

Grounding Drones' Ethical Use Reasoning

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Abstract

In this paper we look into some of the arguments put forward in favor of building lethal autonomous weapons systems (LAWS), which would be superior to human ethical judgment, by design. Starting with the circumstances where most of the LAWS programs originated, we question the very premises of the current discourse and in particular Arkin's work (e.g. what is the evidence for the eventual moral superiority of machines? does it help that the discussion of ethics is framed in a context of classical interstate war conflict?) of the approach. We sketch an alternative view, which would reframe the whole roboethics discourse in terms of conflict resolution and prevention as well as policy making.

Contextualizing drone use: counter terrorism rather than interstate conflict

What is considered an ineluctable move toward the development and use of autonomous weapons systems has been one of the outcomes of the counterterrorism and counterinsurgency operations in Iraq and Afghanistan. The asymmetrical battlefields of these theaters, where no frontline provides a buffer between combatants and civilians and urban warfare against non state actors is *the rule* rather than the exception. This has exposed soldiers to invisible threats such as IEDs, ambushes, and snipers, increasing the risk of physical harm and battle stress outside of the wire.

These types of threats, along with the desire to conduct counterterrorism operations in states where the American military is not on the ground, has increased public support and political will to minimize the risks taken on by military personnel. Drones or UAVs have allowed for the possibility of expanded intelligence operations and lethal strikes by the Air Force and CIA in Pakistan, Afghanistan, Yemen, Somalia and other states; this form of combat paradoxically eliminates the physical risks for drone operators all

while expanding their reach and virtual presence. This form of subjectivity, enhanced by the drone program, is symptomatic of the global War on Terror (Steele and Heinze, 2014:108) in which risk-transfer is the rule, one which lethal autonomous weapons systems would confirm further.

The increased distancing of a human subjectivity and the movement toward more automated or even robotic forms of subjectivity could have unforeseen yet imaginable consequences. This paper will try to understand some of the ethical difficulties of applying lethal autonomous weapons systems, designated by the seemingly legitimating and clever acronym LAWS, in light of the questionable ethics and effectiveness of drone technology. Since drone technology has expanded organically with developments in counterterrorism operations, it is difficult to make abstraction of the context of its application; as LAWS are seen as the descendants of this program, they must also be considered within the moral sphere of these conflicts. This paper will discuss the moral and ethical questions that arise in the use of lethally autonomous technology for military purposes and how the forms of subjectivity and moral agency that it creates could be highly counterproductive to mission effectiveness, diplomacy and conflict resolution and prevention.

Drone operators suffer less?

If drones are the questionable instruments of the expanding reach of military operations, equally revealing of the tenuous ethical consequences of the War on Terror are the rates at which American soldiers and veterans are suffering from PTSD; while it was initially assumed that drone operators would be spared these stresses because of their distance from the battlefield and protection from physical harm, studies have shown the contrary. Suffering from lesser¹ or

¹ See Chappelle, McDonald, Prince, Goodman, Ray-Sannerud and Thompson. "Symptoms of Psychological Distress and Post-Traumatic Stress Disorder in United States Air Force 'Drone' Operators." *Military Medicine*, 179, 8:63, 2014.

equal² rates of PTSD as other soldiers, moral injury, defined as “perpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations” (Litz et al., 2009), has been associated in particular with the combat stress of drone operators, or as Steele and Heinze state more succinctly a “deep psychological uneasiness about killing” (Steele and Heinz, 2014:103). As these operators implement and observe the targeted, precision strikes intended to spare them and their fellow soldiers and limit civilian casualties all while pursuing suspected terrorists, their moral distress should serve as the canary in the coalmine regarding the ethical implications of increasingly automatized forms of warfare.

The asymmetry of the space of conflict has been exacerbated by the use of drones, as has the asymmetry of force. Combatants are separated by oceans; drone operators pilot their aircraft from bases in the United States while they engage in conflict in spaces from South Asia, across the Middle East to Africa. Bradley Jay Strawser (2010) has called the use of UAVs a moral obligation in that it protects agents engaged in justified acts from harm upholding the principle of unnecessary risk whereby, as long as the military action undertaken is justified by just war theory, then there is an ethical duty to minimize the risk of harm to that agent. Jai C. Galliot (2012) has responded to Strawser by referring to a problematic asymmetry brought about by technological imbalance, which could violate last resort and proportionality aspects of the *jus ad bellum* convention of just war. Where *jus ad bellum* defines war as always a last resort, Galliot sees how a significant technological imbalance could provide more alternatives to war for the state that benefits from this imbalance, namely, they would have more deterrent alternatives. Regarding proportionality, Galliot considers that “where the technological imbalance is extreme, it seems that the harm that the technologically superior state hopes to thwart will in many cases be so insignificant that it would present problems for the proportionality calculus” (2012:63). As an alternative, he encourages “the stronger state to meet higher standards of epistemic certainty when waging war” and, in following Paul Kahn, for any application of military force to be restrained and more resemble international policing all while asking what the involvement of UAVs in this policing would entail (2012:64).

The possibility of morally superior LAWS

In concert with Strawser, Ronald C. Arkin (2010) has understood autonomous weapons as being the next step in an unmanned or uninhabited weapons systems; making the case for the ethical autonomy of unmanned systems and positing that technology could be instilled with a more rigorous, unerring form of morality than humanity itself is capable of. A machine in a given context, would not be able to disobey its programming, or be susceptible to emotions leading to compromising ethical decisions, therefore exhibiting a more robust form of morality than that of its creators who can choose to disregard their principles. This type of technology, endowed with ethical programming, is not yet a reality and the question of whether and where a human form of subjectivity might reside in this loop remains to be seen. Ryan Tonken (2012), in response to Arkin, posits that the creation of autonomous robotic weapons is not inevitable, nor will it necessarily make war more ethical, rather there are other means by which to address the unethical nature of war. He also suggests that while machines could perform to a certain level of morality determined by their programming, they could never exceed expectations as humans have the capacity to do. Guarani and Bello have identified the technical difficulties of programming LAWS that can take into account emotions and mental state attribution is vital to distinguishing civilians from combatants. Robert Sparrow (2013) has responded to Arkin by demonstrating that the absolutist moral reasoning behind Just War theory is in contradiction with the consequentialist moral reasoning of which robotic systems could be capable.

We would like to base our arguments on situational elements, inquiring into how soldiers might respond to these forms of robotic moral subjectivity and imagining scenarios for their interactions. Peter W. Singer has provided a few illustrations of the way in which soldiers have used automated systems in the field³; we would like to imagine how the types of systems defined by Arkin could be received by the humans that are meant to work alongside them.

Our response to Arkin’s premise that an “unmanned system can perform more ethically than human soldiers are capable of” (Arkin 2010: 334) begins with an inquiry into the study regarding battlefield ethics and soldierly performance in Iraq and Afghanistan on which he finds this observation. The data that he provides are drawn from counterinsurgency operations, a type of theater in which he has stated that autonomous weapons systems *would not be deployed*. The IV Operation Iraqi Freedom 05-07, Final

² See similar rates of PTSD for RPA pilots and Manned Aircraft pilots in Otto and Webber. “Mental Health Diagnoses and Counseling Among Pilots of Remotely Piloted Aircraft in the United States Air Force.” *MSMR*. 20:3, March 2013.

³ See Peter W. Singer. *Wired for War: The Robotics Revolution and Conflict in the 21st Century*. New York: Penguin Books, 2009.

Report issued by the Surgeon General's Mental Health Advisory Team (2006) was conducted with troops that were involved primarily in operations in Iraq and Afghanistan. Arkin states that the "emotions that cloud judgment" (Arkin 2010:333) such as fear, hysteria, anger and frustration, and lead to unethical actions, are elicited most in operations in which LAWS may not be deployed, bringing into question his reasoning. Paolo Tripodi in his discussion of this very same study discusses the importance of learning how to control anger and rage and the importance of the response of leadership in deescalating tensions within a unit and helping soldiers to see that they are not invulnerable to the stresses of situational forces that could lead to the committing of atrocities (Tripodi, 2013:212-13). Tripodi's suggestion, that military leadership has the responsibility of calling the potential for human moral fallibility to soldiers' minds as a means from preventing ethical failings, is quite different from Arkin's desire to remove the human from the loop, or at the very least, distance it from some lethal decision-making. By focusing on negative emotions that lead to the escalation of violence, Arkin neglects the emotions such as empathy and compassion that create relationality and lead to ethical choices in decision-making such as mercy, sameness and considerations of shared humanity and equality. Removing humans' choice of response is akin to reifying their inability to choose ethical courses of action.

What could possibly go wrong?

Arkin's reasoning may in essence contribute to soldierly forms of anthropophobia⁴ founded on negative considerations of human vulnerability; assuming that humans are physically more vulnerable than machines, Arkin goes a step further in proposing to design autonomous systems that would coalesce their moral fallibility. The fact that he contextualizes this thinking with the "moral imperative to use technology" only *serves to reinforce the undesirability of humanness in war*; by qualifying the emergence of this technology as inevitable it becomes a form of scenario fulfillment that he critiques as being a psychological state conducive to overreaction. Whether or not it is a judicious course of action to disempower soldiers is *itself* an ethical question. How future soldiers could find themselves either subordinated to the machine, cooperating with the machine or in competition with the machine are entirely imaginable

⁴ See Packer and Reeves' critique of anthropophobia and escalation in the drone program in which they assert that "...strategical technical developments are answers to the human problem, as humans are recognized to have emotional and physical vulnerabilities to which machines are not susceptible" (311) "Romancing the Drone: Military Desire and Anthropophobia from SAGE to Swarm" *Canadian Journal of Communication*. 38.3, 2013.

scenarios that are worth entertaining. As for the moment, the ethical governor and ethical behavioral control that Arkin imagines do not yet exist, it is only fair to imagine how scenarios of subordination, cooperation and competition might function in the context which has been the impetus for their invention, the War on Terror.

Arkin proposes that autonomous systems with ethical governors that will operate alongside human beings and could monitor and report violations of the Rules of Engagement, Laws of War or human rights, as according to the MHAT study few soldiers were willing to report such phenomena if observed in the theater of operations. How soldiers might respond to this surveillance and policing remains to be seen, but it could be imagined that a soldier might attempt to trick, disable or reprogram a machine, or be resentful of the persistent stare of an entity considered to be equally or more ethical than oneself. If the reactions of American police forces regarding the suggested requirement for policemen to be equipped with portable cameras filming their actions is any indication, the effectiveness of these types of measures is tenuous at best. Since this form of technology has been used previously to observe perceived enemies, a soldier might also imagine the machine to be a threat to members of its own unit. Group cohesion could suffer as the machine could monitor but not detain the necessary human moral subjectivity to lead by example, a desirable ethical control as Tripodi mentions. The question about whether or not a group could federate around an autonomous system remains to be seen. Within groups of soldiers, the presence of such technology could subordinate the group to the machine, eventually decreasing both autonomy and initiatives where moral ambiguity arises leading to a form of risk aversion or eroding morale. The ways in which these forms of technology would serve as monitors, the ability to capture context and communicate from the field in a way that would provide sufficient situational awareness for authorities are questionable, particularly given the instances of miscommunications and misperception of the mediated communications in UAV programs currently in place. This type of subordination could also result in the delegation of moral authority to the machine and disengagement from responsibility for the soldiers deployed alongside it or deploying the technology. Below are two examples of potential issues:

the notion of "chain of command" is crucial for the functioning of any army. Higher rank officers pass their order to lower rank ones until the order reaches the person who is intended to take the specific action. Thus, (at least in theory) it is easy to trace the responsibility and liability if need be. Problems arise when there is an interruption or a break in the chain of command and a soldier (or a group of soldiers) find themselves acting on their own in which case higher ranking levels cannot be accountable. The very advantages for which LAWS are being used: speed, adaptiv-

ity, autonomy, ability to make real time decisions based on analysis of huge amounts of data (way beyond the human capacity) etc. make them by definition uncontrollable and morally hazardous. Andreas Matthias (2004) has defined this as the “responsibility gap”.

Humans (or better human minds) are opportunistic (e.g. Andy Clark’s Natural Born Cyborgs). We rely heavily on external props when solving problems or in routine cognitive operations. Let’s look at a fictional scenario where we have a hybrid platoon incorporating LAWS among human soldiers. If the LAWS suggested (or have undertaken) effective course of actions or made decisions in the past, it is a human tendency to leave more and more responsibility to these artificial agents even in cases when humans can and would make better decisions. This is a case of overreliance and technological overdependence. These various forms of subordination to the machine could actually remove the number of decision makers in the field and lower the ethical thresholds of soldiers themselves as they both doubt their own moral capacity and delegate such responsibilities to the machine. Resentment or submission are not necessarily advantageous attitudes to instill in soldiers; dependence would seem to be a natural result of integration and cooperation with LAWS.

Naturally, the impetus behind the creation of LAWS systems is imagined cooperation with and acceptance of these tools on the battlefield, but one could also imagine a series of affective relationships coming into being. Potential bonds might and probably will be established among human soldiers and LAWS. Although the LAWS would in theory be programmed to give lower priority to their own perseverance, the soldiers themselves may be inclined to take morally questionable actions in order to protect the LAWS. If such systems take on the status of comrade or are seen as so strategically important or materially valuable that they could take priority over fellow soldiers. Various scenarios could be imagined in which overreaction would result from the desire to protect the machine. Knowledge of possession of the machine by opposing parties could also draw more fire against human/robotic units. They might attempt to destroy the strategic advantage that LAWS provide or eliminate one cause of their own dehumanization. As Arkin imagines the deployment of these systems in classical scenarios of interstate warfare, the moral subjectivities created in *jus in bello* conduct become vital to the outcome of the conflict. Escalation rather than deescalation could be one undesirable consequence of this technology.

Beyond cooperation, one could also imagine scenarios in which soldiers could be tempted to outperform the machine. While outperforming the machine in terms of ethical courses of action could be a desirable outcome, soldiers might also be tempted to increase their own lethality. This too could lead to the escalation of conflict and deployment

of technology and force because it is available and not because it is necessary. As with the example of nuclear weapons, proliferation becomes a danger to diplomacy and stability; a LAWS arms race is entirely imaginable and solutions such as moratoriums or bans which have proven effective in the past would need to be considered.

The anthropophobia represented by LAWS and the types of robotic subjectivity that they would promote in the political arena are not conducive to the very human processes of diplomacy and conflict resolution and prevention. Arkin might assume both the inevitability of war and the inevitability of the appearance of these forms of technology, and while the validity of this stance remains to be seen, it certainly does not participate in steps to prevent these scenarios. LAWS are not a “first, do not harm strategy” and the thinking that governs their development might not be in accordance with the last resort understanding of the use of force. As for the drone program, the lack of transparency surrounding the development of LAWS places them on morally tenuous ground; Milena Sterio argues that the secrecy surrounding the CIA’s drone program renders it impossible to determine whether it complies with principles of domestic and international law (131). A similar future for LAWS could be imagined, particularly since the current state of the development of these weapons is equally unknown, making it difficult to have a discussion regarding their ethical implications that is based on fact rather than conjecture. The effectiveness of the drone program has also recently come under scrutiny; the United States currently finds itself scaling back the program citing pilot stress and burnout (Drew and Philipps 2015). However, a recent study published by Shima Keene for the Strategic Studies Institute at the U.S. Army War College questions the legality and ethical aspects of the program, but most importantly its effectiveness. She states that while lethal drone strikes might disrupt the enemy in the short term, the middle and long term effectiveness of the program is uncertain, particularly because of the lack of transparency and the covert nature of some operations (28). Perhaps before embarking on ambitious and costly LAWS programs, it would be judicious to have a firmer understanding of their close cousins, the drones? The creations of such systems could make perpetual involvement in conflict a self-fulfilling prophecy when current geopolitical contexts make apparent other vital demands such as humanitarian intervention, disaster relief, peacekeeping and conflict resolution and prevention. Drones and autonomous systems could be better used in intelligence gathering that would lead to better and more ethical decision making or for applications that would be better adapted to helping rather than harming. These capacities are already in part determining foreign policy decisions and influencing constituencies in their composition of political institutions,

transparency is thus an absolute necessity as regards new forms of military technology.

Concluding remarks

We opened the paper by pointing out the circumstances in which most of the current US unmanned programs occurred: counterterrorism and counter-insurgencies. Yet, most of the ongoing discussions about the ethical and moral issues related to the development and deployment of LAWS seem to be concerned with the context of classical inter state wars. Further, we discussed the implications of the arguments for building and using LAWS (in particular those advocated by Arkin) which would be morally superior to humans and put forward a few hypothetical (yet imaginable) scenarios to illustrate the issues related to subordination, cooperation, and competition which may arise in such hybrid troops. We hope that this paper will contribute towards reframing the discourse of ethical and moral issues in terms of conflict resolution and prevention.

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