 Prozent. Allein für Pakistan gehen sie – Stand Anfang Dezember 2015 – von 423 bis 965 zivilen Drohnenopfern aus, darunter zwischen 172 und 207 getötete Kinder, bei einer Gesamtzahl der Getöteten zwischen 2489 und 3989. **[2]** Rechtlich gesehen ist die Politik der gezielten Tötungen höchst umstritten: Selbst Juristen, die solche Aktionen im Rahmen bewaffneter zwischenstaatlicher Konflikte durch das Völkerrecht gedeckt sehen, stufen Drohnenangriffe auf dem Gebiet von Staaten, mit denen man sich nicht im Kriegszustand befindet, als völkerrechtswidrig ein.

Das Skandalon der präemptiven Tötung Verdächtiger ohne Anklage und Gerichtsurteil, die mit dem zynischen Euphemismus eines Kollateralschadens belegten Opfer unter der Zivilbevölkerung, die Traumatisierung der gesamten Bevölkerung in den betroffenen Regionen, die täglich 24 Stunden die Drohnen über sich kreisen hören und sehen und die jederzeit fürchten müssen, ohne Vorwarnung unter Raketenbeschuss zu geraten – all das ist nicht Gegenstand der folgenden Überlegungen. **[3]** Diese fragen vielmehr danach, wie die *Unmanned Combat Air Vehicles* traditionelle Vorstellungen militärischen Heldentums erodieren lassen beziehungsweise welche Bedeutung die Erosion heroischer Orientierungen in zeitgenössischen westlichen Gesellschaften für den rasanten Siegeszug dieser Waffensysteme besitzt. Anders ausgedrückt: Es geht um Drohnen als paradigmatische Objekte eines vermeintlich postheroischen Zeitalters. Ausgeblendet bleiben damit auch der militärische Einsatz von Drohnen zu Aufklärungszwecken wie zivile Nutzungen dieser Technologien etwa zur Kartierung von Waldgebieten oder archäologischen Ausgrabungsstätten, zur Inspektion von Brücken und Pipelines – oder als Spielzeug für Spanner.

Geführt wird der Drohnenkrieg von US-amerikanischer Seite derzeit vor allem mit einer Weiterentwicklung der *Predator*-Drohne, die unter dem Namen *MQ-9 Reaper* – auf Deutsch sowohl „Mähmaschine“ wie „Sensenmann“ – firmiert und für *Hunt and kill*-Operationen ausgelegt ist. Mit einer Länge von elf und einer Flügelspannweite von zwanzig Metern kann diese Drohne bis zu 30 Stunden in der Luft bleiben; sie fliegt in einer Höhe von bis zu 15.000 Metern und deckt dabei einen Einsatzradius von mehr als 3000 Kilometern ab. Bestückt ist sie zum einen mit *Hellfire*-Luft-Boden-Raketen

[1] „Mr. Obama embraced a disputed method for counting civilian casualties that did little to box him in. It in effect counts all military-age males in a strike zone as combatants, according to several administration officials, unless there is explicit intelligence posthumously proving them innocent.“ (Becker/Shane 2012)

[2] Das Bureau of Investigative Journalism in London dokumentiert die Zahl der Toten und Verletzten seit 2004, http://www.thebureauinvestigates.com/category/projects/drones/drones-graphs/ (04/12/2015).

[3] Vgl. dazu die ausgezeichnete, von Wissenschaftlern der *Stanford University* und der *New York University* gemeinsam herausgegebene Dokumentation: International Human Rights and Conflict Resolution Clinic at Stanford Law School and Global Justice Clinic at NYU School of Law, *Living Under Drones. Death, Injury and Trauma to Civilians from US Drone Practices in Pakistan*, Sept. 2012, http://www.livingunderdrones.org/wp-content/uploads/2013/10/Stanford-NYU-Living-Under-Drones.pdf (04/12/2015).

und lasergesteuerten Präzisionsbomben, zum anderen mit einem Aufklärungssystem, das zahlreiche Infrarot- und Videokameras sowie Richtlaser kombiniert, bis zu 65 Streaming-Bilder gleichzeitig an unterschiedliche Adressaten sendet und es ermöglicht, eine Fläche von vier mal vier Kilometern in hoher Bildauflösung aus unterschiedlichen Blickwinkeln zu überwachen. Aus einer Flughöhe von 3,2 Kilometern lassen sich damit Nummernschilder entziffern. Das System trägt den mythologischen Namen *Gorgon Stare*, Gorgonenblick. Das noch in der Planung befindliche Nachfolgesystem heißt *Argus IS*, nach dem allsehenden Riesen aus der griechischen Mythologie, der auch *Panóptes* genannt wird. Panoptisch ist das System in der Tat. Die unklassifizierten Videos von Droh-nenangriffen, die man bei *Youtube* anschauen kann, geben nur einen vagen Eindruck über die Präzision der Bilder und Daten, die den Militärs und der CIA zur Verfügung stehen.

Neben einem Bodenteam, das für Start und Landung der Drohne zuständig ist, sind drei Leute für ihren Einsatz erforderlich. Diese Crew besteht aus einem Piloten, der das System fernsteuert, einem *Sensor Operator*, der die verschiedenen Kameras, Radargeräte und Sensoren bedient, und einem *Mission Intelligence Coordinator*, der die Kommunikation mit Analysten, Datenbanken und anderen Crews übernimmt (Asaro 2013). Während das Bodenteam auf einem Flughafen in regionaler Nähe zum Einsatzgebiet stationiert ist, sitzen die Operatoren im Schichtdienst auf einer Tausende von Kilometern entfernten Militärbasis in Nevada oder im Pfälzerwald vor ihren Bildschirmen. Die Daten werden ihnen in Echtzeit per Satellit übermittelt. Die räumliche Distanz geht allerdings einher mit einer virtuellen Nähe: Mit dem ferngesteuerten Super-Zoom verfolgen die Drohnen-Operatoren ihre Zielpersonen über Tage, Wochen, manchmal Monate rund um die Uhr. Sie registrieren, wann diese das Haus verlassen, wohin sie gehen, mit wem sie sich treffen. So entsteht eine einseitige, aber geradezu intime soziale Beziehung. Und wenn sie die *Hellfires* abgefeuert haben, sehen sie aus ebenso großer Nähe, was diese anrichten: Tod und Zerstörung in einem Umkreis von mindestens fünfzehn Metern. Anders als Bomberpiloten, die nach einem Abwurf weiterfliegen und den Schrecken, den sie bringen, niemals zu Gesicht bekommen, bleibt das elektronische Auge nach dem Treffer weiterhin auf den Punkt gerichtet, an dem die Opfer vernichtet wurden.

Es ist diese Virtualität des Tele-Kriegs, es ist der geografische Abstand zwischen waffenbewehrtem Flugobjekt und Bedienungspersonal und damit verbunden die Diskrepanz zwischen der tödlichen Gewalt, denen die Opfer der Drohnenangriffe ausgesetzt sind, und der Sicherheit der Crews in ihren *Operation Rooms*, welche diese Form der Kriegführung anstößig erscheinen lässt. Kritik kommt nicht zuletzt von militärischer Seite: Der Drohnenkrieg sei ein „‚virtueless war', requiring neither courage nor heroism", zitiert ein Artikel im *New Yorker* den vormaligen British *Air Chief Marshall* Sir Brian Burridge. „There's something about pilotless drones that doesn't strike me as an honorable way of warfare. As a classics major, I have a classical sense of what it means to be a warrior", erklärt ein ehemaliger *Army Ranger* im selben Beitrag (Mayer 2009). Ein 19-jähriger Drohnenpilot berichtet von

seinem ersten Angriff, bei dem er Fahrer und Beifahrer eines mit Maschinengewehr bestückten Pickups tötete, die eine Patrouille amerikanischer Bodentruppen in Südafghanistan beschossen: „You feel bad. You don't feel worthy. I'm sitting here safe and sound, and those guys down there are in the thick of it, and I can have more impact than they can. It's almost like I don't feel like I deserve to be safe." (Bowden 2013)

Die Strategie des gezielten Tötens widerspricht dem soldatischen Ethos mit seiner Idee eines „gerechten Kampfes". Demnach gilt es als unehrenhaft, einen Feind anzugreifen und zu töten, ohne sich selbst derselben Gefahr auszusetzen. Zum Kriegshelden kann nur werden, wer auch zum Selbstopfer bereit ist. Der Drohnenkrieg bricht mit dieser elementaren Reziprozität, was jedoch keineswegs ein neues Phänomen darstellt (Naiden 2013). Die Einwände gegen Distanzwaffen sind vielmehr so alt wie diese: Bereits in der „Ilias" beschimpft Diomedes den „Mädchenbeäugler" Paris als „nichtsgeachteten Weichling", nachdem ihn dieser versteckt hinter einer Säule mit einem Pfeil verletzt hatte (Homer, 11.V, 386f.). Wie schon in der Antike impliziert das Verdikt der Feigheit bis heute auch eine sexuelle Depotenzierung. So hat die offizielle Bezeichnung für die ferngesteuerten Waffensysteme – *Unmanned Combat Air Ve-hicles* – einen deheroisierenden, weil die Männlichkeit anzweifelnden Doppelsinn: „Unmanned" bedeutet im Englischen nicht nur unbemannt, sondern auch entmannt (Chamayou 2014, 110).

Der Vorwurf, Distanzwaffen seien die Waffen der Feiglinge, bindet *ex negativo* militärisches Heldentum an das Vorbild des Kampfes Mann gegen Mann. In dieser „Negation des Technischen bei gleichzeitiger Apologie des Zweikampfs" treffen sich paradoxerweise, wie Claude Haas (2015, 70) gezeigt hat, militärische Traditionalisten und radikale Kriegsgegner. Während die einen die Drohnen für den Verlust kämpferischer Tugenden verantwortlich machen, befürchten die anderen eine Entgrenzung der Gewalt, wenn automatisierte Zerstörungstechnik ihren Einsatz risikolos macht. Dass der Drohnenkrieg den Hütern soldatischer Werte suspekt ist, verwundert wenig. Wenn Pazifisten jedoch ihrer Drohnenkritik mit dem Feigheitsvorwurf Nachdruck zu verleihen suchen, geraten sie, um in der militärischen Metaphorik zu bleiben, auf vermintes Gelände: In der Geschichte des Krieges diente die Überhöhung des vermeintlich fairen Zweikampfs, als Gegenmodell zur gezielten Tötung aus sicherer Entfernung, stets dazu, „das Schlachten akzeptabel – oder besser noch, ruhmreich zu machen." (Chamayou 2014, 108) Weil bloßer Zwang auf Dauer nicht ausreicht, um Menschen dazu zu bringen, in den Krieg zu ziehen, andere zu töten und sich selbst in Gefahr zu bringen, getötet zu werden, weil die Staatsräson oder welche Ziele auch immer aber genau dies von ihnen verlangen, wird die Kopplung von Kampf und Opfer zur heroischen Tat überhöht. Die Fabrikation gehorsamer Soldaten muss beides wecken, die Bereitschaft zu töten und die zu sterben (Bröckling 1997: 9f.), und zu diesem Zwecke werden diejenigen, die zum einen wie zum anderen willens und in der Lage sind, zu Vorbildern erhoben und als Helden verehrt. Das Ethos des fairen Kampfs liefert dafür das normative Gerüst: Die Gefahr des Getötetwerdens suspendiert

das allgemeine Tötungsverbot. Nur weil der Gegner mir ans Leben will und kann, so das militärische Ethos, darf und muss ich ihm das seine nehmen.

Mit der kriegerischen Wirklichkeit hatten die Beschwörungen militärischen Heldentums indes niemals viel zu tun. Das Letzte, was sich Soldaten auf dem Schlachtfeld wünschen, ist ein fairer Kampf (Bowden 2013). Sie wollen überleben, keine Verletzungen davon tragen, nicht in Gefangenschaft geraten, vielleicht Beute machen, sich rächen, ihre Gegner außer Gefecht setzen oder einfach nur töten, und sie werden deshalb alles tun, um auf jeden Fall zu den Stärkeren gehören. Die Geschichte militärischer Rüstung lässt sich als ein einziger Versuch lesen, die Symmetrie der Konfrontation durch technische Überlegenheit zu asymmetrisieren, was durch immer neue Resymmetrisierungsversuche konterkariert wird, die wiederum neue Asymmetrisierungsanstrengungen in Gang setzen usw. (Münkler 2006). Im Krieg kreuzen sich zwei Handlungslogiken, die des Kampfes und die der effizienten Gewaltanwendung. Auf der einen Seite ist der Krieg nach Clausewitz' bekannter Definition „nichts als ein erweiterter Zweikampf", in dem jede Partei versucht, die andere „durch physische Gewalt zur Erfüllung [ihres] Willens zu zwingen", sie „niederzuwerfen und dadurch zu jedem ferneren Widerstand unfähig zu machen". Auf der anderen Seite rüstet sich die Gewalt, wie Clausewitz nur wenige Zeilen später schreibt, „mit den Erfindungen der Künste und Wissenschaften aus, um der Gewalt zu begegnen." (Clausewitz 1832-34/1952, 89f.) Jede Seite versucht durch Einsatz technischer Mittel, die andere Seite wehrlos zu machen und sich zugleich gegen deren Gewalt wirksam zu schützen. Dazu dienen technische Apparaturen und soziotechnische Arrangements, welche die Intensität der Gewalt, ihre Zielgenauigkeit und Reichweite steigern, die Beweglichkeit und Geschwindigkeit von Truppen und Waffen erhöhen, für möglichst vollständige Sichtbarkeit des Gegners sorgen oder durch Panzerung beziehungsweise Tarnung die eigene Verwundbarkeit minimieren sollen. Eine elementare Strategie in diesem Zusammenhang ist die Vergrößerung der Distanz zum Gegner, die wiederum eine erweiterte Reichweite und verbesserte Zielgenauigkeit der eigenen Waffensysteme voraussetzt. Die Körper der Kämpfer und ihre Waffen, genauer: der Ort, an dem die Waffen ihre Zerstörungskraft entfalten, werden möglichst weit voneinander getrennt. Das Ziel ist es, den Gegner zu treffen, ohne selbst von ihm getroffen werden zu können. Clausewitz erkennt darin eine Entemotionalisierung des militärischen Handelns: „Die Waffen, womit der Feind schon in der Entfernung bekämpft wird, sind mehr Instrumente des Verstandes; sie lassen die Gemütskräfte und den eigentlichen Kampfinstinkt fast ganz ruhen, und zwar umso mehr, je größer die Entfernung ist, in der sie wirksam sind. Bei der Schleuder kann man sich noch einen gewissen Ingrimm denken, mit dem sie geworfen wird, weniger schon beim Büchsenschuß, noch weniger beim Kanonenschuß." (Clausewitz 1832-34/1952, 1007) Vermutlich zeitigt allein diese Abkühlung deheroisierende Effekte: Bewunderung und Verehrung vermag eher die Leidenschaft des Kämpfers zu wecken als die Nüchternheit des Technikers.

Die Drohnenkriegführung treibt die Asymmetrie von Kampf und technischer Effizienz so weit ins Extrem, dass die eine Seite ganz verschwindet. Die Spielregeln wandeln sich radikal: „Das Paradigma ist nicht jenes von zwei Kämpfern, die einander gegenüberstehen, sondern ein anderes: ein Jäger, der seinen Vorstoß macht, und eine Beute, die flieht oder sich versteckt." Aus Krieg wird präventive Menschenjagd: „Es geht weniger darum, spezifische Angriffe zu erwidern, als vielmehr die Entstehung neuer Bedrohungen durch die frühzeitige Ausschaltung ihrer potenziellen Agenten zu verhindern." (Chamayou 2014, 44) Drohnen machen keine Gefangenen, und sie erlauben keine Kapitulation. „That others may die", steht auf einem emblematischen Aufnäher, mit dem die *Reaper*-Crews ihre Uniform zieren (Chamayou 2014, 46).

Das Bemühen, eigene Verluste zu vermeiden, ist allerdings kein Spezifikum des Drohnenkriegs, und auch die Einseitigkeit des Tötens hat historische Vorläufer. Als die westlichen Eroberer in den Kolonialkriegen mit Maschinengewehren die allenfalls mit Speeren oder alten Flinten bewaffneten Eingeborenen niedermähten, hatte auch das nichts Heldenhaftes. Das Besondere der „Drohnisierung" des Krieges liegt weniger in der imperialen Machtüberlegenheit als im offiziellen Übergang „von einer Ethik der Aufopferung und Tapferkeit zu einer Ethik der Selbsterhaltung und mehr oder weniger akzeptierten Feigheit." (Chamayou 2014, 112) Für die westliche Militärpolitik wird der Schutz des Lebens der eigenen Soldaten zum absoluten Imperativ. Schon eine begrenzte Anzahl von Gefallenen – gemeint sind selbstverständlich nur Tote auf der eigenen Seite – würde die öffentliche Zustimmung zu einem Kriegseinsatz gefährden, so die militärische Begründung für die Umwertung militärischer Werte. Smarte Technologie soll deshalb übernehmen, wofür bisher Kampfeswille und Opferbereitschaft mobilisiert werden mussten. „Present circumstances", schrieb bereits 1995 der US-amerikanische Politikwissenschaftler und Strategie-Experte Edward N. Luttwak in einem Artikel für *Foreign Affairs*, der die Debatte um die postheroische Kriegführung eröffnete, „call for even more than a new concept of war, but for a new mentality that would inject unheroic realism into military endeavor precisely to overcome excessive timidity in employing military means." (Luttwak 1995, 122) Nicht Kriegsverhinderung, sondern die Sicherung der Kriegführungsfähigkeit motiviert die Abkehr vom Ideal militärischen Heldentums. – „Give War a Chance" lautet der Titel eines anderen Aufsatzes von Luttwak (1999).

Die normative Umstellung vollzieht sich allerdings keineswegs bruchlos. Ganz auf heroisierende Rhetorik und Rituale glaubt die US-Militäradministration auch im Tele-Krieg nicht verzichten zu können. So verkündete das Verteidigungsministerium am 13. Februar 2013 die Einführung eines Ordens für Drohnenkrieger. Die *Distinguished Warfare Medal* sollte in der Hierarchie der Auszeichnungen über dem *Purple Heart*, dem Orden für im Kampf verwundete Soldaten, rangieren. Verliehen werden sollte sie an Einsatzkräfte, deren außerordentliche Leistungen unabhängig von ihrer Distanz zum traditionellen Gefechtsfeld besondere Anerkennung verdienten. Die Ankündigung löste indes sofort Widerspruch von Veteranenverbänden

aus, die darauf bestanden, eine so hochrangige Auszeichnung ausschließlich für jene zu reservieren, die tatsächlich an Kampfhandlungen beteiligt waren und ihr Leben aufs Spiel gesetzt hatten (Military Times 2013). Nachdem auch im Netz Persiflagen auf die "Nintendo Medal" kursierten, zog das Verteidigungsministerium zwei Monate später seine Ankündigung zurück (Garamone 2013).

In der Geschichte des Krieges führten neue und besonders wirkmächtige Waffen häufig auch zur Heroisierung derjenigen, die sie lenkten – man denke nur an die Fliegerhelden des Ersten und Zweiten Weltkriegs. Für die Drohnenpiloten trifft das Gegenteil zu: Sie sehen sich dem Vorwurf ausgesetzt, Nerds zu sein, die ihrer puerilen Leidenschaft für Computerspiele nachgehen und vom sicheren Sessel aus die Raketen schon deshalb ohne Skrupel abfeuern, da sie zwischen virtueller und realer Welt kaum mehr zu unterscheiden wüssten. Der Gamifizierung des Krieges entspreche eine *Playstation*-Mentalität der Piloten, die ihre prospektiven Opfer nur als bewegte Bilder auf den Monitoren sähen. Nachdem in der Anfangsphase der Drohnenangriffe wiederholt Interviewäußerungen von Piloten bekannt wurden, die geeignet waren, dieses Bild zu bestätigen, betonen die militärischen Instanzen inzwischen die besonderen psy-chischen Belastungen, denen die Drohnen-Operatoren ausgesetzt sein sollen. Die permanente Sorge, versehentlich Unschuldige zu treffen, sowie das emotionale Wechselbad, in der Nachtschicht per Fernsteuerung verdächtige Terrorkämpfer zu töten und am nächsten Morgen die Kinder zur Schule zu bringen, stellen demnach außergewöhnliche Stressoren dar und erhöhen das Burnout-Risiko.

Die Befunde in der militärmedizinischen Fachliteratur sehen freilich anders aus: Die untersuchten Operatoren wiesen zwar deutlich überdurchschnittliche Burnout-Raten auf, die Befragten nannten als Belastungsfaktoren jedoch in erster Linie Schichtarbeit, Dienstplanände-rungen, personelle Unterbesetzung und vor allem die Eintönigkeit der Arbeit, wie der Militärspychiater Hernando Ortega ausführt: „It's really kind of a boring job to be vigilant on the same thing for days and days and days. It's really boring. It's kind of terrible. And maintaining relationships with their families – these were the kinds of things that they reported as that were stressful for them. And if you look through that stuff, they don't say because I was in combat. They don't say because we had to blow up a building. They don't say because we saw people get blown up. That's not what causes their stress – at least subjectively to them. It's all the other quality of life things that everybody else would complain about too." (Ortega 2012, 24) Heldenmythen lassen sich aus solchen Befunden schwerlich stricken.

Wenn also die Drohnenkrieger schon nicht als Kriegshelden taugen, lassen sich dann vielleicht die Drohnen selbst heroisch aufladen? An entsprechender Rhetorik mangelt es nicht: Die militärische Propaganda rühmt die elektronischen Aufklärungs- und Waffensysteme dafür, das Leben der eigenen Truppen zu schützen und durch ihre Präzision auch die Zahl der gegnerischen Opfer zu senken. Was den Drohnenpiloten als Feigheit angekreidet wird, die Ausschaltung des Gegners ohne Risiko, wird der Technik als moralische Qualität gut geschrieben. Ihren Apologeten gelten die Drohnen als

geradezu humanitäre Waffen, die zuverlässig jene Jobs erledigen, die „dull, dirty and dangerous“ (Ortega 2012, 76) sind. Sie spüren die Bösen auf, und angeblich ausschließlich diese, und vernichten sie, noch bevor sie zur Untat schreiten können. All das sind militärische Leistungen, für die ein Soldat zweifellos in den Heldenstand erhoben würde. Dass Drohnen weit länger auf ihren Posten in der Luft bleiben, schärfer sehen und genauer treffen, als es Menschen je könnten, ist ohnehin klar.

Bedeutet Postheroismus also die Delegation heldenhafter Tugenden an Maschinen, die möglicherweise bald auch auf die menschliche Fernsteuerung verzichten werden? In den High-Tech-Waffenschmieden experimentiert man jedenfalls bereits eifrig mit vollautomatisierten Systemen. Herfried Münkler träumt sogar schon von einem Krieg ganz ohne Opfer: „Man kann sich vorstellen, dass Kriege irgendwann nicht mehr letal ausgetragen werden, sodass dabei keine Menschen mehr zu Schaden kommen, sondern die Fähigkeiten einer Seite werden durch die andere Seite aufgrund überlegener Technologie ausgeschaltet und die Unterlegenen kapitulieren, sprich resignieren in ihrem politischen Willen.“ (Münkler 2014) Die Drohne erscheint in solchen apologetischen Phantasmen einer Kriegführung ohne tötende Gewalt gleichermaßen als technisches Substitut wie als geradezu hegelianische Aufhebung militärischen Heldentums. Der „prometheischen Scham“, dem unhintergehbaren Inferioritätsgefühl der Menschen angesichts der Überlegenheit der von ihnen geschaffenen technischen Werkzeuge, das der Philosoph Günther Anders (1956/1983) den Menschen des Atomzeitalters attestierte, korrespondiert die ehrfürchtige Bewunderung ebendieser Werkzeuge.

Von einem Heldenkult rund um die Drohnen kann trotzdem keine Rede sein. Dazu fehlen den *Unmanned Combat Air Vehicles*, jene spezifisch menschlichen Eigenschaften – allen voran moralische Urteilskraft, Empathie und Emotionalität – an die heroische Identifikationen anschließen können. In den Imaginationswelten der Populärkultur wimmelt es zwar von anthro-pomorphisierten Robotern, die aber nur dann zu Helden avancieren, wenn sie menschliche Regungen zeigen, also ihre Roboterhaftigkeit aufgeben. Maschinen selbst operieren nicht im Heldenmodus, ihnen fehlt dafür eine fundamentale Dimension von Handlungsmacht: die Fähigkeit, sich zu entscheiden. Sie prozessieren Algorithmen; heroischen Anrufungen zu folgen oder eben nicht, dafür besitzen sie kein Sensorium.

Helden erzeugen die Drohnen allerdings auf ganze andere Weise: Das ferngesteuerte *targeted killing* führt dem globalisierten Dschihadismus fortlaufend neue Kämpfer zu. Sie setzen der Risikoaversion westlicher Kriegführung die Unbedingtheit ihres Todeswillens entgegen und finden dafür begeisterte Anhänger. Der *Suicide Bomber* ist die feindliche Komplementärfigur des Drohnenpiloten. „Auf der einen Seite das vollkommene Engagement, auf der anderen die absolute Distanzierung.“ Während im Selbstmordattentat „der Körper des Kämpfers vollständig mit seiner Waffe verschmilzt, garantiert die Drohne die radikale Trennung der beiden.“ (Chamayou 2014, 95f.) Der postheroische Traum einer sauberen Kriegführung gebiert heroische Ungeheuer.

Die Diagnose des postheroischen Zeitalters bedeutet daher keinesfalls ein Ende heroischer Anrufungen. Solange politische oder religiöse Mächte auf die Bereitschaft zum Selbstopfer angewiesen sind und sie schüren, wird man Helden suchen und finden. Der Streit darüber, ob militärischer Heroismus antiquiert ist und wir in der Ära des Postheroismus angekommen sind, führt deshalb nicht weiter. Schon die Frage ist falsch gestellt. In Abwandlung des bekannten Buchtitels von Bruno Latour müsste man stattdessen konstatieren: Wir sind nie heroisch gewesen. Wir sollten es immer nur sein. Und viel zu oft wollten wir es auch

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Flächen/Rastern. Zur Bildlichkeit der Drohne

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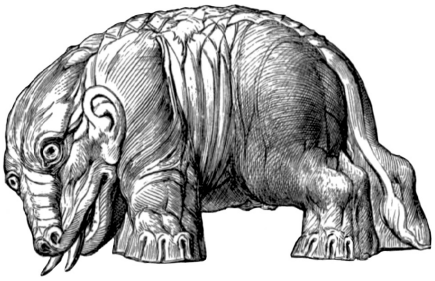
Abstract:

Abstract: This article provides a historiographical and epistemological reconstruction of the visuality of the contemporary drone. It will be argued that, despite an evident technical caesura between analogue images of early aerial reconnaissance in aviation (since 1911) and the digital image production of recent unmanned aerial vehicles (especially of the armed drone) since 2001, both aerial aesthetics are deeply rooted in modernity. Both are connected through a visual culture that emerged around 1910 and can be characterized with its combination of aviation and photography, a Gestalt-informed epistemology of military intelligence and governemental aesthetics of space relying on ideas such as the "grid", "resolution" and the military device of the "sight".

Keywords, engl.: drone, aerial reconnaissance, grid, media history, media theory, visual culture, World War I, War on Terror

Keywords, dt.: Drohne, Luftaufklärung, Raster, Mediengeschichte, Medientheorie, Bildwissenschaft, Erster Weltkrieg, Krieg gegen den Terror



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1. „Targeted Killing“

Am 12. Juli 2007 beobachtete eine Helikoptermannschaft der US-amerikanischen Truppen im Irak eine Gruppe von Männern in den Straßen Bagdads auf den schwarzweißen Displays ihres Kampfhubschraubers. Da sich die Gruppe an einer Kreuzung befand, die bald von amerikanischen Bodentruppen passiert werden sollte, und aufgrund ihrer Kenntnis von feindlichen Aktivitäten in dem Gebiet, nahm die Besatzung die Männer bald unter schweres Feuer. Sie hatten zuvor im Fadenkreuz ihrer Zielkamera Sturmgewehre und einen Granatwerfer in den Händen der Männer ausgemacht, und sich über Funk den Angriff auf die Gruppe bestätigen lassen. Bereits am Tag darauf wurde öffentlich, dass sich zwischen den „Zielpersonen“ zwei Mitarbeiter der Nachrichtenagentur Reuters befunden hatten. Sie trugen allerdings keine Waffen, sondern lediglich das typische Kameraequipment von Videojournalistinnen. Mit den beiden Journalisten wurden etwa zehn weitere Zivilpersonen getötet, und weitere bei dem Versuch verletzt, Schwerverwundete aus der Schusslinie zu evakuieren.

Drei Jahre später, im April 2010, veröffentlichte die Whistleblower-Plattform Wikileaks die als „classified“ eingestuften Aufnahmen des Vorfalls durch die Bordkameras des Helikopters. Besonderes Aufsehen erregte dabei ein Segment, welches die gezielte Tötung eines unbewaffneten Journalisten zeigt, der sich inmitten der Gruppe befunden hatte: Über den Voice-over des Funkkontakts der Helikoptercrew mit ihrer Basis ist in dem Videomaterial der Bordkamera zu sehen, wie der Bordschütze den Kameramann Saeed Chmagh anvisiert, welcher sich in der Gruppe befand. Nach einer kurzen Beschreibung der subjektiven Sicht des Schützen an Bord des Hubschraubers – im Funkspruch ist die Rede von einem vermeintlichen Granatwerfer in der Hand des Journalisten – wird das Feuer eröffnet. Ersichtlich wurde durch die Veröffentlichung des zur Geheimhaltung bestimmten Materials, nicht zuletzt durch die visuelle Aufarbeitung des Materials durch die Whistleblower, dass die Kamera des Journalisten sich auf dem Bildschirm des Bordschützen als eine Waffe abgezeichnet haben musste, welche eine unmittelbare Gefahr für die Helikoptermannschaft dargestellt hätte und so den sofortigen Angriff legitimierte. Dieser Legitimation lag eine augenscheinliche Verwechslung von Kamera und Waffe in den Händen des Opfers zugrunde (ihrerseits hervorgerufen durch das unscharfe, technisch vermittelte Bild der Videokamera des Hubschraubers). Der kalkulierende, mitunter verächtliche Tonfall des Funkkontakts zwischen Schützen und Kommandantur verstärkten den Eindruck, es handele sich um eine gezielte Exekution aus dem Hinterhalt. In der öffentlichen Wahrnehmung war die Tötung umso skandalöser, als dass es sich im Nachhinein so offensichtlich um eine Verwechslung gehandelt hatte, die weder durch besseres optisches Equipment noch das geschulte Auge eines Schützen verhindert werden konnte. In Verballhornung des gängigen Euphemismus *collateral damage* ist dieser Ausschnitt daher als „Collateral murder“ bekannt geworden.

Targeted killings gehörten bereits seit der Regierung des jüngeren Bush zum festen Bestandteil eines Krieges, der längst nicht mehr auf

Schlachtfeldern oder mittels Interkontinentalraketen ausgetragen wird, sondern sich zunehmend gegen jene Individuen richtet, die als unmittelbare Bedrohung, oder als Knotenpunkte in suspekten Terrornetzwerken identifiziert worden sind. Das Emblem dieser neuen Kriegsführung ist die Drohne: das *unmanned aerial vehicle* im offiziellen Sprachgebrauch der US-Streitkräfte. Bewaffnete und unbewaffnete ferngesteuerte Luftfahrzeuge erlebten parallel zum „Krieg gegen den Terror" ein exponentielles Wachstum: Seitdem der erste Typ *MQ-1* erstmalig im Oktober 2001 in Afghanistan eingesetzt wurde, stieg die Zahl der bewaffneten Drohneneinsätze bis 2011 um das Zwölffache. Danach waren die Zahlen für Afghanistan und das angrenzende Pakistan rückläufig, stiegen aber für die Einsätze in Libyen, außerdem den Jemen und zuletzt Somalia, wohin sich der Konflikt mit den Taliban zunehmend verlagert hat. **[1]** Allein in 2014 wurden bei Angriffen auf 41 „high profile targets", vulgo: vermutliche hochrangige Terroristen, die in das buchstäbliche Fadenkreuz der Aufklärung geraten waren, 1106 Unbeteiligte getötet, was den öffentlichen Sprachgebrauch vom „targeted killing" nachhaltig aushöhlt. Die Drohne, so der französische Philosoph Grégoire Chamayou, sei für diese Neuausrichtung der US-Außenpolitik paradigmatisch: „[Sie] ist zu einem Symbol der Obama-Regierung geworden, als Instrument seiner inoffiziellen Antiterrorismus-Doktrin – ‚Töten statt Gefangennehmen': Man gibt der gezielten Tötung und der Predator-Drohne den Vorzug gegenüber Folter und Guantanamo." (Chamayou 2014)

Die Drohne reiht sich medienhistorisch ein in jenes Arsenal von „Heeresgerät", dessen Missbrauch im Anschluss an Friedrich Kittlers geflügelten Satz ursprünglich ist für die populären Massenmedien. **[2]** Zugespitzt heißt das: Nachdem der amerikanische Bürgerkrieg Speichermedien, der Erste Weltkrieg Übertragungsmedien und der Zweite Weltkrieg den Computer hervorgebracht hat, sind die gegenwärtigen „sozialen Medien" ein Missbrauch von Heeresgerät der *Intelligences* des Kalten Krieges. Paradigmen einer totalen Sichtbarkeit und als omnipotent imaginierte Wissensformen unter dem Eindruck elektronischer Datenverarbeitung tauchen hier erstmalig auf, so dass zunehmend das Individuum in den Fokus rückt. **[3]** Als Heerestechnologie kann die Drohne mit den Medien einer „flüchtigen Überwachung" mehr als nur metaphorisch in Deckung gebracht werden. Das haben zuletzt der Sicherheitsforscher David Lyon und der Soziologe Zygmunt Bauman eindrücklich gezeigt: Die Drohnen der nächsten Generation würden, so schreiben sie in Anlehnung an die ubiquitären sozialen Medien,

> „alles sehen, während sie selbst verlockend unsichtbar bleiben. Niemand wird sich vor dem Beobachtetwerden schützen können – nirgendwo. Auch die Techniker, die die Drohnen in Marsch setzen, werden dann keine Kontrolle mehr über ihre Bewegungen haben und nicht mehr in der Lage sein, irgendwelche Beobachtungsobjekte von der Überwachung auszunehmen." (Bauman/Lyon 2013, 33)

An dieser bildwissenschaftlich hochaktuellen Schnittstelle von Sicht- und Unsichtbarkeit verortet sich der vorliegende Artikel. Dabei sollen klassische

[1] Verifizierte Statistiken über zivile Opfer, eingesetzte Drohnentypen oder konkrete „Targets" sind, auch aus Gründen der Geheimhaltung, nicht erhältlich, die offiziellen Quellen sind häufig lückenhaft. Nur beispielhaft sei hier auf die Arbeit des *Bureau of Investigative Journalism* als ein Versuch verwiesen, Transparenz über die verschiedenen Einsätze in Afghanistan, Pakistan, Jemen und Somalia herzustellen; www.thebureauinvestigates.com/category/projects/drones/ (01/07/2015). Aus den *data sheets* des Bureau stammen auch obenstehende Zahlen. Zuletzt wurden Drohnen auch gegen die ISIS in Syrien eingesetzt, prominent bei der Tötung des als „Jihadi John" bekannt gewordenen IS-Mitglieds Mohammed Emwaz im November 2015.

[2] Heraklits Wendung vom „Krieg als Vater aller Dinge" hat sich für die Medientheorie nachhaltig bei Friedrich Kittler (1986, 149ff.) niedergeschlagen.

[3] Bereits historisch und vergleichsweise visionär für die NSA-Affäre, wie sie der *Whistle Blower* Edward Snowden 2013 ins Rollen gebracht hat, ist Friedrich Kittlers Text „No Such Agency", der 1986 in *der tageszeitung* erschien und im Januar 2014 dort (online) erneut veröffentlicht wurde. (Kittler 2014) Kittlers Mediengeschichte entlang von „Heeresgerät" findet sich ausführlich beschrieben in *Grammophon Film Typewriter* (Kittler 1986). In dieser Genealogie ist der zivile Rundfunk der Zwischenkriegsjahre ein Resultat der Funkkommunikation zwischen den Schützengräben des Ersten Weltkriegs, und der Computer ein Produkt der Dekodierung der nazideutschen Enigma einerseits, der komplexen ballistischen Berechnungen für die V1 andererseits.

kulturwissenschaftliche Fragestellungen nach Blickökonomien und Macht perspektiviert werden. Außerdem möchte ich zeigen, dass die gegenwärtige Emblematik der Drohne unter einer medienhistorischen Perspektive nicht unbedingt jene Zäsur markiert, welche die moralischen Debatten um ferngesteuertes Töten bestimmt: Die Drohne ist nicht allein Telos sukzessiver Automation oder notwendiges Resultat neuer Machtverhältnisse nach dem Ende des Kalten Krieges, vielmehr rekurriert sie mannigfaltig auf Technologien, Wissens- und Darstellungsformen einer frühen Moderne. Zurückgegriffen werden soll daher zum auf einen medienwissenschaftlichen Theoriekanon, der seit den 1980ern Mediengeschichte (insbesondere die Mediengeschichte der Moderne) entlang von militärischen Technologien, und ihre Verzahnung mit zivilen Technologien in den Blick nimmt (vgl. etwa Kittler 1986; Virilio 1999). Ethische Bedenken gegen Drohnen, das wird der vorliegende Aufsatz zeigen, sind gekoppelt an epistemologische, medienhistorische und wahrnehmungstheoretische Fragen. Wie greifen aktuelle mit historischen Paradigmen einer zunehmend ubiquitären Überwachung in militärischen und zivilen Zusammenhängen ineinander? Mit welchen Mitteln werden großen Datenmengen zu einem Wissen (von Orten, aber auch von Ökologien und zunehmend von sozialen Geflechten, eben „Terrornetzwerken") synthetisiert? Eine zentrale These dieses Beitrags ist, dass ein historisches Wissen einer „(lebens-)feindlichen Umgebung" – und damit eine technologische Distanzierung von Menschen zu ihren Objekten – in den militärischen und naturwissenschaftlichen Diskursen zu Zeiten des Kalten Krieges virulent wird. **[4]** Aufzuzeigen sein wird im Folgenden die Vorgeschichte dieser Virulenz, als eine sukzessive Mittelbarkeit moderner Kriege, in der die eigenen Verluste gering gehalten werden sollen, bei gleichzeitig größtmöglichem Wissen über den Feind.

Perspektiviert werden soll damit nicht zuletzt eine Ethik des technischen Bildes, die – über den Rahmen dieser Bildgeschichte hinaus und unter dem Paradigma allgegenwärtiger Bildgebung – bei gleichzeitig zunehmender Unsichtbarkeit ihrer Dispositive notwendig wird.

2. Operative Bilder und flächiges Sehen

Lassen sich die Bilderfluten gegenwärtiger Überwachungstechnologien nur noch durch zunehmende Algorithmisierung beherrschbar machen – durch automatisierte Mustererkennung und Bildverarbeitung, welche Visualität in Messdaten, also in individuelle Bewegungsprofile und Biometrien umwandelt und somit prozessierbar macht –, so steht dahinter doch eine Praxis militärischer *intelligence*, die seit jeher daran bemessen wird, wie effektiv sie Nichtwissen in Wissen überführt (Horn 2001, 137). Epistemologisch wie ästhetisch ist die Drohne ein flaches Medium: Zum einen unterscheidet sich die Raumwahrnehmung der Drohnen-Pilotinnen – oder besser: *operators* – wesentlich von denen der Kampfpiloten, indem sie die Erfahrung eines dreidimensionalen Luftraums auf Schnittstellen, auf Benutzeroberflächen glättet. **[5]** Zum anderen besteht die Aufgabe der Drohne darin, technische Bilder zu erzeugen, welche im Überflug entstehen und dadurch Wissen

[4] Der Begriff der Lebensfeindlichkeit bzw. des „hostile environment" taucht in den 1960ern u.a. in der zivilen Robotik auf; er verweist in den Zeiten des Kalten Krieges zugleich auf politisch-militärische Paradigmen wie auf neue Ökologien der angewandten Naturwissenschaften, z.B. der Tiefsee- oder der Weltraumforschung (Chamayou 2014, 33ff.). Chamayou bezieht sich auf einen historischen populärwissenschaftlichen Text zur Notwendigkeit der Fernsteuerung in unwirtlichen Environments der *hard sciences* (Tiefseeforschung und Raumfahrt, vgl. Clark 1964).

über Territorien generiert – Raum wird dadurch erst operationalisierbar. Auf diese Weise schreibt die Drohne eine moderne operationale Bildlichkeit fort. Diese etabliert sich mit der Luftaufklärung während des Ersten Weltkriegs und wird in den Zwischenkriegsjahren in der zivilen Luftbildforschung (und dort bezeichnenderweise in kolonialen Kontexten; vgl. auch Sandvik in dieser Ausgabe) weiter entwickelt. Schließlich setzt sie sich seit 1945, mit dem Übergang des Zweiten Weltkriegs in den Kalten Krieg (und seinen heißen Stellvertreterkriegen, insbesondere in Vietnam) fort. **[6]**

Luftbilder – die Bilder gegenwärtiger Drohnen wie die analogen Bilder der modernen Luftaufklärung – gehören damit zum Genre der „nützlichen Bilder", der „technischen Bilder" oder „Gebrauchsbilder", denen sich eine kulturhistorisch, erkenntnistheoretisch und wissenschaftshistorisch ausgerichtete Kunstgeschichte im Rahmen der „Ikonischen Wende" angenommen hat (Boehm 2001; Bredekamp et al. 2008; Mitchell 2011). Diese Bilder unterscheiden sich von den klassischen Bildern der Kunstgeschichte dadurch, dass sie nicht der Dreidimensionalität, der Perspektive, der Räumlichkeit unterworfen sind. Erst ihre Flächigkeit macht sie anschließbar, operationalisierbar, und damit referenzierbar für andere Wissens- und Darstellungsformen (Schrift, Zahl, Datenbanken). So schreibt Sybille Krämer in einem Plädoyer für „operative Bildlichkeit":

> „Gegenüber der Wahrnehmung von Dingen unterscheidet sich das Sehen von Bildern gerade dadurch, dass Bilder uns stets in Gestalt von Flächen begegnen. Die synoptische Gleichzeitigkeit wird dann allerdings noch einmal gesteigert und radikalisiert in Gestalt jener Oberflächlichkeit, welche für die operative Bildlichkeit charakteristisch sind. Denn hier kommt eine Art von Flächigkeit zur Geltung, die meist (aber selbstverständlich nicht immer) Verzicht leistet auf eine Imitation der Dreidimensionalität, wie sie etwa perspektivisch orientierten Gemälden oder Zeichnungen eigen ist." (Krämer 2009, 99)

Luftbilder, und insbesondere die vertikale Sicht der Überflugbilder, die seit dem Ersten Weltkrieg paradigmatisch ist für die Ästhetik militärischer Luftaufklärung und ziviler Luftbildforschung, zeichnen sich also durch ihre *Flächigkeit* aus. Die moderne Luftaufklärung produziert *operative Bilder*, die eben nicht den perspektivischen, raumrepräsentativen Charakter (etwa der naturalistischen Kunst oder der Gebrauchsfotografie) haben müssen oder haben dürfen (Ebd., 98f.). Der Fluchtpunkt, den die älteren Luftbildverfahren der Ballon- oder Brieftaubenfotografien noch aus der klassischen Malerei übernehmen, erscheint für die moderne Luftaufklärung hinderlich. Und dies nicht nur, weil die vor Taubenbrüste gespannten und an die Relings von Luftschiffen angebrachten Apparate panoramatisch fotografierten, d.h.: raumverzerrende Weitwinkelobjektive eingesetzt wurden, sondern weil deren perspektivisches Sehen, ihre Schrägsicht hinter den aus der Fläche ragenden Strukturen des Geländes Unsichtbarkeiten verdoppelt anstatt Sichtbarkeit herzustellen. **[7]** So kann *in Perspektive* bereits die Flugrichtung entlang von Frontverläufen entscheiden, ob eine gegnerische Stellung hinter einer Erhebung sichtbar wird oder unsichtbar bleibt:

[5] Ohne die Unterscheidung von „glatten" und „gekerbten" Räumen an dieser Stelle zu vertiefen, sei doch darauf hingewiesen, dass Gilles Deleuze und Félix Guattari den „glatten Raum" ihrer „Kriegsmaschine" zuschlagen. (Deleuze/Guattari 2002, „1440 – Das Glatte und das Gekerbte", 657 ff.) Die Begriffskopplung des *Cyberspace* an *das Nomadische*, wie sie in einer Theorie des Virtuellen ab Ende der 1990er auftaucht (vgl. Makimoto/Manners 1997; vgl. dazu Lindemann 2002), wird durch die Virtualisierung des Krieg mit seinen *unmanned systems* nachhaltig ausgehöhlt.

[6] Den zivilen Einsatz der Luftbildforschung in der kolonialen Landschaftsökologie habe ich an anderer Stelle ausgeführt (Andreas 2015b).

[7] Die Ballonfotografie (vgl. Höhler 2001) und die Brieftaubenfotografie und ihr panoramatischer Blick nehmen einen zentralen Punkt in der Geschichte moderner Luftaufklärung als „vor-technische" Bilder ein, so etwa auserzählt in Harun Farockis BILDER DER WELT UND INSCHRIFT DES KRIEGES (BRD 1988), einer filmischen Bildgeschichte der Sichtbarkeit des Konzentrationslagers Auschwitz (vgl. Andreas 2015a).

Luftbilder müssen auswertbar sein, notfalls in einem Bruch mit Bildtraditionen, und sie werden auswertbar durch ihre Flächigkeit. Diese „maschinelle Objektivität“ schuf seit dem Ersten Weltkrieg ein Spezialistenwesen, **[8]** da die Bilder nur noch durch geschulte Augen gelesen werden konnten. **[9]** Überflugbilder stehen somit in Tradition der Kartografie, deren Sichtbarmachung „[…] nicht nur ‚wirkliche‘ Räume zweidimensional und übersichtlich zu vergegenwärtigen erlaubt, vielmehr das Räumliche zu einem Darstellungsprinzip fortbildet, mit dem auch nicht-räumliche Sachverhalte anschaulich gemacht werden.“ (96)

Überflugbilder sind flächig im doppelten Sinne: medientechnisch, weil sie die räumliche Wahrnehmung des Flugs in ein zweidimensionales Bild komprimieren; medienästhetisch, weil sie meist den dreidimensionalen Charakter der Territorien, die sie überfliegen, in eine kartografische Lesbarkeit nivellieren. Erst in ihren Auswertungen, in ihren Ein- und Zuschreibungen werden diese Luftbilder mehrdimensional – nicht ausschließlich in der Wiederherstellung von Höhenunterschieden, in der Ableitung von Dreidimensionalität aus der Fläche, sondern vor allem in Anschluss an eine andere Episteme. Diese andere Episteme ist die des Territoriums, des gekerbten Raumes, ebenso das der semantischen Tiefe einer Bildhermeneutik, welche in der Pragmatik militärischer Aufklärung immer schon gegeben ist (Horn 2010).

Im Folgenden soll daher den bildgebenden Verfahren gegenwärtiger Drohnen eine kurze historische Epistemologie entlang der Begriffe 1. der *Rasterung* und 2. der *Auflösung* vorgeschlagen werden. Diese Begrifflichkeiten beziehen sich explizit auf den operativen Charakter des Luftbildes, und binden die Visualität einer zunehmend digitalisierten, algorithmisierten und beschleunigten Sehkultur zurück an die Epistemologien der frühen Luftfahrt. Ein Strang dieser Mediengeschichte umfasst die Geschichte technischer Bilder, die in Echtzeit, oder innerhalb von operativen Schleifen zumindest *rechtzeitig* generiert werden sollen, um den zeitlichen Abstand zwischen Bild, dessen Auswertung und militärischem Eingriff zu verringern. Der andere Strang beschreibt die Geschichte des fotografischen Bildes, in der sich der Anspruch an einen Naturalismus der Fotografie über Fragen digitaler Kompression zunehmend ablöst hin zu den Diskursen einer Visualisierung komplexer Wissensbestände.

3. Raum-Rastern

Der Begriff des Rasters lässt sich sowohl für eine frühe Reproduzierbarkeit von Bildern als auch für ihre Diskretisierung und damit die Prozessierbarkeit von Wissen anführen. Diese Kulturtechnik des Rasterns ist nachwievor essentiell ist für die Visualisierungen gegenwärtiger Drohnen, und ich werde sie im Folgenden vor allem auf die Handhabung visuellen Materials begreifen. Daran anschließen sollen zwei weitere Begriffe, ohne die die Bilder von Drohnen nicht beschreibbar sind: Das ist einmal die zunehmende Datenintensität der bildgebenden Verfahren, die Auflösung im Sinne der Pixeldichte digitaler Bilder, welche ihrerseits bereits historisch Fragen

[8] Wenngleich in diesem Aufsatz zwischen männlichen und weiblichen Genera alterniert wird, so setzt diese geschlechtergerechte Schreibweise für die historischen Abschnitte aus. Damit soll nicht in erster Linie einer geschlechterbinär geschriebenen Militär- und Luftfahrtgeschichte Rechnung getragen werden, die bis größtenteils weit ins 20. Jahrhundert zwar Helferinnen und Sanitäterinnen kannte, aber keine Soldatinnen oder Pilotinnen. Eine geschlechtergerechte oder gar nicht-binäre Schreibweise würde auch den patriarchalen-imperialen Charakter der Weltkriege sprachlich verschleiern (vgl. Theweleit 2000).

[9] „Dem ungeübten Auge zeigen die unendlichen Bilderserien nur abstrakte Linienmuster.“ (Asendorf 1990, 33)

ihrer automatisierten Wahrnehmung, aber auch ihre Verarbeitung durch menschliche Akteure aufwirft, also die *Auflösung* im Sinne einer forensischen *Entzifferung* betrifft.

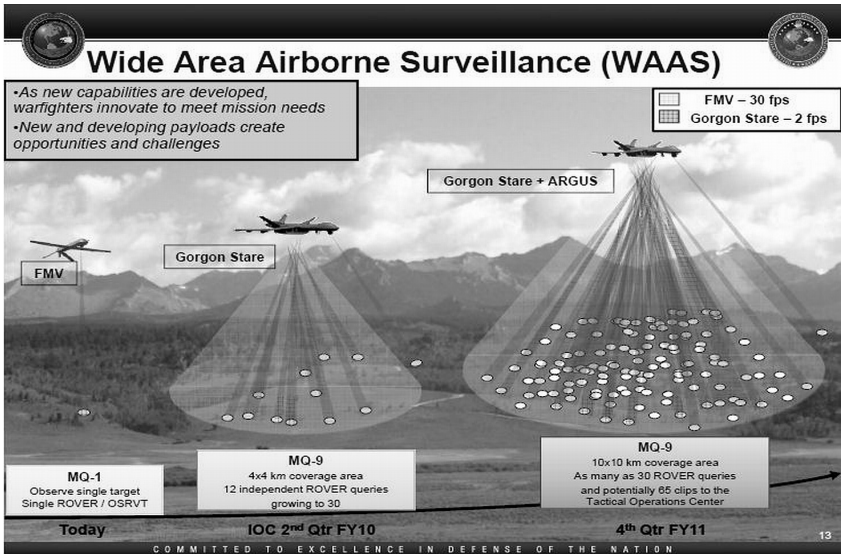

Abb. 1:„Wide Area vs. Standard Coverage“, aus einer PowerPoint-Präsentation des US Department of Defence, Air Force Unmanned Aerial System (UAS) Flight Plan 2009-2047, datiert 23. Juli 2009, unclassified. Quelle: http://www.defense.gov/news/briefingslide.aspx?briefingslideid=339 (01/06/2015).

Mit dem Projekt ARGUS-IS (*Autonomous Real-Time Ground Ubiquitous Surveillance Imaging System*) hat das US-Militär bereits 2011 eine Bildmaschine in Planung gegeben, die mittlerweile in der Lage ist, ein Videobild von 1,8 Gigapixeln aus 368 durch Sensorchips erzeugte zwölf Einzelbilder/Sekunde zu erzeugen (Gregory 2012). **[10]** Die Bilder einzelner Abschnitte werden zusammengesetzt und ergeben so ein Überflugbild, das bis zu 38 Quadratmeilen Erdoberfläche entspricht. Zur Auswertung solcher Bilder mit einem Volumen von mehreren Terabyte pro Minute reicht kein menschliches Auge aus, daher werden Bewegungsprofile von Menschen und Fahrzeugen durch automatisierte Mustererkennung vorsortiert. Mittels „Global Information Grid“, also einem mit dem militärischen Datenbanken verschalteten Kommunikationsnetzwerk oder eben -raster (englisch: grid = Gitter, Raster, Netz) wird so mit der Verschaltung von Überwachungsdrohnen mit Präzisionswaffen die Fiktion einer militärischen Echtzeit (genauer: *Rechtzeitigkeit*) erneuert, deren Phantasmen bis in die Akronyme militärischer Benennungen vorgedrungen sind. **[11]**

Jutta Weber spricht daher von einem „vierdimensionalen Raum”, der sich durch die Integration von Überwachungsdrohnen und Präzisionswaffen in diese ‚allwissende‘ Informationsstruktur ergibt bzw. ergeben soll und der, so der von Weber zitierte kanadische Medienwissenschaftler Tim Blackmore, von älteren „Fantasien einer besseren, sichereren Zukunft begleitet [wird], in der nur schlechte Menschen getötet und die Unschuldigen verschont werden.“ (Blackmore 2005, 9, zitiert nach Weber 2013, 33) Eine weitere, fünfte Dimension wird hinzugefügt, wenn neben der militärischen Beschleunigung von Kommunikation Schlachtfelder zunehmend

[10] Mitte 2014 erreichte das Projekt „initial operating capability“, also „Gefechtsreife“.

[11] Die technologische Fiktion der „Echtzeit“ (Blumenberg 2011), und mit ihr einige medientheoretische Reflexionen aus der Phase des Zweiten Golfkriegs müssen als Paradigma zunehmend digitalisierter Kriege betrachtet werden. Für eine medienethische Kritik, zudem in Hinblick auf jene Zäsur, die der Zweite Golfkrieg (neben dem Kroatienkrieg) auch und vor allem innerhalb der Massenmedien bedeutet, lässt sich der Begriff der Echtzeit etwa in den medientheoretischen Arbeiten von Paul Virilio und Jean Baudrillard wiederfinden.

„virtualisiert", d.h. in der militärischen Praxis: aus der Ferne steuerbar und ansteuerbar werden. Als *moralisch* oder perfektioniert (lat.: virtuosos) gilt deshalb ein Krieg, welcher die Verluste gering hält, indem die eigenen Soldaten geschont und unschuldige Opfer auf *collateral damage* beschränkt werden. James Der Derian fügt deshalb *Virtualität* (mittellat.: virtualis) als weitere Dimension zu Raum und Zeit innerhalb dessen, was er *virtuous war* nennt, hinzu:

> „At the heart of virtuous war is the technical ability and ethical imperative to threaten and, if necessary, actualize violence from a distance – with no or minimal casualties. Using networked information and virtual technologies to bring ‚there' here in near-real time and with near-verisimilitude, virtuous war exercises a comparative as well as strategic advantage for the digitally advanced. Along with time (as in the sense of tempo) as the fourth dimension, virtuality has become the ‚fifth dimension' of US global hegemony." (Der Derian 2001, xxi)

Auch diese Technologien der vierten und fünften Dimension gehen, medienästhetisch und epistemologisch gesprochen, auf die Kulturtechnik des Rasterns um 1900 zurück. Denn Aufsicht erzeugt Übersicht, und Übersicht bedarf Flächigkeit, die weitere Dimensionen erst denk- und anschreibbar werden lässt, indem sie zeitliche Prozessierungen und ferngesteuerte Virtuositäten anschlussfähig macht. Um 1900 ist das Raster ein gleichermaßen bildtechnisches wie bürokratisches Verfahren: ästhetisch wie technisch wirken Rasterungen vor allem seit dem letzten Viertel des 19. Jahrhunderts an den Oberflächen von Bildern. Denn neben der Entwicklung der Fotografie vollzieht sich um 1900 im Bereich des Druckereiwesens und in den Texturen von Bildern eine Transformation, die eine mindestens ebenso bedeutsame Wandlung bezeichnet wie die Fotografie, oder deren Verzeitlichung: der Film. Mit dieser Transformation schreiben sich territoriale wie (echt-, bzw. recht-)zeitliche Aspekte in das technische Bild: Mit dem Rasterdruckverfahren konnte fortan nun jedes Bild in Raster übersetzt und von Rastern moduliert werden (Schneider 2003). Das Raster wurde im bildtechnischen Bereich zum bestimmenden Verfahren, wenn Bilder massenhaft reproduziert oder eben übertragen werden sollten: Paul Nipkows Lochscheibe, Vorläuferin des Fernsehens, fällt in diese Mediengeschichte des Rasters, ebenso wie die Zeilenübertragung der frühen Bildtelegrafie (Fischel 2008).

Mit dieser, durch Telegrafie und Fernsehen beförderten *Eigenzeitlichkeit* des Bildrasterverfahrens ist damit medienhistorisch der Umbruch zu der „vierten Dimension" des Drohnenkriegs vollzogen. Die relevante Zäsur zur „fünften Dimension" der Virtualität vollzieht sich mit der technischen Möglichkeit des Echtzeitzugriffs auf Daten, und mündet in der heutigen Algorithmisierung des automatisierten Matchens digitaler Wissensbestände. Bei datenbankbasierten Fahndungen, etwa in der Biometrik oder dem kriminalistischen Profiling, wird diese Begrifflichkeit fortgeschrieben: Wenn große Personenkreise computergestützt auf bestimmte Merkmale

überprüft werden, die als charakteristisch für einen Bereich verdächtiger Personen gelten, wird auch heute noch von Rasterfahndung gesprochen. Dabei wurde der Begriff des Rasters aus der Druckersprache des 19. Jahrhunderts entlehnt – ebenso das Klischee, zu *clicher*, „abklatschen", der einerseits den Druckstock beim Hochdruck bezeichnet, andererseits für die grobe Zusammenfassung eines Bilds als eine stark vergröberte Nachahmung verwendet wird. Birgit Schneider hat diesen Zusammenhang von bildgebenden Verfahren mit Regierungsformen der Kontrolle wie folgt auf den Punkt gebracht:

> „Wenn Begriffe aus dem Bilderdruck gleichermaßen für die Benennung von Druckformen der Reproduktion sowie für die Segmentierung von Gegenstandsbereichen nach unterscheidenden Merkmalen verwendet wird, zeigt dies neben der metaphorischen Ähnlichkeit der Bereiche auch die prinzipielle Verwandtschaft beider Verfahren. Rasterverfahren [...] stellen dabei eine prinzipielle Kulturtechnik der Diskretisierung dar. Ein großer Vorteil von Bild- und Begriffsrastern liegt in ihrer Anschlussfähigkeit an Maschinen." (Schneider 2003, 33)

4. 1914: Auflösung und Maß-Nahmen

Mit dieser „Anschlussfähigkeit an Maschinen" treten um 1900 auch Flugzeugeauf den Plan militärischer Befehlshaber, welche bereits ab 1911 Kartenmaterial, also berechenbare Maßstäbe für das Heer liefern sollten. (Siegert 1992, 41f.) Obwohl die ersten Flugzeuge nur ein Foto pro Flug machen konnten, so kam doch 1912, und damit zum Ende des ersten Einsatzes von Flugzeugen „im [militärischen] Ernstfall", Bildmaterial zustande, das aus über 300 Einzelbildern zu einer Karte des Schlachtfelds im Maßstab 1:100 000 modelliert werden konnte (42).

Ab 1914 setzten die Parteien des Ersten Weltkriegs Flugzeuge zur operativen Erkundung ein, und ab circa 1915 entstanden erste Reihenfotografien von Landschaften, die, in einem ersten Einsatz der kinematischen Fotografie als Heeresgerät, imstande waren, Geländestreifen von zweieinhalb Kilometern auf einer Länge von 60 Kilometern abzubilden (Mühl-Benninghaus 1994). Mit diesem historischen Umbruch von einer Rasterung, also der photogrammetrischen Maß-Nahme durch Bilder, zu einer Auflösung als deren automatisierte Kombination zu Bildmosaiken in den Überflugskarten des Ersten Weltkriegs, erfährt die reproduzierbare Erdoberfläche neben der besagten Diskretisierung eine erste Stratifizierung. Damit wird das Wissen von der Erdoberfläche zunehmend ein systematisches Wissen vom dahinter Verborgenen – von archäologischen Artefakten, von Bodenschätzen bis hin zu in Wäldern verborgenen Truppenteilen. Kurzum: Es handelt sich um ein unerschöpfliches Datensammlungspotential, das es anwendungsorientiert zu ordnen, ja zu ökonomisieren gilt.

Im Laufe der Bildgeschichte des späten 19. und bis hin zum frühen 21. Jahrhundert wird gerade die Kulturtechnik der topographischen Rasterung

zunehmend zu einer Echtzeittechnologie. Das heißt: die Übertragung wird zunehmend beschleunigt und die Frage der Auflösung und Manipulierbarkeit wird zunehmend zu einer Frage hoher Datensätze und ihrer zunächst analogen, später digitalen Kombination. So gewinnt die topographische Rasterung der Landschaft zunehmend eine hermeneutische Tiefe: an äußeren Strukturen sollen hernach militärische Geheimnisse ablesbar werden. Das, was heute als Auflösung technischer Bilder bezeichnet wird, kommt in der frühen Luftbildfotografie erstmalig ins Spiel, wenn einzelne Aufnahmen, die wegen der Kameratechnik und der Höhe des Überflugs nur begrenzte Flächen abzubilden vermögen, zu Mosaiken von Karten zusammengefügt werden. Sie findet sich heute wieder im Fall des aktuellen Argus-IS-Kamerasystems (welches die vieläugige Sagengestalt im Namen trägt), in Form von über 300 Kamerasensorchips, die zusammen ein Video von etlichen Terabyte aufzuzeichnen in der Lage sind. Bernhard Siegert hat die Abbildbarkeit von Topographien medienhistorisch auf den Rasterbildschirm zurückgeführt. Denn seit es Rasterbildschirme gibt, so Siegert,

> „ist die Adressierung von Punkten durch Zeilen und Spalten zu einer universalen Bildgebungstechnik geworden. Während die Bildgebungstechnik des Vektorbildschirms der Navigationstechnik der mittelalterlichen Portolankarten […] entspricht […], entspricht der Rasterbildschirm der Navigationstechnik mittels Längen- und Breitengraden. Im Gegensatz zum Vektorbildschirm der nur Anfang und Ende einer Linie speicherte, muss der Rasterbildschirm jeden einzelnen Punkt einer Linie verwalten. Der Vorteil des Rasterbildschirms ist die Adressierbarkeit eines jeden Elements auf dem Bildschirm, weil genau je ein Speicherplatz im Bildschirmspeicher […] für diesen Punkt zur Verfügung steht.“ (Siegert 2003, 93)

Die Topologie der Erdoberfläche wird erst durch die Zeilenauflösung seit den Rastermonitoren operationalisierbar. Mit dem Begriff der Auflösung sei also zweierlei beschrieben: Einerseits die Diskretisierbarkeit von Kamerabildern und damit der Anschluss an Datenbanken des Computers, andererseits eine immer exaktere und datenintensivere Beobachtung der Erde, die in den Bildverfahren des 20. Jahrhunderts, sowohl in ziviler wie in militärischer Nutzung zu einer Epistemologie des Einblicks durch immer feiner aufgelösten Bilder führt.

Bereits im Ersten Weltkrieg führen taktische und militärtechnische Neuerungen in den Bereichen des Stellungskriegs, der Luftwaffe und Artillerie zu einer veränderten Phänomenologie von „Kriegslandschaften“, wie sie der zeitgenössische Gestaltpsychologe Kurt Lewin nannte (Lewin 1917; vgl. auch Kehrt 2010, 166ff.). Neu war dabei der Eindruck einer Gefahrenzone, die sich für die Piloten in einem Koordinatensystem des dreidimensionalen Überflugraums darstellte. Rastert das US-Militär heute seine Gefechtsfelder mittels quaderförmiger virtueller „kill boxes“, in denen ein effektiver Angriff kybernetischer Joint Forces statthaben soll (Mullin 2008; Chamayou 2014, 63-70), so stellt sich der Luftraum für die Kampfflieger unter dem Eindruck von Artillerie und Maschinengewehren als Schnittmenge aus Halbkreisen

unterschiedlicher Reichweiten von „unseren“ und „feindlichen“ Ballon- und anderen Flugabwehrkanonen dar, für die vom heroischen Luftkampf abgeraten wird. Horizontale und Vertikale werden in einem Diagramm des *Chef des Generalstabes des Feldheeres* Erich von Falkenhayn in einem Querschnitt durch die Gefechtsfront visualisiert: Im Koordinatennetz der technischen Zeichner der Obersten Heeresleitung kommt die Logistik der Wahrnehmung, die das Sichtbare über alle Grenzen der menschlichen Wahrnehmung beschleunigte, zum Stillstand.

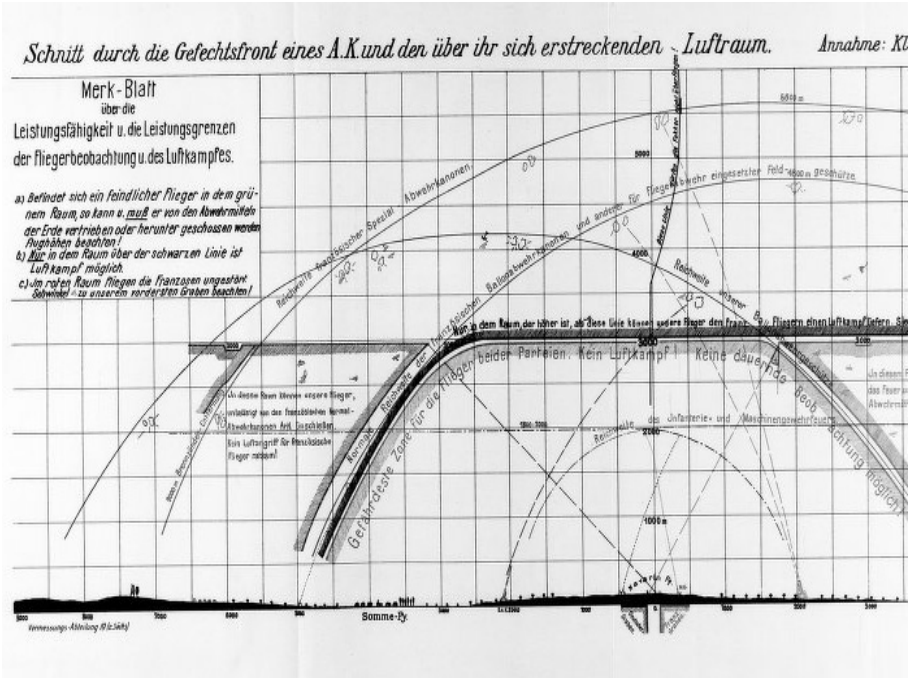

Abb. 2: Zweidimensionale Rasterung des Luftraums (1916). Quelle: Anleitung für den Beobachtungsoffizier im Flugzeug vom 04.08.1916, hrsg. vom Chef des Generalstabes des Feldheeres, Berlin. BA-Militärarchiv, Freiburg, PH 17I-111, Anhang. Archivpaginierung: S. 140, Ausschnitt.

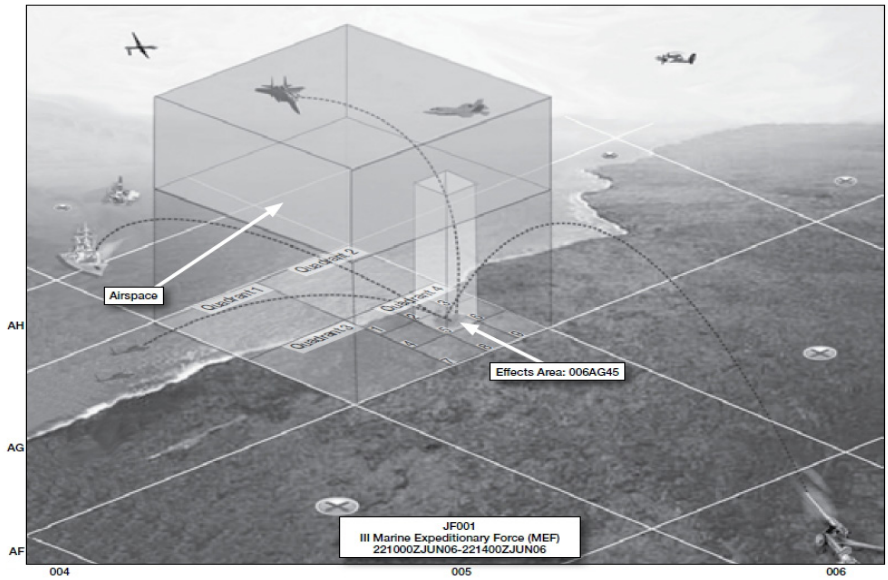

Abb. 3: Dreidimensionale Kill Box. „Three-Dimensional Representation of a Joint Fires Area (JFA) Using the Global Area Reference System (GARS)“, Quelle: US Army Fires Bulettin, Ausgabe 2/2008, 39.

Die Fotografie spielte im Ersten Weltkrieg bei der technischen Konstitution des militärischen Blicks eine zentrale Rolle. Der durch die frühe Luftbildfotografie eröffnete Raum war abstrakt und überstieg die Wahrnehmungsräume der Piloten. Der Blick aus dem Flugzeug machte die von Stellungsgräben und Artillerieeinsätzen zerfurchte Kriegslandschaft sichtbar und für die Militärkartographen anschreibbar, so dass die Erstellung von sogenannten „Fliegerbildern" zunehmend zur wichtigsten Aufgabe der Fliegertruppe im Stellungskrieg der Artillerie wurde.

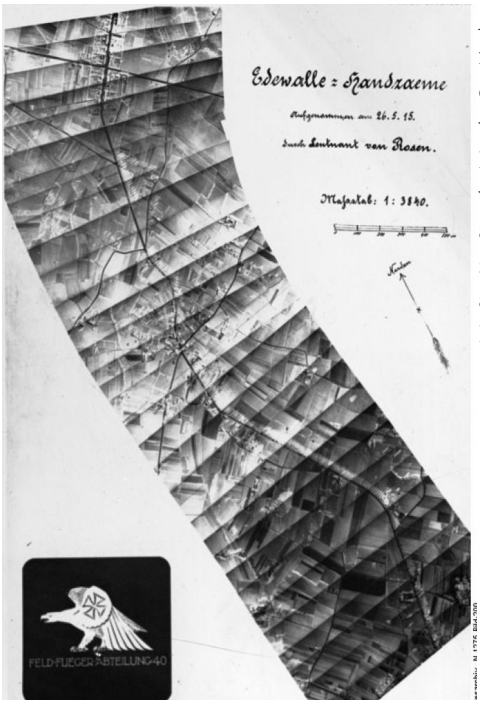

Abb.4:„Luftbildmessung im Ersten Weltkrieg. Eines der ersten ‚Reihenbilder' von [Oskar] Messter, über Edewalle-Handzaeme von Leutnant von Rosen aufgenommen", datiert 26.5.1915. Quelle: Bundesarchiv, N 1275 Bild-200/ Rosen / CC-BY-SA

Noch während des Ersten Weltkriegs erfuhr dieser *Blick von oben* eine ästhetische Reaktion auf dem Grund. Im Wissen um einen Blick von oben wurden Infrastrukturen, Orientierungspunkte für die Navigation, etwa Flussläufe, Straßen, Gelände oder schlicht einzelnes Heeresgerät wie Flugzeuge und Panzer getarnt. In Reaktion auf solche Verkleidungen entstehen Wissensformen, die durch immer genauere Beobachtung versuchen, Tarnung mittels Fotografie erkennbar zu machen. Diese Formen des gestalttheoretischen Wissens wirken auch auf die zivile Luftfahrt, genauer: die Ökonomien ihrer Popularisierung zurück. Ab den 1930er Jahren erscheint im Verlag der *Hansa Luftbild G.m.b.H.* der gleichnamigen Fluggesellschaft ein „Luftbild-Lesebuch", welches das zivile Auge im „Lesen von senkrecht aufgenommenen Fliegerbildern" regelrecht schulen sollte (Hansa Luftbild 1937, 6-7, dazu: Albertz/Lehmann 2000). Die militärische Tarnung sollte so erfolgen: Auf dem Boden wurden Panzer, Schützengräben aber auch ganze Flugzeughangare derart mit Tarnnetzen „beschirmt", dass sie für den Blick von oben unsichtbar wurden. Ebenso wurde eine Vielzahl von Dummyverfahren entwickelt, um den Luftaufklärern den falschen Eindruck zu vermitteln, an dieser Stelle sei ein Flugplatz, oder an jenem Ort stünde ein Panzerangriff bevor. Dieses Wissen erwiderte die Luftaufklärung dahingehend, indem sie Strategien entwickelte, um Fälschungen entlang

unkorrekter Geometrien oder überdeutlicher Nachzeichnung zu enttarnen. In dem Wissen um Tarnung und Täuschung wird so die verborgene Tiefe hinter einer äußeren Anschauung denkbar. Im Übergang zwischen den beiden Weltkriegen wird mit der fotografischen Betrachtung der Erdoberfläche zunehmend auch in zivilen Kontexten eine hermeneutische Tiefe beschreibbar. An Überflugbilder sind daher, spätestens seit dem Zweiten Weltkrieg, nicht mehr ausschließlich Pragmatiken der Navigation, sondern zunehmend auch Epistemologien der Tiefe und Erkenntnis gekoppelt. Im militärischen Zusammenhang bedeutet das für das Überflugbild: hinter der Oberfläche einer äußeren Anschauung sollen feindlichen Geheimnisse; Bunker, Hangare, Truppenbewegungen anschaulich werden. Auf vielfältige Weise – als wahrnehmungstheoretisches Paradigma der Zeit sowie als die einzelnen wissenschaftlichen Disziplingrenzen überschreitender Diskurs – wird hier das phänomenologische Wissen von Gestalt erstmalig in den Dienst militärischer Aufklärung gestellt. Während und insbesondere nach dem Zweiten Weltkrieg, sowie einhergehend mit den beschleunigten Flugzeugen der Jet-Ära bekommt dieses Wissen Aufwind: nicht länger ausschließlich als zeitversetztes Verfahren der Kartografie und militärischer Aufklärung, sondern zunehmend als echtzeitige Koppelung menschlicher Sehens an visuelle Dispositive.

5. Fadenkreuz und Bildpunkt – Eine moderne Ästhetik

Christoph Asendorf hat die ästhetische Erfahrung der Luftfahrt in der frühen Moderne als ästhetische Zäsur beschrieben, die auch auf die „flächigen“ Darstellungen der Malerei und Zeichnungen innerhalb der klassischen Avantgarden in den Zwischenkriegsjahren hineinwirkte (Asendorf 1997; Asendorf 1990). Demnach finden die Erfahrungen der Flugreisenden in den 1920er und 1930er Jahren nicht in einem luftleeren diskursiven Raum statt, sondern prägen die charakteristische Abkehr von der repräsentativen Malerei: im Bauhaus, im Futurismus, vor allem aber im Suprematismus mit seinen flächigen Geometrien und dem Kubismus mit seiner radikalen Ablehnung der klassischen Zentralperspektive. Unabhängig von Asendorfs wegweisender Arbeit hat der US-amerikanische Kunsthistoriker Michael Lobel gezeigt, dass für die Avantgarden der USA nach dem Zweiten Weltkrieg eine ganz ähnliche Entwicklung festzustellen ist. Auch hier wirken die Erfahrungen eines Weltkrieges in den Sujets, vor allem aber in den avantgardistischen Praktiken einer neuen visuellen Ästhetik nach (Lobel 2001). Als Beispiel dienen Lobel die Arbeiten von Roy Lichtenstein, der in seinen Arbeiten der 1960er vermehrt militärische Thematiken aufgreift, die er aus Panels von Gebrauchsgrafiken, zumeist Comic Strips isoliert und unter Hervorhebung von deren Rasterästhetik des Siebdruckverfahrens, auf Leinwand aufträgt (Ténèze 2010).

Abb. 5: *Dog Fight* in der Darstellung der US-amerikanischen Avantgarde. Roy Lichtenstein, „Bratatat", 1963. Öl auf Leinwand, 46 x 34 inches. Estate of Roy Lichtenstein.

Die Lichtensteinschen Raster und Bildpunkte sind bemerkenswert, weil diese Technik auf vielfältige Weise den reproduktiven Charakter der modernen Fotografie evoziert und die Ästhetik einer mechanische „Reproduzierbarkeit" des technischen Bildes in die Malerei einführt (Benjamin 1980). Gemeint ist hiermit aber nicht nur jene Warenästhetik, wie sie etwa auch Lichtensteins Zeitgenosse Andy Warhol für die bildende Kunst eingebeutet hat und die charakteristisch ist für die Pop Art der 1960er Jahre, sondern insbesondere auch ihre Visualität, welche die Technizität ihres Verfahrens herausstellt. Zwar applizierte Lichtenstein die Ölfarbe von Hand, ging allerdings einem Umweg über die technisches Vergrößerung mittels Projektion, indem jenes Korn, welches den anonymen Gebrauchscharakter von Druckgrafiken konnotiert, auf der Leinwand reproduziert wurde (Paparoni 2010). Mit einer Reproduktion und Vergrößerung des mikroskopischen Rasters der Druckgrafik steht Lichtenstein damit zudem in der Tradition des Suprematismus, der bereits 50 Jahre zuvor das geometrische Raster in die abstrakten Darstellungen der klassischen Avantgarde eingeführt hatte:

> „There are two ways in which the grid functions to declare the modernity of modern art. One is spatial; the other is temporal. In the spatial sense, the grid states the autonomy of the realm of art. Flattened, geometricized, ordered, it is antinatural, antimimetic, antireal. It is what art looks like when it turns its back on nature. In the flatness that results from its coordinates, the grid is the means of crowding out the dimensions of the real and replacing them with the lateral spread of a single surface. In the overall regularity of its organization, it is the result not of imitation, but of aesthetic decree." (Krauss 1979, 51)

Gegen Ende des Zweiten Weltkriegs hatte Lichtenstein selbst Ambitionen, Pilot zu werden und gab, zurückgekehrt aus Europa und mittlerweile im Postgraduate Program, Ende der 1940er im Umfeld des stark

gestalttheoretischen geprägten Kunstprofessors Hoyt Sherman an der Ohio State University Einführungskurse. Dies ist mehr als eine biographische Notiz, als dass Lichtensteins künstlerische Prägung in die Hochzeit der amerikanischen Beteiligung im *European und Pacific Theatre* fällt. Mehr noch: im Umfeld der Kunstprogramme an der Ohio State mit ihren aisthetischen Laboren wird ab 1943 diskutiert, wie die Curricula in Wahrnehmung und Gestalterkennung für militärische Zwecke eingesetzt werden können. Lichtensteins Lehrjahre sind also nicht nur biographisch, sondern zugleich epistemologisch durch den Zweiten Weltkrieg geprägt: In sogenannten *flash labs*, kinoartigen Dispositiven mit Leinwand und Projektor, wurden die Studierenden für Sekundenbruchteilen den Bildern von zumeist impressionistischen Meistern ausgesetzt, um hernach deren Bildkompositionen entlang eines „Nachbildes" reproduzieren zu können (Lobel 2001, 150f.). Diese gestalttheoretische Schulung künstlerischen Wahrnehmens greift den Reaktionstests der späteren, und zunehmend computerisierten Pilotenausbildung vor (Pias 2002, 20-28), steht aber auch technisch in direkter Verbindung nicht nur mit den über Umlenkverfahren projizierten Polygongrafiken moderner Flugsimulatoren, sondern auch mit den *head-up displays* moderner Kampfjets, die über Kollimatoren und durch Kreiselgeräte gestützte künstliche Horizonte und Zielhilfen in das Sichtfeld der Pilotin projizieren. Schließlich sind Lichtensteins Sujets häufig (und nicht immer so explizit wie im Bildbeispiel, in dem die Zielvorrichtung einen zentralen Platz einnimmt) tief verbunden mit einer militärischen Ästhetik, die sich als „monokulares" und damit als flächiges – und nicht zuletzt *zielend-erfassendes* Sehen beschreiben lässt (Lobel 2001). Dieses Sehen ist für den modernen Krieg mit seinen optischen Geräten, insbesondere aber für die Ästhetik eines heroischen *Dog Fights*, der bis zur Ankunft der Drohne auch das visuelle Narrativ militärischer Fliegerei beherrschen sollte, charakteristisch.

Abb. 6: Saeed Chmagh im Fadenkreuz einer Helikoptermannschaft der US Army, 2007. Von Wikileaks bearbeitetes und veröffentlichtes Material, 2010. Quelle: https://collateralmurder.wikileaks.org (01/07/2015), „Full Version", Timecode: 00:01:45.

Diesem Narrativ gegenüber steht das Bild einer „postheroischen" Drohnen-Pilotin, die nur noch mit den Bildflächen von Interfaces interagiert und somit gleichsam „abgestumpft" ist. Auch aus ethischer Perspektive lässt sich über die vermittelte Bildlichkeit eine „Verflachung" des Krieges im postheroischen Zeitalter konstatieren, in dem technologische Überlegenheit über Sieg und Niederlage entscheiden soll, möglichst ohne Verluste auf der eigenen Seite, und daher mit räumlich *mittelbarer*, und damit emotionaler Distanz der Waffenoperateure zum Kriegsgeschehen (Münkler 2012; Der Derian 2001; Chamayou 2011). Auf der anderen Seite haben Studien, u.a. des *US Armed Forces Health Surveillance Center* gezeigt, dass die Risiken für posttraumatischen Stress bei Drohnenpiloten vergleichbar sind mit denen von Kampfpiloten, insbesondere weil Führerinnen von Drohnen, eben anders als solche von Kampfflugzeugen oder Bombern, immer auch mit den Bildern von Opfern konfrontiert werden, da sie gehalten sind, nach dem Einsatz den Ort des Angriffs „aufzuklären" (Otto/ Webber 2013).

In den Bildern der Drohne stoßen somit moderne Ästhetiken kartografischer Rasterverfahren und forensischer Auflösung auf eine echtzeitige Ästhetik militärischen *Manhunts* (Chamayou 2012). Liest man die Bildgeschichte der Drohne als eine militärische Annäherung an die Echtzeit, und nimmt man die technischen Entwicklungen eines immer höher aufgelösten militärischen Argusauges zur Kenntnis, so scheint es nur eine Frage der technischen Machbarkeit zu sein, wann menschliche Reaktionsschnelligkeit und nicht zuletzt moralisches Zaudern an technische Kalküle delegiert wird.

Für eine Geschichte, Ästhetik und nicht zuletzt für eine ethische Konfrontation der militärischen Bildgebung der Drohne ist daher ein Exkurs in die Kunstgeschichte durchaus erhellend. Erstens zeigt der Exkurs zu Lichtenstein, dass sich die aisthetische Theorie von der Gestalt aus dem Ersten Weltkrieg bis weit in die amerikanische Avantgarde verfolgen lässt, und vielleicht sogar, dass sich die militärischen Anforderungen der Echtzeitigkeit in eine ihrer künstlerische Darstellungsformen eingeschrieben hat. Zweitens lässt sich unter dem Eindruck nicht-sichtbarer, also weit entfernter, klandestiner Kriegsführung fragen, wie diese neue Unsichtbarkeit ästhetisch-politisch zu verhandeln sei.

Noch in den 1990ern formulierte der französische Philosoph Jean Baudrillard unter dem Eindruck der nächtlichen Bilder aus Bagdad provokativ, der Golfkrieg habe nie stattgefunden, und unterwarf damit die ästhetische Theorie für den Zweiten Golfkrieg den restlichtverstärkten Kameras amerikanischer Fernsehsender (Baudrillard 1994, 104). Jüngere journalistische Initiativen wie das *Bureau of Investigative Journalism* reagieren dagegen seit den späten 00er Jahren mit Sichtbarkeit und Transparenz auf einen zunehmend unsichtbaren Krieg, indem sie die Informationen zu verschleierten oder in den Randnotizen der Agenturmeldungen untergegangenen Drohnenangriffen in Datenbanken zusammentragen. Wikileaks wiederum, um auf das eingangs erwähnte Beispiel zurückzukommen, war

bei der Aufdeckung des Luftangriffs von Bagdad auf Informantinnen angewiesen und bereitete außerdem das militärische Gebrauchsbild für journalistische Zwecke auf.

Jüngst markierten auch zeitgenössische Künstler wie der US-amerikanische Fotograf Trevor Paglen, der britische Aktivist James Bridle oder der deutsche Filmemacher Harun Farocki in ihren Arbeiten eben jene Ambivalenz von Sichtbarkeit und Unsichtbarkeit, die sich durch die neue Bildlichkeit der Drohnen ergeben. So macht etwa Paglen in verschiedenen Bilderserien die geheimen Institutionen des US-amerikanischen Drohnenkriegs sichtbar; Bridle zeichnet die Umrisse der gängigsten Drohnen-Modelle *Reaper* und *Predator* in die öffentlichen Räume von Parkplatzanlagen und Straßenecken und reduziert so den mehrdimensionalen *virtuous war* seinerseits in eine Fläche, indem die visuelle und emotionale Distanz gegenüber den Drohnen in eine unmittelbare Sichtbarkeit im (westlichen) Stadtraum zurückgeführt wird. Der jüngst verstorbene Filmemacher Harun Farocki hat in seinen späteren Arbeiten die Gebrauchsbilder des militärisch-industriellen Komplexes: aus militärischen Planspielen, aus Simulationen zur Verarbeitung posttraumatischer Belastungen und nicht zuletzt von automatisierten Bilderkennungssoftwares in seinen Videoinstallationen und Experimentalfilmen thematisiert. Gerade bei Farocki wird dabei deutlich, dass zwischen den zivilen und militärischen Bildverfahren ein ästhetischer und epistemologisch-historischer Zusammenhang besteht. Reagierte Lichtenstein noch auf reflexive Weise auf die ästhetischen Erfahrungen des Kriegs einerseits und auf einen frühen *military-entertainment complex* **[12]** andererseits, so zeigen die jüngeren, zumeist medienkünstlerischen Arbeiten, dass das ästhetisch-politische Momentum einer visuellen Auseinandersetzung mit dem Drohnenkrieg gerade an der Schwelle zwischen Sichtbarkeit und Unsichtbarkeit ansetzen wird.

[12] Zum Begriff des *military-entertainment complex* vgl. Lenoir/Lowood 2008. Lenoir und Lowood bezeichnen mit dem Begriff eine institutionelle Verquickung zwischen militärischen Plan- und zivilen Computerspielen vor allen seit den 1980er Jahren. Dieser Begriff lässt sich aber ebenso auf die militärische Einflussnahme auf Narrative von etwa Spielfilmen oder Comic Strips (als *entertainment*) abstrahieren.

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Individualized and Yet Dehumanized? Targeted Killing via Drones

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Abstract:

Within the literature on warfare and drones two observations are currently made. The first is that war is becoming individualized and personalized; the second that warfare is more and more dehumanized. This juxtaposition of individualization and dehumanization within the literature is the departure point of this article. The article engages with the simultaneous individualization and dehumanization of warfare by assessing the relatively new practice of targeted killing via drones, focusing on the US drone programmes. Offering a short overview of current US drone strike practices and a reconstructive analysis of the discourse on targeted killing via drone strikes, the article identifies three themes within the discourse on targeted killing via drones: the language of the target, the language of the body, and the language of dehumanization. Taken together these themes are constitutive of the social construction of individual human beings as dehumanized targeted bodies. The article makes the argument that this social construction allows the conduct of dehumanized warfare against individual human beings. The article therefore provides a theoretical framework, which allows analysing and understanding the practice of the targeted killing via drones from a perspective of International Relations Theory.

Keywords: Bodies, Dehumanization, Drones, IR Theory, Targeted Killing

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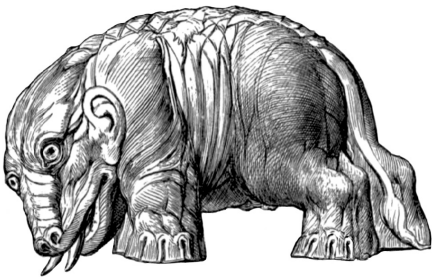

1. Introduction [1]

Warfare used to be confined to the regular armed forces of two sovereign nation states fighting with each other and aiming at ensuring certain symmetry (Chamayou 2011, 2; Blum 2014, 52). This is no longer the case as today sovereign states are often at war with non-state armed groups and at times individuals. War has become 'individualized' and 'personalized', a 'manhunt' (Chamayou 2011, 2; Finkelstein 2012a, v; Blum 2014, 52; Blank 2015, 233; Welsh 2015). As a result of this development, warfare has become asymmetrical. Part of this asymmetrical warfare is the rise of unmanned aerial vehicles (UAV), more commonly known as drones. They have been used in a variety of civilian and military operations, conducting both surveillance and lethal operations. The latter ones are often referred to as 'targeted killing'. **[2]** Drones and targeted killing are often spoken of and made use of together (Barrinha/da Vinha 2015, 25). Yet it must be noted that not all drones are used in targeted killing operations, and not every targeted killing operations is conducted by drones. This article focusses on targeted killing operations via drones as a relatively new practice. **[3]**

The two key terms 'targeted killing' and 'drones' require a definition. While a number of definitions exist for the term targeted killing (Carvin 2012, 543; Goppel 2013, 10–12), the following definition by Nils Melzer is used as a working definition within this article. He defines targeted killing as, "the use of lethal force attributable to a subject of international law with the intent, premeditation and deliberation to kill individually selected persons who are not in the physical custody of those targeting them." (Melzer 2007, 39) The term drones refers to a wide range of UAVs. And while the military and manufacturers tend to refrain from using the term, it "is most widely used in the media and popular literature by anti-UAV activists." (Franke 2015, 55) In this article, the terms drones and UAVs are used interchangeably. Drones are to be understood as armed UAVs operated remotely in a military or covert operational context.

The change in warfare and the changing means of warfare pointed out above imply a tension. *Individualized war on the one hand*, where the subjects of those means are no longer replaceable soldiers, who are eligible for killing due to their status as a combatant (Sparrow 2012, 128), but specific individual human beings, 'manhunted' (Bush 2004; Chamayou 2011, 2). They are targeted due to their apparent 'value' as a target or because they 'fit' a certain 'signature'. Individualized warfare is thus characterized by being aimed at individual human beings with known and unknown identities. *Dehumanized warfare on the other hand*, in which the growing use of remotely controlled drones reduces the need for soldiers in an actual combat situation massively. Drones seem therefore no different to other long-distance weapons such as cruise missiles. The crucial difference between these 'fire and forget' weapons and drones is rooted in the fact that a cruise missile is directed against a target that is defined and located beforehand, such as a specific military object. Drones, however, can be deployed into a theatre of war and hovering for a long time, waiting for

[1] This article is based on a draft chapter of my PhD dissertation, entitled "The individual human being in international relations: prosecution, protection, and killing". The article has profited from valuable comments by Susanne Krasmann, Jutta Weber, Markus Wagner, and Anna Leanda. I also would like to thank the anonymous reviewer who provided many useful suggestions. An earlier version of this article was presented at the 2015 EISA Young Researchers' Workshop (22 September). I would like to thank the organizers, Fillipe dos Reis and Maj Grasten, Anna Leander, who served as a discussant, as well as the participants in the workshop. Responsibility for any errors in the article is, of course, mine alone.

[2] Other authors and scholars refer to these practices as extrajudicial executions or state assassinations. Christine Gray claims that, "'[t]argeted killing' is generally seen as a neutral term which, unlike 'assassination', does not necessarily imply illegality." (Gray 2013, 78) Contrary to her, I do not believe there is such a thing as a 'neutral term'. However, for reasons of consistency, I use the term targeting killing exclusively.

[3] While Israel for quite some time and the United Kingdom more recently have been engaged in practices of targeted killing with and without drones, the discussion provided here is based on the US case alone.

targets to appear or looking for targets actively via remote control and video feed. This characteristic of a more active and flexible use is what makes drones a special case and not simply the next step in a long line of weapons aiming to cover growing distances.

Targeted killing via drones thus seems to be dehumanized and individualized at the same time. The article engages with this simultaneous dehumanization and individualization, aiming at understanding how this practice is possible by offering an analysis of the discourse on targeted killing via drones. The analysis conducted in this article demonstrates that those individual human beings, who are targeted, are discursively constructed as dehumanized targeted bodies (Wilcox 2015, 151 offers a similar notion). This explains how a dehumanized warfare directed against individual human beings is possible in the first place. **[4]** The following elaborates this argument in detail. In order to do so, this article is structured as follows.

Section 2 provides a brief overview of the history, current practice, and some of the legal debates surrounding targeted killing via drones with a focus on the US, setting the stage for sections 3 and 4, which constitute the substantive part of this article. Section 3 offers an analysis of the general drone strike policy within the US as well as an analysis of specific drone strikes and the discourse on these strikes, guided by a classification of three kinds of strikes. Based on this analysis, section 4 identifies three themes in the discourse on targeted killing via drones. A brief conclusion is offered in section 5.

[4] In fact one could even make the point that the individualization of warfare is a condition that allows the specific kind of dehumanized warfare that targeted killing via drones constitutes. This highly relevant observation was made by Leanne Boer at the aforementioned presentation of the article at the EISA Young Researchers' Workshop.

2. Targeted Killing: Development, Current Practices, Legal Issues

This section offers a brief overview of the development and current practices of targeted killing operations by the USA. It also provides a discussion of some of the legal aspects of such operations.

US Targeted Killing Operations

While there is a long history of political assassinations and targeted killings, with the former practice seen today as both morally wrong and legally prohibited (Maxwell 2012, 34; Whetham 2013, 71–73; Sanders 2014, 514; Boyle 2015, 120), it is only since the terrorist attacks of 11 September 2001 that the USA has systematically employed drones in targeted killing operations as a distinct method of counterinsurgency. And despite growing legal, moral, and ethical issues concerning targeted killing, scholars agree that drone strikes and targeted killing operations will stay (Guoira 2013, ix; Franke 2014, 121; Aslam/Rauxloh 2015, 225). At the outset, it must be noted that there are actually two distinct drone programmes run by the USA, one military, commanded by the Joint Special Operations Command (JSOC) and the other clandestine, by the CIA (Williams 2011, 6; Boyle 2015, 118). The JSOC focuses on Afghanistan, Somalia, and Yemen, while the CIA undertakes the operations in Pakistan and some of the Yemen operations

(Blank 2015, 232; Woods 2015, 96). The military and CIA programmes are, however, becoming more and more intertwined (Williams 2011, 7).

The first US drone strike outside a war zone is said to have taken place in Yemen in 2002 (Williams 2011, 3; Brunstetter/Jimenez-Barcadi 2015, 181). With regard to strike numbers and casualties, little insight and even less reliable data is available. While some attempts to provide at least a quantitative overview are rather conservative in their estimation, as for example the *Long War Journal* (Roggio 2015; Roggio/Barry 2015), other estimations like those of the New America Foundation, of certain media outlets, and those provided by a number of academic scholars are much higher, especially with regard to civilian casualties (Goppel 2013, 1; NBC 2013; Sanders 2014, 516; Waddington 2015, 121). Numbers are extremely difficult to put together and there is no single authoritative source for them (see Plaw 2013, 126–153, for a good overview). Given the clandestine nature of the CIA strikes, scholars will most likely never have a total death toll available. The debate about the amount of civilian casualties is often linked with debates about how to define combatants and civilians (Gray 2013, 99; Casey-Maslen 2014, 399; Martin 2015, 164). The following part therefore briefly engages with this debate by providing a primer into the legal issues surrounding the selection and classification of legal targets within International Humanitarian Law (IHL).

Legal Issues

The literature on drones and targeted killing largely focusses on two legal frameworks: International Human Rights Law (IHRL) and International Humanitarian Law (IHL). The underlying argument here is that either targeted killing is part of policing actions, in which case actions must be conducted in accordance with IHRL, or it is part of regular warfare, in which case it is governed by IHL (Strüwer 2010, 61). The focus on IHL alone within this article is based on two reasons. First, IHL is the framework the US Administration refers to nearly exclusively in their statements that are analysed in the following section. Second, IHL provides, compared to IHRL, much more detailed legal prescriptions concerning the possible permissibility of targeted killing operations via drones. Outside of IHL, and thus under IHRL provisions, targeted killing is seen as either entirely illegal as argued, for example, by Jody Williams (Williams 2011, 14) or as at least limited to a very few cases, as argued, for example, by Markus Wagner (Wagner 2015, 12–13).

As Anna Leander notes, "writing and commenting on the usage of drones is replete with talk about the extent to which drones challenge and change law." (2013, 812). How can one conceptualize these challenges and changes legally? The short answer is that it depends on how one evaluates the drone strikes and the nature of the conflicts in which they take place. As Casey-Maslen rightly summarizes, "[D]epending on the case, and one's appreciation of applicable law, drone strikes may be extrajudicial executions in violation of human rights or lawful acts *in bello*." (Casey-Maslen 2014,

382f.) In addition, difficulties arise in regard to the question whether the US drone strikes are to be categorized as single incidents or as a series of strikes. In the former case, a case-by-case evaluation would be necessary, in the latter the evaluation would be on all strikes taken together. This, as some scholars have pointed out, makes it extremely difficult to categorize US drone strikes legally (Brooks 2014, 95; Enemark 2014, 370) and some even go so far as to argue that the drone strikes "present not an issue of law breaking, but of law's brokenness." (Brooks 2014, 98)

IHL constitutes a body of law concerned with the conduct of war. It aims at making war more humane (Wagner 2014, 1409) and to protect persons who are not involved in the warfare. Who is to be protected, however, has been subject to change (Garbett 2015, 68). The most important legal sources of IHL are the Geneva Conventions, codifying the laws of armed conflicts and constituting the *ius in bello*, i.e. the law during the war. The article's scope and aim does not allow for a detailed discussion of the legal debate, which is ongoing and discussed in detail in numerous publications (Wagner 2015 provides a brief but excellent overview). I restrict myself here to brief elaboration on the principle of distinction, as this has been identified of the 'cardinal rule' of IHL for questions of targeting (Heller forthcoming, 24).

The principle of distinction provides that parties to a conflict must differentiate between civilians and combatants and are only allowed to attack combatants or civilians who directly participate in hostilities (Section 48, Geneva Conventions Additional Protocol I). This requires a clear understanding of combatants and civilians. Combatants are members of armed forces, which directly participate in hostilities. They can be attacked at any time during an armed conflict. Killing a combatant as part of hostilities does not constitute murder, because the combatant might otherwise kill the soldiers of one's own force (Gross 2006, 329; Meisels 2012, 923). Civilians are defined ex negativo as anyone who is not a combatant, and thus cannot be lawfully attacked. IHL thereby 'produces' the notion of civilians and combatants (Garbett 2015, 148). However, IHL accepts that in war times civilian casualties may occur for military necessity (Hlavkova 2014, 272).

Civilians, however, can be attacked "for such time as they take a direct part in hostilities" (Section 51(3), Geneva Conventions Additional Protocol I). This formula has been subject to lengthy debates and there are different understandings on the meaning of direct participation as well as the temporal dimension referred to in the phrase 'for such time' (Melzer 2007, 419–450; Schmitt 2013, 103f.; Sanders 2014, 523). While the distinction between civilians and combatants remains rather unproblematic in regular symmetric warfare, it is difficult to uphold it in asymmetric warfare (Pacho/Bodnar 2012, 195; Sanders 2014, 521). To conclude this brief discussion of IHL, it can be noted that while it might be possible to create a legal framework under IHL to assess the legality of each and every single strike (Strüwer 2010, 225; Goppel 2013, 109), a general assessment remains difficult. Hence the article turns to the empirical analysis of practices of targeted killing via drones, which will, however, be supplemented by references to the legal debates in order to allow the reader to undertake a

legal assessment of what is described in the following.

3. Analysing practices of targeted killing via drones

This section begins with an analysis of the general discourse within the USA on targeted killing via drones. The section turns then to the analysis of discourse on three specific strike types identified in the literature: direct strikes, signature strikes and follow-up strikes. The selection of discourses and documents analysed is based on secondary literature as well as on the position of those documents within the discourse. Here two criteria, that of foundational texts, referred to as 'monuments' in discourse analysis (Neumann 2008, 67) and the criteria of intertextuality (Hansen 2006, 82–87) constitute the bases for the selection of documents. The discourse will be analysed by applying an interpretivist methodology (Della Porta/Keating 2008, 23, 32). Such a methodology and the research guided by it, "aims at understanding events by discovering the meanings human beings attribute to their behaviour and the external world." (Della Porta/Keating 2008, 26) Interpretative research is also more open towards the material studied, in other words, the data is supposed to 'speak for itself' (Blatter/Janning/Wagemann 2007, 4). As a specific method, positioning analysis is applied (Hollway 1984; Harré/van Langenhove 1999; van Langenhove/Harré 1999; Kruse 2014, 511). As Gabriele Lucius-Hoene and Arnulf Deppermann explain, "[P]ositioning can be described as one of the most basic forms to construct and negotiate identities in social interactions." (Lucius-Hoene/Deppermann 2014, 196, my translation) Therefore an analysis of how those targeted by drones are positioned within the discourse reveals how they are socially constructed.

The Discourse on Drone Strikes

As demonstrated in section two, the use of drones for targeted killing operations is a relatively new practice. There exists, however, some history in the US concerning assassinations of political leaders (President of the United States 1981; Reinold 2014, 175). A monument text for this debate is Executive Order 12333 (4 December 1981), which is concerned with 'United States intelligence activities', prohibiting assassinations by declaring that, "[N]o person employed by or acting on behalf of the United States Government shall engage in, or conspire to engage in, assassination." (President of the United States 1981) However, right from its declaration, it was limited in a memorandum of law, written by W. Hays Parks from the Office of the Judge Advocate General of the Army in December 1989 (Parks 1989). In the memorandum, the following clarification was made:

> "[A]cting consistent with the Charter of the United Nations, a decision by the President to employ clandestine, low visibility or overt military force would not constitute assassination if U.S. military forces were employed against the combatant forces of another nation, a guerrilla force, or a

> terrorist or other organization whose actions pose a threat to the security of the United States." (Parks 1989)

The statements we can find today in the discourse on targeted killing via drones are reminiscent of this memorandum as the following demonstrates. A first speech by a US Government official outlining the practice of targeted killing was delivered by Harold Koh, at the time Legal Adviser at the US Department of State (Koh 2010). Two years later, John Brennan, then Assistant to the President for Homeland Security and Counterterrorism, gave a speech 30 April 2012 at the Woodrow Wilson Center (Brennan 2012). In the remarks given Brennan outlined publicly that the US was indeed conducting strikes against individual human beings via drones intending to kill them. He said,

> "[Y]es, in full accordance with the law, and in order to prevent terrorist attacks on the United States and to save American lives, the United States Government conducts targeted strikes against specific al-Qaida terrorists, sometimes using remotely piloted aircraft, often referred to publicly as drones."(Brennan 2012)

He described the strikes as both legal and ethical, in conformity with IHL principles, and as a strategically 'wise choice' (Brennan 2012). While Brennan refers mainly to legal aspects, there is a shift in the speech to policy issues (Gray 2013, 96), as the following passage reveals.

> "Of course, the law only establishes the outer limits of the authority in which counterterrorism professionals can operate. Even if we determine that it is lawful to pursue the terrorist in question with lethal force, it doesn't necessarily mean we should. There are, after all, literally thousands of individuals who are part of al-Qa'ida, the Taliban, or associated forces – thousands. Even if it were possible, going after every single one of these individuals with lethal force would neither be wise nor an effective use of our intelligence and counterterrorism resources. [...] Rather, we conduct targeted strikes because they are necessary to mitigate an actual ongoing threat – to stop plots, prevent future attacks, and save American lives." (Brennan 2012)

Another monument text is a speech by US President Barack Obama, at the National Defense University 23 May 2013 in which he outlined the US drone strike policy in some detail (Obama 2013). He begins the part of the speech on drone strikes with claiming a preference for detention and prosecution, while making clear at the same time that this often is not possible. He then describes the strikes as effective and as legal. While the effectiveness was argued for by referring to intelligence found at the compound where Osama bin Laden was killed, the legality of these strikes was argued for by reference to just war criteria: proportionality, last resort, and self-defence (Obama 2013). Obama positioned those targeted as terrorists, guilty not of past actions, but constituting an imminent threat. Obama claims, "we are choosing the course of action least likely to result in the loss of

innocent life." (Obama 2013) Furthermore, while he acknowledges civilian casualties, he positions those against the actual, and possible number of civilian casualties should the terrorists be able to continue (Obama 2013). This positioning constructs a justification of the targeted killing of those individual human beings thought to be guilty of posing a threat, while positioning those protected from this future threat as innocent individual human beings. It has been noted that the rules outlined in 2013 have been applied inconsistently from the beginning, with exceptions and waivers granted for certain battlefields, for example in Pakistan and Yemen (Timm 2015). The position Obama takes is based on the understanding that drones lead to a distinction between those who need to be protected and those who need to be killed in order to protect (Allinson 2015, 117).

What we see in these general statements and documents is the positioning of individual human beings in the discourse on targeted killing as *legitimate targets* based on assertions of threat and guilt (Blum 2014, 73; Shah 2015, 185). This positioning takes place at times with reference to the law, at times with reference to ethics, and at times with reference to strategy. While the discussion above was situated on a more general level, the following turns to the analysis of specific strikes and strike types. The literature and documents available allow identifying three strike types: direct strikes, signatures strikes, and follow-up strikes. Each of the three strike types will be discussed and a positioning analysis provided.

'Direct strikes'

Direct strikes are targeted killing operations directed at one specific individual human being. These strikes are sometimes referred to as strikes against, "'high value' targets" (Schmitt 2013, 100). A leaked CIA document defined high-value targeting, "as focused operations against specific individuals or networks whose removal or marginalization should disproportionately degrade an insurgent group's effectiveness" (CIA 2009, 1). It has been reported that the number of low-level targets is much higher than the number of high-level targets (Barrinha/da Vinha 2015, 23; Wilcox 2015, 155). As Michael Schmitt explains, "this classification [as a high value target, SG] requires that identity, function, and importance be established in advance [...]." (Schmitt 2013, 100) Because of their nature they have also been termed 'named killings' (Gross 2006, 324) or 'personalised strikes' (Williams 2015, 96f.).

The selection process of those individuals is secret, but what is known is that so-called 'kill lists' are maintained and updated with the input of various agencies and government bodies (Martin 2015, 159). The drone strikes themselves are then conducted through a procedure called 'kill chain'. As Lauren Wilcox explains, "[T]he kill chain consists of target identification, dispatching forces or weapons to the target, the decision and order to attack the target, and finally the destruction of the target." (Wilcox 2015, 139f.) The process of target definition for such high-value targets is rather complex, as it, "involves weekly secure video teleconferences managed by the Pentagon

in which over 100 government officials analyse the biographies of suspected terrorists and subsequently submit a list of targets to the President." (Barrinha/da Vinha 2015, 24)

Having provided a general definition of these kinds of strikes, the following provides an in-depth analysis of a direct strike targeted killing, which is unusually well documented. This is largely due to the fact of the availability of the so-called 'drone memo'. The drone memo is a memo written on a specific targeted killing of a US citizen named Anwar al-Awlaki through a CIA operation (Chesney 2010; Mazetti/Savage/Shane 2013, 1). The analysis of the drone memo shows, that the justification to kill al-Awlaki was based on the Justice Department's assessment of him as a 'legitimate target' (Office of the Assistant Attorney General 2010, 20f.). Because al-Awlaki was a US citizen certain legal questions had to be discussed (Office of the Assistant Attorney General 2010, 22). There was even a lawsuit brought against the US in order to stop a possible killing of al-Awlaki, but it was dismissed "with the court saying that it lacked authority to override the decisions of the Executive branch in an armed conflict." (Crawford 2013, 405)

The memo, however, indicates that al-Awlaki can be killed legitimately because the killing takes place as part of an ongoing armed conflict and it constitutes an act of self-defence (Mazetti/Savage/Shane 2013, 3). Here it becomes obvious that the memo combines justifications for lethal force available in *different legal regimes*. The legal distinction between combatants and civilians in IHL becomes irrelevant in the memo at the point where al-Awlaki is positioned as a target; in that moment, it does not matter anymore whether he is a civilian or a combatant. Following Garbett's notion of a, "civilian as an 'agentic' category of persons" (Garbett 2015, 158), combatants can also be understood as having agency. Contrary to this, targets, however, are not agentic anymore as they are the object of action by others. Al-Awlaki is positioned as a target and hence his killing is legitimized. In this context, Susanne Krasmann has pointed to the phenomenological understanding, "that an object is always also constructed in the eye of the observer." (Krasmann 2014, 33, my translation)

The situation becomes even more complex when one takes into account the description of the situation immediately prior to the strike, as described in the *New York Times*,

> "[A] group of men who had just finished breakfast scrambled to get to their trucks. One was Anwar al-Awlaki, the firebrand preacher, born in New Mexico, who had evolved from a peddler of Internet hatred to a senior operative in Al Qaeda's branch in Yemen. Another was Samir Khan, another American citizen who had moved to Yemen from North Carolina and was the creative force behind Inspire, the militant group's English-language Internet magazine." (Mazetti/Savage/Shane 2013, 1)

Al-Awlaki had become the target of an attack without being aware of it. Given the description, al-Awlaki was not actively involved in hostilities. Some have argued that it is doubtful that al-Awlaki could be classified as

a combatant, as his main tasks where rather focussed on propaganda and not on combat (Finkelstein 2012b, 159), while others have claimed that as a member of an armed group his killing could be legitimated (Maxwell 2012, 58f.). If he is seen as a combatant, he can, of course, be killed, nevertheless, as he is a civilian, his killing was unlawful, given the legal framework discussed above. The same is true for Samir Kahn. Without wanting to provide a full legal analysis (Heller 2014 provides such a full legal analysis), I briefly want to elaborate on two central legal aspects. The case of al-Awlaki is an excellent example of the difficulties in upholding the distinction made between civilians and combatants in IHL. Furthermore, the so-called 'revolving door' effect is at play here. This effect describes the fact that 'terrorists' are able to switch between combatant and civilian status at will, making a legal attack on them extremely difficult (Sanders 2014, 523). Another legal aspect which comes to the fore here is the issue of self-defence, which was used by the US Administration as a legitimization for killing al-Awlaki. This, however, means that two distinct legal regimes ius *in bello* and *ius ad bellum* are conflated. As an effect of this conflation, the distinction between combatants and civilians becomes even more blurred (Gross 2006, 328).

Finally, this new method of warfare constitutes a massive asymmetrical relation between attackers and attacked. Those who are attacked are positioned as targets without knowledge. Furthermore, the death of additional, innocent individual human beings is accepted, often amounting to clear violations of principles of proportionality when applying an IHL framework and potentially arbitrary killing when targeted killings take place outside the context of armed conflicts, falling under regulations of International Human Rights Law (Wagner 2015, 12–13).

'Signature strikes'

Signature strikes are different from direct strikes insofar as the targeted person is not selected and clearly identified, but rather chosen based on specific characteristics, known as 'signatures' (Casey-Maslen 2014, 393). The majority of strikes conducted by the US fall, at least within Pakistan, under this category (Jahn-Koch/Koch 2014, 297; Sanders 2014, 523). Part of the signature strikes is to use a so-called 'pattern-of-life' analysis (Peron 2011, 90f.; Casey-Maslen 2014, 393). Certain patterns or signatures then legitimize someone as a target. As Christian Enemark notes, "[I]n the words of one senior U.S. official (speaking anonymously): 'We might not always have their names but . . . these are people whose actions over time have made it obvious that they are a threat.'" (Enemark 2014, 373) Put differently, the specific identity of those killed is not known beforehand (Martin 2015, 160). Some have argued that signature strikes could lower the risk of misidentification, as it allows targeting via membership of a group like Al-Qaida which is being targeted (Buchanan/Keohane 2015, 22). And Christine Gray claims that such signature strikes *as such* would be within the realms of the law, when taking place in an armed conflict and all necessary

conditions under IHL are complied with (Gray 2013, 100). But, "[S]ignature strikes outside a hot battlefield seem to go far beyond targeted killing of identified targets, and are difficult to bring into a war on Al-Qaeda." (100)

Williams points directly to the problematic core of such pattern-of-life based strikes, "[f]allible human beings from thousands of miles away can – by 'pattern of life' assessments through surveillance – decide that someone (or someones) are legitimate targets for extrajudicial execution." (Williams 2011, 12) And Susanne Krasmann reveals the dehumanizing effect of such signature strikes, highlighting the use of algorithm-based decisions, referring to it as, 'numerically codified biological life' (Krasmann 2014, 39, my translation). She argues that such procedures make the targeted person 'faceless' (Krasmann 2014, 40). Furthermore scholars have argued that such strikes carry a greater risk of leading to civilian casualties by falsely identifying targets, and that it may violate the principle of distinction and proportionality (Boyle 2015, 114f.).

One example of such a signature strike is the attack on a group of civilians travelling together for reasons of safety (Gregory 2015). The signatures 'large group of people travelling together in cars' was interpreted by the analyst as signalling a combatant group (Hall 2014, 68). As Derek Gregory rightly observes, "[T]he crew of the Predator interpreted more or less everything they saw on their screens as indicative of hostile intent" (Gregory 2015). An example of this was how a possible presence of children was discussed. A disclosed conversation (Allinson 2015, 122) of the drone crew showed, "[T]he suggestion that there might be children present was then quickly reinterpreted as being evidence of possible adolescents. That in turn morphed into 'possibly military age males.'" (Martin 2015, 164) Another example of such a strike gone wrong occurred in February of 2002 when three men were killed near the city of Kost in Afghanistan. It was believed at the time of attack that these were three Taliban, one of them possibly Osama bin Laden (due to his height). It turned out that these were three civilians (Benjamin 2013, 91–94; Heller 2013, 89f.; Martin 2015, 145). In a press conference, a week later the following conversation between two spokespersons and a reporter took place:

> Reporter: You said you don't know who is killed in the attack, whether civilians or Taliban?
> Pentagon spokesperson 1: No [inaudible] I am sorry.
> Pentagon spokesperson 2: We don't know exactly who it was.
> Pentagon spokesperson 1: We don't know the identity of the individuals involved
> Reporter: But you are convinced they are Taliban?
> Pentagon spokesperson 1: Now we are convinced that uhm [pauses, looks up, breathes heavily].
> Pentagon spokesperson 2: We are convinced it was an appropriate target – based on the observation based on the information that it was an appropriate target. We do not know yet who exactly who it was. (C-SPAN 2002, transcript by author)

This short extract illustrates that despite the complexity of military decision making and the amount of individuals involved in a single strike there is an eerie simplicity to it when those strikes do get reported. The killings are based on a few selected signatures that are being assigned. Concerning the signatures the US uses, Heller offers an analysis of the signatures used by the US in these strikes and comes to the conclusion that, "many of the signatures on which the United States relies are legally suspect." (Heller 2013, 92) In his assessment, four of the signatures provide no legal base:

> (a) Military-age male in area of known terrorist activity [...]
> (b) Consorting with known militants' [...]
> (c) Armed men travelling in trucks in Al-Qaeda in the Arabian Peninsula-controlled area [...]
> (d) 'Suspicious' camp in AQ-controlled area [...].
>
> (Heller 2013, 97–100)

The military-age male signature is an interesting one from a gender aspect. As Charli Carpenter discusses in the context of protecting civilians, 'women and children' are traditionally framed as 'innocent' and 'vulnerable', while adult men are not. This, however, is problematic, as this includes neither female combatants and child soldiers nor civilian males (Carpenter 2005, 296). Hence men are constructed as 'killable combatants' and women as 'accidental killings' as they are seen as civilians (Wilcox 2015, 160).

A set of five signatures are deemed 'possible adequate' by Heller, depending on context and application on a case-by-case basis:

> (a) Groups of armed men travelling towards conflict [....]
> (b) Operating an AQ training camp [...]
> (c) Training to join AQ [...]
> (d) 'Facilitators' [...]
> (e) Rest areas
>
> (Heller 2013, 100–103).

Hence, the legal assessment provided by Heller, assuming *arguendo* that those strikes are at least in principal legal, demonstrates that the reliance on signatures can be illegal in same cases where signatures do not comply with the norms of targeting according to IHL. In other cases, the killing might have been legal though only if the assigned signatures hold up to be true, which is not always the case, as the examples discussed demonstrate. . As Heller argues, in absence of evidence signature strikes cannot be conducted as, "the attacker must presume that the target is a civilian." (Heller 2013, 103) Others, like Heyns, however, refute the principal assumption that those strikes could be legal if IHL principals are upheld (which they are often not, as the analysis offered by Heller shows). He points out that, "[I]nsofar as the term 'signature strikes' refers to targeting without sufficient information to make the necessary determination [whether someone is a combatant], it is clearly unlawful." (Heyns 2013, 15) In a nutshell, signature strikes raise a range of legal issues that cannot and are not resolved within IHL (Heller 2013, 119). Recently a signature strike lead to the clearly unintended killing

of two hostages of the Taliban. This is a sad illustration for the limits of such strikes and the margin of error that the nature of these strikes inherently has (Boone/Kirchgaessner 2015; Richter 2015). To conclude, signature strikes are conducted within the same complex commando structure and with a large number of actors involved, as in other strikes (Gregory 2015). Nonetheless, at times the decision to kill is based on information and data which is simply interpreted wrongly or even flawed to begin with. The third and final type of strike is the so-called 'follow-up' or 'double-tap' strikes.

'Follow-up strikes'

'Follow-up', or 'double-tap' strikes (Benjamin 2013, 134f.), constitute the third specific strike type. These strikes are conducted for example against mourners at a funeral or against people coming to a scene of recent drone strike to provide assistance to the wounded and recover the dead (Casey-Maslen 2014, 395; Council of Europe 2015, 4). Concerning the legality of such follow-up strikes Heyns is rather clear again, stating that, "[W]here one drone attack is followed up by another in order to target those who are wounded and hors de combat or medical personnel, it constitutes a war crime in armed conflict and a violation of the right to life, whether or not in armed conflict." (Heyns 2013, 15) Other scholars, however, are less critical of follow-up strikes (Williams 2013, 164–168). As the *Bureau of Investigative Journalism* notes in one of its reports, "[A] three month investigation including eye witness reports has found evidence that at least 50 civilians were killed in follow-up strikes when they had gone to help victims. More than 20 civilians have also been attacked in deliberate strikes on funerals and mourners. The tactics have been condemned by leading legal experts." (Woods/Lamb 2012) The following describes such an attack on a funeral. It was conducted in 2009 aiming to kill Baitullah Mehsud (Williams 2013, 2–10).

The CIA had killed Khwaz Wali Mehsud 23 June 2009 with a drone strike. In order to target Baitullah Mehsud they decided to target Kwhaz Whali Mesud's funeral, "[T]hey planned to use his [Kwhaz Whali Mesud's] body 'as bait' to target Baitullah Mehsud, who was expected to attend Kwhaz Wali Mehsud funeral. […] US drones struck again, killing up to eighty-three people." (Casey-Maslen 2014, 397) As Williams points out, he was not killed then but at yet another attack on 5 August 2009, killing another 12 people, including family members and bodyguards (Williams 2011, 11). What we can see here in this short description of this follow-up strike is a positioning of one individual human being, Khwaz Wali Mehsud, first as a target, and then, after being killed, as 'bait' in order to attract yet another individual human being Baitullah Mehsud, to the funeral in order to kill him. The dead body of Khwaz Wali Mehsud thus becomes fully dehumanized, he is no longer a target, as he is dead, but he now becomes something different, a dead body used as 'bait' in order to kill another individual human being. Having provided a positioning analysis of the discourse on targeted killing via drones, section 4 discusses the results of this analysis and returns to the

tension between individualized war and dehumanization pointed to at the beginning of this article.

4. Three themes in the discourse on targeted killing via drones

Three recurring themes can be identified in the discourse analysed above: targets, bodies, and dehumanization. The following discusses these three themes separately from each other; however, it will become clear further below that they unfold their meaning in combination. As a result this section concludes that the individual human being is positioned and hence socially constructed in the discourse on targeted killing as a *dehumanized targeted body*.

Theme I: The language of the target

As Amos Guiora argues, the moment an individual is identified as a legitimate targets, s/he "'enters' a category whereby chances of a targeted killing are significant." (Guoira 2013, 54) The moment the individual human being 'enters' the category of a target, the prior status of the targeted individual human being becomes irrelevant. The term 'target' is omnipresent in the discourse on targeted killing via drones, but we also find it in related discourses. As Samuel Weber writes with reference to the 'war on terror', "[T]he enemy would have to be *identified* and *localized*, *named* and *depicted*, in order to be made into an accessible target, susceptible of destruction." (Weber 2005, 4, emphasis in original) The term target also appears in the description of weapon systems used, "[T]he MQ-1 Predator [...] is employed [...] against *dynamic execution targets* [...]." (Casey-Maslen 2014, 385f., emphasis added) The language of the target also raises the issue of unlimited killing. Guiora argues that when 'targets' "are not narrowly defined [this] creates an operational environment whereby anyone killed – regardless whether intended or unintended – is considered a legitimate target." (Guoira 2013, 6)

This demonstrates the blurring of the distinction between civilians and combatants. Furthermore, and this is especially true for (alleged) terrorists, killing takes place based on the idea that a terrorist who has been guilty of an attack in the past will also be guilty of future attacks which have to be prevented, or are guilty by posing an imminent threat, however stretched the notion of imminence may be (Gray 2013, 93). As Gross explains, naming someone as a target, however, "assigns guilt [....]. In doing so, named killing places war itself beyond convention" (Gross 2006, 326). Others disagree, claiming that targeting is based on status or conduct "without any determination of fault or culpability." (Sassóli 2014, 332f.) However, as the analysis has shown, this is not necessarily the case with all those who are targeted.

While it can be argued that Gross' argument is an ethical one and Sassóli's is a legal one and that they hence are on different levels **[5]**,

[5] I am thankful to the anonymous reviewer for bringing this to my attention.

there is good reason for juxtaposing the ethical issues with the legal ones. Such juxtaposition demonstrates how neither a strict legal analysis nor a purely ethical analysis does justice to the complex reality that the practice of targeted killing via drone strikes constitutes. The mixed justificationary regime of drone strikes often visible in the discourse is evidence for a social construction of targets which are at times constructed with reference to categories and concept of IHL and at times with reference to IHRL, and at times with reference to ethical assessment of guilt and wrongdoing.

Ian Shawn and Majed Akther have aptly argued that "the drone is not an aberration—but the apex of an expanding targeting zeitgeist. In this age, 'to be' is to be locked within the cool certainty of a crosshair." (Shaw/Akther 2012, 1496) This has been described as the soda straw effect, "meaning that operators tend to 'zoom in' to focus on an increasingly narrow area around the target, with a resulting loss of information regarding the surrounding context – particularly during the final stages prior to firing." (Martin 2015, 158) Shaw and Akther speak in this context of, "human beings that are so often translated into statistical and *targeted* calculations." (Shaw/Akther 2012, 1505, emphasis added) 'Targets', however, are only one theme in the discourse on targeted killing and drone strikes. Intertwined with the use of 'targets' in the discourse is the appearance of a language of bodies.

Theme II: The language of the body

Bodies are the second theme present in the discourse on targeted killing via drones. Bodies within IR Theory are often seen as purely biological, as Lauren Wilcox notes, here they, "are implicitly theorized as organisms that are exogenously determined – they are relevant to politics only as they live or die." (Wilcox 2015, 2) Bodies have been a recurring theme in both feminist and constructivist literature (Wendt 1992, 402; Butler 1993; Fierke 2013; Onuf 2013, 82; Wilcox 2015). As Karin Fierke argues, "the body has increasingly become the target of political control, rationalization and discipline." (Fierke 2013, 21f.) In addition, Alexandra Howson explains that, "[W]e do not simply have bodies that we do things with and to, but we *are* bodies, our sense of who we are is inseparable from our own body." (Howson 2004, 12, emphasis in original) Finally, bodies, as Butler notes, "impl[y] […] agency." (Butler 2004, 26) Bodies are therefore not only understood in a biological or material sense. Therefore the language of the body within the discourse on targeted killing is to be understood as part of the social construction of those individual human beings targeted.

As Lauren Wilcox demonstrates, "[B]odies that are killed by drones are made killable by drones; that is, they exist as bodies to be killed only by virtue of their representation on the screens of the UAV assemblages." (Wilcox 2015, 156) The body theme is visible in all three strike types. While in direct strikes the body is given an identity of a specific individual human being, follow-up strikes directed against mourners at a funeral use the body of the already killed as 'bait' in order to attack and kill others. Regarding signature strikes, target selection is not based on the identity of a specific

individual human being but on the behaviour and appearance of some*body*. The individual human body whose biological life is constituted by this body is irrelevant for the killing. The body is simply a carrier of certain signature. Individual human beings are therefore targeted bodies, as Wilcox rightly notes (Wilcox 2015, 151). The following and third theme, dehumanization, adds to this notion of 'targeted bodies' an important aspect that enables us to understand the simultaneous individualization and dehumanization of warfare.

Theme III: Dehumanization

Prima facie it may sound attractive that humans do not have to fight wars against each other, when robots can do it, putting less human lives at risk. But as Roger Berkowitz argues, "[W]ar may be hell, but war is deeply human." (Berkowitz 2014, 166) There are two main reasons that speak against a dehumanized war. First, the growing use of robotic warfare and the lower risk for human soldiers as a result of this may lower the threshold of going to war (Sparrow 2012, 127). As Christian Enemark argues with reference to the risk of war that, "it is worth asking whether 'war' is going on at all" (Enemark 2014, 366). Second, Thomas Nagel has argued for the necessity of 'interpersonal' relationships in wartime (Nagel 1972, 136), claiming that "[H]ostility is a personal relation, and it must be suited to its target" (Nagel 1972, 133). As Sparrows outlines, Nagel, "argues that even during wartime it is essential that we acknowledge the personhood of those with whom we interact" (Sparrow 2012, 124).

Drones and the idea of targeted killing from a faraway location, however, challenge this necessity of 'interpersonal' relationships (Wagner 2014, 1410). Taken together with the technological and operational factors that such weapon systems create, Anderson and Waxman argue that the, "human role will be likely to slowly diminish" (Anderson/Waxman 2013, 2). I follow those who argue that drones have dehumanized war (Barrinha/da Vinha 2015, 25). Within legal discussion scholars have pointed out that IHL is becoming dehumanized (Wagner 2015). There are, however, others, like Bradley J. Strawser who argues against such a view, claiming "it's unclear how trying to better protect one's soldier, particularly those fighting for a just cause [...], can be intrinsically wrong to do." (Strawser 2013, 11) The point here, however, is not to argue that protecting one's soldier is wrong but that the means and methods chosen to do so are problematic, as outlined in detail in this article.

The long distance and the fact that individual human beings are viewed from above leads to further dehumanization (Finkelstein 2012b, 174; Sandvik/Lohne 2014, 155; Wagner 2014, 1410; Shah 2015, 209). A counter position of these arguments is raised by Michael J. Boyle (Boyle 2015, 106), who points to, "evidence that drone operators feel a surprising degree of intimacy with their targets because they monitor them for such long periods of time. Drone operators report relatively high rates of post-traumatic stress disorder (PTSD) in part because they are so acquainted with their target."

(106)

While I do not refute the claim of high rates of PTSD, the fact remains that drone victims become 'faceless' (Mayer 2009; Carvin 2012, 553) and are often not visible in the discourse. As Shah notes, "this invisibility is a symptom of the conceptualization of drone victims as 'inhuman' and therefore unworthy of coverage." (Shah 2015, 207) Often a drone victim's identity is either not revealed or not known. The way decisions to kill an individual human being are made leads to further dehumanization of individual human beings (Shah 2015, 196), who are positioned as targets within the discourse, as the analysis in section 3 revealed.

IHL, as the body of law referred to by the US Administration as regulating the targeted killing via drones (Brennan 2012; Obama 2013), aims at 'humanizing' war, but this does, "presuppose that war's protagonist – soldiers, military officers, civilian superiors and insurgents – are human." (Saxon 2013, 2) Drone strikes and the way they are conducted may also have the effect that those who participate forget that real human beings are part of these strikes, both as attacker and victim (Williams 2011, 24). This development towards a dehumanized war is, however, not entirely new, as Stephanie Carvin and Michael J. Williams explain. In their view, "[T]he story of the Western way of warfare is the continued dehumanization of war." (Carvin/Williams 2015, 208) Here again the question arises whether this is specific to drones. **[6]** As the quote by Carvin and Williams demonstrates, dehumanized war is not necessarily restricted to the use of drones. Yet, the technological possibilities that drones provide are unprecedented in military history and is therefore of great significance (Carpenter 2014, 21).

But dehumanization does not only appear in the more abstract discourse, it is also visible within specific strikes. Williams describes an image after a strike, "[A]s the smoke cleared, the CIA drone operators would have doubtless seen many 'squirters' (i.e. survivors fleeing the explosions) as well as numerous dead and dying people lying scattered around the detonation zone (known as 'bugsplats' in CIA parlance)." (Williams 2013, 6) Note that the terms 'squirters' and 'bugsplats' do not relate to individual human beings. **[7]** Others have argued that bugsplat is actually a technical term, describing the shape of an exploding bomb (Pincus 2014). As McNeal explains, "bombs do not explode in a perfect circle but are flattened on one side, similar to the shape of a bug that hits a windshield. A 'bug splat' refers to the shape of the planning tool used as an overlay to predict a collateral effect radius" (McNeal 2012, 337). Contrary to this technical use, a Pakistani artist has employed the term in a project labelled #NotABugSplat (Shah 2015, 203). As a CNN article explains, "[A]ccording to one artist, who identified himself as R, the project is a reaction to the dehumanizing nature of drone warfare" (Saifi 2014). This obvious tension between the two uses of the term is revealing about the contested nature of the discourse on the dehumanization of drone strikes and targeted killing. **[8]**

[6] Again I am thankful to the anonymous reviewer for asking me to clarify this.

[7] 'Squirter' seems to derive from the verb 'to squirt', which is to 'eject or spirt out water' according to the Oxford English Dictionary. 'Bugsplats' makes an obvious reference to bugs, with splats meaning 'to land with a sharp smacking sound, or with a sound as of slapping and splashing' (Oxford English Dictionary). Both terms thus clearly refer not to actions usually ascribed to individual human beings.

[8] I owe the insight that contradictions within a discourse are telling of underlying contestations rather than a sign of a faulty analysis to Lauren Wilcox.

5. Conclusion

Following on from the analysis in section 3 and taking into account the three themes identified in the discourse we can now conclude that the individual human being is positioned in the discourse on targeted killing via drones as a targeted dehumanized body. Drone strikes, in whatever form they occur, and whether they can be legitimized via existing international law or whether new legal rules develop, socially construct the individual human being as a targeted dehumanized body in international relations. As Lauren Wilcox notes, "there are no civilians in precision war, there are only individuals who, by a variety of processes, have been targeted for death rained by above." (Wilcox 2015, 160) With reference to Judith Butler's work we can raise the question of who counts as human and who does not count as human (Butler 2004, 20).

By engaging with Butler's question, we are able to reconstruct an element of rehumanization, albeit ex post. This takes place when a drone target becomes a drone victim, a process that requires the, "*drone target* [...] to go through a series of recategorizations in order to become a fully grievable drone *victim*." (Shah 2015, 201, emphasis in original) As Shah explains, "[I]n order to become a 'full human' whose death is fully grieved, a drone victim located in FATA [Federal Administered Tribal Areas] has to overcome a twofold obstacle. First, the victim has to achieve the status of a 'legal person' under the Constitution, and second, the victim has to achieve 'grievable' status, in order to be treated as a human whose death can cause moral outrage." (Shah 2015, 202f.) Becoming a *victim* is a process of social construction (Shah 2015, 199). There are some attempts by Non-Governmental Organizations and to go to court over civilians killed in targeted killing operations via drones (Craig 2014; Brühl 2015). The attempts to legally recognize victims of drone strikes then constitute an attempt of (self-)representation (Butler 2004, 141). It can also be understood as a form of political resistance both on an individual level and a collective level against the practice of targeted killing via drones. **[9]**

Drone strikes dehumanize warfare and individual human beings alike. Individual human beings become dehumanized. This takes place both on the individual level and on a more collective level when groups of individuals are attacked based on certain signatures. That drone operators develop close feelings for their targets is part of the individualized and personalized war pointed out at the beginning of this article. This, however, is not a counterargument to the discursive dehumanization of the *targeted individual human beings* of drone warfare. In processes of constructing humans we also produce the inhuman (Butler 1993, 8; Fierke 2013, 85). The selection of individual human beings as 'targets' and the focus on 'signatures', the fact that at times it is only known that 'somebody' was killed, but the identity of that individual human being remains unknown is all part of the dehumanization through the practice of targeted killing via drones.

Once constructed as a target for a drone strike, individual human

[9] I owe this insight to Anna Leander.

beings no longer enjoy the same protection of international humanitarian law. Some general principles concerning superfluous injury and attacks using ABC weapons remain in place, of course. **[10]** Targeted killing of individual human beings via drones also places the individual outside of the law (Crosston 2014, 6). Certain individuals are 'acceptable' targets within this discourse (Allinson 2015, 120), and while this is not necessarily the case within the drone discourse alone, but takes places within manifold discourses on war (Allinson 2015, 117), but usually here it is combatants who are turned into 'enemies' and not individual human beings who are turned into targets.

Targeted killing via drone strikes is here to stay. How it is currently conducted, however, raises political, legal, and ethical issues, but law and morality alone do not suffice to understand drone strikes. As the study Living under the Drones showed, "US drone strike policies cause considerable and under-accounted-for harm to the daily lives of ordinary civilians, beyond death and physical injury." (International Human Rights and Conflict Resolution Clinic at Stanford Law School/Global Justice Clinic at NYU School of Law 2012) As Brunstetter and Jimenez-Barcardi note, "[T]o further complicate matters, while one can count civilian causalities and the numbers of buildings or weapons destroyed, the psychological impact of living under drones does not neatly fit into the standard legal definitions or normative ideals." (Brunstetter/Jimenez-Barcadi 2015, 190) They also speak of a, "trauma that comes from the constant threat of a strike 'out of the blue' made possible by drones' constant presence in the skies." (Brunstetter/Jimenez-Barcadi 2015, 191) Focusing on these effects also allows one to study the disruptions to everyday civil life the drone strikes have caused (Boyle 2015, 116; Crawford 2015, 43).

This article has focused on warfare that is increasingly individualized war and seemingly more and more dehumanized at the same time. Making the argument that the individual human being in the discourse on targeted killing via drones is socially constructed as a targeted dehumanized body allows understanding the simultaneous individualization and dehumanization of drone warfare. At the same time this simultaneous individualization and dehumanization is made analytically accessible by providing an illustration of a fruitful method capable of assessing the discourse on targeted killing via drones.

[10] A fact that the anonymous reviewer rightly pointed out.

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