

Technology, Ethical Responsibility, and Blameworthiness in Just War Theory: The Case of Drones

Joseph David Picek

March 13, 2014

Abstract

This paper addresses *jus in bello* challenges posed by technological advances by incorporating blameworthiness into Just War Theory. By involving more individuals with increasingly mundane contributions to the use of force, remotely operated weapons - especially those with automated routines - threaten to undermine the ability of individuals to adhere to the principles of *jus in bello*. Recent work has suggested jettisoning the framework of Just War Theory as either impractically stringent or unpalatably permissive as a framework for permissibility of action. I suggest instead incorporating the concept of blameworthiness into the Just War Tradition. Using the illustrative case of unmanned combat aerial vehicles (UCAVs), I argue that the incorporation of more parties does not change the permissibility of any given use of force, but rather has important consequences on the blameworthiness of individual actors and therefore expectations about adherence to Just War Principles.

Tags: Just War, technology, drones, ethics

1 Introduction

The changing technologies of war, both material and organizational, have important effects on the laws of war. The laws of war are based on a system of ethical responsibility that attempts to bridge two worlds. On the one hand, war is an inherently ends-based endeavor by which the praise and blame of actions on the battlefield are determined by their ability to contribute to the successful conclusion of a war. On the other hand, the Kantian ethical tradition from which modern just war theory arises considers human beings as ends in

themselves rather than as the means by which a larger action is justified (Fiala, 2010). The result is a system of "spheres of justice" where different moral frameworks apply depending on the situational context (Walzer, 2008, 1983). This view of war and justice originated with Hugo Grotius who, in carving out a space for morals amid condoned killing, set war as a unique experience requiring a non-conventional view of what is morally acceptable and what is not (Grotius, 2005). Since setting war as entirely unjust risked losing any moral persuasion over policy-makers, the just war tradition opted instead to specify the permissible and impermissible courses of action in war. However, changing technologies have altered actors' relationships to the use of force. Consequently, the divisions of the just war tradition are losing relevance. A new theory that accounts for both permissibility and blame of individual and collective actors is necessary to ensure the just war tradition's continued relevance.

In this paper, I look at ethical responsibility for respecting the principle of civilian immunity, specifically through the effects of drones as an example of how technological developments change actors' relationships to actions. In the next section, I outline the contemporary debate in just war theory. Current criticisms focus on the challenge of intention in determining permissibility of action. Next, I lay out a framework for incorporating blameworthiness into the just war framework. While intention may have dubious impact on action permissibility, it has important effects for blaming or praising agents. I then apply this framework to the case of armed drones. For a responsible agent to make a moral decision is necessary for them to have both knowledge of the action and control the action. Therefore, unmanned Combat Ariel Vehicles (UCAVs) provide a useful isolation of knowledge from control. UCAV pilots do indeed possess control over the use of force in the field, however their access to knowledge is determined by the structure of the chain of command as well as the inputs of various sensors and communications from troops in the field. Drones require human action to fire their weapons, but the knowledge available to the operator is far removed from the bat-

tlefield. Information gained through ground-level intelligence is distilled through the chain of command and between isolated military units, and the information relayed by a drone's sensors is limited by both technology and human comprehension. I argue that the result is increased moral responsibility on the part of intelligence units in the field and officers ordering the deployment of UCAVs. Due to the added *just ad bellum* or *jus ad vim* considerations necessary to consider the use of drones outside of a war zone, I only consider the case of drones in a war zone form by armed service personnel. This allows me to limit the inquiry to *jus in bello* principles, which primarily concern individual ethical duties. However, the effects of technological developments are not limited to the conduct of war. New technologies may change the approach to the use of international force if it greatly reduces the costs of imposing harm (Brunstetter and Braun, 2013). Additionally, the changing applicability of *jus in bello* principles may have an effect on *jus ad bellum* principles, since entering a just war presumes at least the intent of fighting well.

2 Contemporary debates in just war theory

In order to attempt to bridge the divide between public action and individual responsibility, the laws of war attempt to impose duties on states in their decision to go to war - *jus ad bellum* - and on combatants in the conduct of war - *jus in bello*. Assigning ethical responsibility to the corporate state entity is problematic in determining *jus ad bellum*, and responsibility largely falls on the shoulders of statesman when the international community determines a state violated its principles (Walzer, 2008; Rawls, 1999; McMahan, 2012). However, responsibility for the principles of *jus in bello* falls on the shoulders of generals, commanders, or individual combatants as well as the state or statesmen.

Though collective responsibility is a very difficult concept to apply, the concept is under investigation in philosophy as well as in practical applications. We have observed attempts at

collective responsibility in cases of crimes against humanity. While individual responsibility comprises many of the most visible actions in human rights cases, collective responsibility through education and communal guilt attempts to hold the collective responsible for human rights abuses. However, even these attempts at collective responsibility reduce to individual responsibility, though not for the human rights violations. Education and assignment of blame through national guilt campaigns aim at preventing future atrocities through a recognition of the previous failure to act morally. However, the result of this recognition is a new generation in which individuals recognize immoral actions and refuse to obey orders that violate the principles of the just conduct of war. Copp (2007) argues that collective units, such as corporations, militaries, and states, can be assigned collective ethical responsibility in cases of moral decision-making. Erskine (2001) argues that both states and quasi-states can be held collectively responsible for their actions. In any well-developed state, corporate structures exist to assign the state and its bureaucratic organs collective responsibility for their actions. One potential critique of collective responsibility is that it improperly removes moral responsibility from individuals and effectively leaves no one accountable (Miller, 2007). In this account of moral responsibility, individuals exist throughout the collective activity which may exercise its moral responsibility with sufficient power to affect the outcome. In a collective action, all individuals who contribute to the outcome are morally responsible, provided normal caveats regarding exculpating factors (coercion, knowledge, etc.). While collective responsibility offers a promising research area, particularly relating to *jus ad bellum* and *jus post bellum*, the moral responsibility under investigation here relates primarily to the concept of individual responsibility. The defined hierarchy of the military, in particular those militaries with the capacity to use drones, places responsibility in the hands of specific individuals. Where responsibility is diminished at lower ranks through compartmentalization of action, it is concentrated in higher ranks who exercise authority in choosing to deploy the weapon systems.

War is a public action that uses individuals as means to an end. However, the just war framework places the value of the individual as an end in himself as a cornerstone of moral evaluation. This tension between consequentialist public ethics and deontological individual ethics is exacerbated as the state and military become increasingly compartmentalized. Assigning moral responsibility for individual actions becomes problematic as even individual actions are divided among multiple actors. This leads to an inability for individual actors to maintain control over any given action. Therefore, individual actors can do little more than adhere to their duties as defined by their position in the state and available knowledge on the outcome of their actions. This could potentially lead to a problem of "many hands" where no one actor bears responsibility for an action and so no attempt is made to ensure adherence to moral principles (Thompson, 1980).

The recent development of unmanned combat aerial vehicles (UCAVs) has attracted a great deal of ethical and political attention. Proponents of UCAVs stress their unique ability to achieve military aims without putting soldiers in harm's way (Strawser, 2010). Additionally, removing pilots from harm's way has the potential added benefit of time to carefully consider and evaluate a situation without combat fears and anxiety, and recording technologies allow legal institutions to review the mission and enforce adherence to the laws of war (Beard, 2009). Meanwhile, critics argue that removing pilots from the battlefield creates a "separation factor" where moral decisions are made without the same considerations that must be made when in harm's way. In effect, making moral decisions from the safety of a remote operating station causes one to give greater weight to the protection of comrades in harm's way than civilians with whom one has no contact (Brunstetter and Braun, 2011, p. 349). However, neither addresses the general moral problem of technology in warfare: the potential division and distribution of moral labor among distinct individuals and units.

3 A Framework for Blameworthiness in Just War Theory

As Michael Walzer argues, "There can be no justice in war if there are not, ultimately, responsible men and women" (Walzer, 2008, p. 288). Identifying the principles according to which actions are permissible or impermissible is only the first step in creating a context for the just conduct of war. Once those principles are established, it is then necessary to identify who is responsible for following them. All too often this responsibility is determined *ex post* through the court of public opinion, and occasionally through international tribunals. However, determining persons responsible for adhering to the laws of war *ex ante* makes it both more likely they will obey the laws of war and more acceptable in prosecuting individuals who violate them.

Just war principles focus on the permissibility of a given course of action. Killing civilians is generally impermissible, but killing enemy soldiers is generally permissible. However, permissibility of actions is insufficient to employ just war principles on the battlefield. For *jus in bello* principles to affect behavior, individuals and groups must bear ethical responsibility for adhering to the principles. A person who bears responsibility for acting may be subject to blame if the action was impermissible. While permissibility rests on the conditions pertaining to the action, blame rests on the actor's conditions with the action. This distinction between permissibility and blame is crucial for understanding the effects of technology. As articulated clearly in the Marten's Clause of the Second Geneva Convention, "Until a more complete code of the laws of war is issued, the High Contracting Parties think it right to declare that in cases not included in the Regulations adopted by them, populations and belligerents remain under the protection and empire of the principles of international law, as they result from the usages established between civilized nations, from the laws of humanity and the requirements of the public conscience" (*Convention (II) with Respect to the Laws*

and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land. The Hague, 29 July 1899., 1899, Preamble). Since it is impossible to create a set of laws covering every possible contingency, it is necessary to continue to refer back to the ethical principles to evaluate new and changing circumstances of war. However, the Geneva Conventions and established international law only relate to the permissibility of an action. As articulated in the Marten's Clause, an impermissible use of force cannot become permissible by new technology. Rather, these new developments not covered by established law remain impermissible if they violate the principles of humanity and public conscience. However, it is possible that this technology changes the blameworthiness of involved actors due to the change in relationships between actors and action.

3.1 Permissibility and Blame

Ethical responsibility requires knowledge and agency. Knowledge of the effects of military actions diminishes as actors are further removed from their actions. This distancing has been a steady progression throughout history as weapons increased in range, but the distance became much greater with the advent of strategic bombing where the bomber crew never directly saw the effects of their mission and likely never contacted anyone who did.¹ Agency in the firing of a weapon requires that the actor consciously commit an action that results in the delivery of harm to another. The increasing demands on soldiers for speed in the conduct of war has led to the introduction of computer systems to assist in the decision to fire the weapon, in some cases even removing the decision from human hands completely.²

Permissibility covers the moral status of the action. Blame covers the moral status of the actor (Scanlon, 2008, p. 126). The laws of war deal extensively with the permissibility

¹This distancing became greater still with the advent of "over the horizon" weapons systems like long-range missiles. While a bomber crew could see the explosions of their munitions on a city, the crew of a missile submarine or cruise-missile destroyer never see the impact of their weapons.

²There are several fully automatic weapons systems, including the Phalanx anti-missile defense system originally developed for the US Navy and South Korea's Super aEgis II.

of certain weapons and tactics, but it deals less directly with the problem of blame. In fact, much of the current debate around just war theory reflects an attempt to unpack permissibility and blame from the accepted principles of what is morally acceptable in war (McMahan, 2012, 2009*a*; Kamm, 2004, 2011) While certain actions are impermissible, some occasions arise in which actors have more or less blame for committing an impermissible action. For example, while it is impermissible to kill civilians, soldiers are not generally blamed if civilians die as unintentioned casualties during an otherwise permissible action.

Therefore, we must identify what makes an impermissible action blameworthy. I accept Scanlon's claim about blameworthiness: "Briefly put, my proposal is this: to claim that person is *blameworthy* for an action is to claim that the action shows something about the agent's attitudes towards others that impairs the relations that others can have with him or her. To *blame* a person is to judge him or her to be blameworthy and to take your relationship with him or her to be modified in a way that this judgment of impaired relations holds to be appropriate." (Scanlon, 2008, 128) In other words, while an action may be unjust, the action may not imply an unjust person. While actions taken in war may readily fall into categories of permissible and impermissible, it is equally important to identify those actors deserving praise or blame for those actions. I propose that the apprehension and moral aversion to new technologies lies not in whether or not they challenge concepts of permissibility, but rather that such technologies redistribute responsibility to actors too distant to be held blameworthy if such actions are impermissible.³

When considering blameworthiness for an action that violates principles of permissibility, one looks to intervening conditions that may excuse the actor from a charge that her actions "impair the relations that others can have." Conventional exculpatory factors include com-

³It should also be noted that there are similar challenges to the concept of praiseworthiness for actions taken by remote operators. When the Air Force proposed a new commendation for drone pilots, soldiers responded vehemently that such an award is unjust for an individual so remote from the battlefield. However, for purposes of this paper "blame" shall include both blame and praise depending on the conditions of the situation.

pulsion and ignorance. Compulsion excuses the actor from blame because it removes the element of agency from the actor. An action committed under compulsion implies no choice, and thus the blame lies with the actor who decides to use compulsion to exact an action. Similarly, anyone lacking knowledge of the conditions of the action – provided such knowledge was not reasonably attainable – cannot bear blame for the action. Individuals with such knowledge are morally responsible for conveying that information, potentially bearing blame if the final action is impermissible.

3.2 Control

For an actor to bear blame for an action, the actor must have control over the action. This does not mean the actor has control over outcomes. Many factors can change the outcome of an action in ways that an actor cannot control. One obvious example is an order given by a commander. The commander exercises control over the issuing of the order. However, intervening actors have an effect on the order's implementation. Consequently, the commander's sphere of control is limited to the extent intervening actors can make their own moral choices when acting in order. In addition to other factors, environmental factors can affect someone's level of control. The realm of strategic interaction also means that one's partner in the interaction has the ability to mitigate or exacerbate the effects of the action. Control over an action can be determined by the proximity of the actor to the action. Autonomous agents between a commander and soldier may carry out the orders in a manner unintended by the commander. If the commander could not foresee the actions the subordinates might take contrary to the orders' intentions, the commander may not bear full blame for an impermissible outcome. Of course, deliberate obstruction of information nullifies the excuse (Walzer, 2008; Thompson, 1980).

Blameworthiness requires that an outcome is under the control of an agent. To the degree that control is undermined, the blameworthiness of the agent becomes weaker. Therefore,

assigning blame for the conduct of war requires defining which position in the chain of command possesses sufficient control to bear the burden of responsibility. If control is sufficiently distributed, actors might face a problem of "many hands," where the action of any individual is insufficient to affect the collective act (Thompson, 1980). In such a situation, while each individual actor may have a responsibility to act according to the laws of war, the inability to hold any blameworthy for the final outcome undermines the ability of the laws of war to constrain the use of force to legitimate targets.

3.3 Knowledge

Individual knowledge of circumstances is a prerequisite for the individual's moral agency. This does not relate to the moral status of an action as permissible or impermissible, but it does affect the blameworthiness of the act (Scanlon, 2008). First, agents must know that they are in a position of decision-making over an action. If one does not believe that her actions can affect an outcome, it would be impossible for her to make a moral decision. Second, an agent must know the possible consequences of an action. If a person does not know what may happen as a result of the action, it would be impossible for them to consider whether it is right to act or withhold action. Finally, an agent must have knowledge of any morally relevant information regarding the action. Such information includes but is not limited to the individuals and groups who will be affected by the act.

The case of ignorance provides a special case of excuse, since the actor might have direct control and act without compulsion but lack the necessary information to act justly. While compulsion provides a relatively well-defined case of exoneration, ignorance requires that the actor not have knowledge and could not reasonably acquire the information necessary. In such a case, the actor may bear moral burden ranging from full blame – under conditions of gross negligence or active insulation from knowledge – to full exoneration – under conditions where the actor faces critically time-sensitive pressures or is deliberately deceived by others.

Knowledge is also linked to coercion. By controlling information, one may be able to coerce another into action they would otherwise not choose. Coercion is not the same as control. The exercise of control over knowledge is itself a moral act, but it is distinct from another agent's use of that information to inform her action. When one agent, such as a commander, controls knowledge in order to prevent an actor from considering morally relevant information, the commander's moral responsibility includes the effects of the decision to control knowledge. By controlling knowledge, the commander can coerce an agent into making a decision according to the commander's ends rather than according to complete information.

3.4 The Vertical Distribution of Labor: Chains of Command

The chain of command is the best known method of the distribution of labor within the military, particularly concerning ethical responsibility. Commanders have greater knowledge about the larger effects and intentions of action, but individual combatants often have greater knowledge about specific battlefield circumstances. Consequently, commanders often accept responsibility for the ends they must achieve through their orders. Meanwhile, individual combatants must obey their duties in their conduct towards civilians (Walzer, 2008).

Conventionally, the chain of command represents the most reliable form of differentiation between scopes of moral responsibility. While soldiers at every level are responsible for refusing to knowingly attack civilians, commanders possess a great deal more information on targets – especially information relating to the necessity and proportionality of the targets to the prosecution of the war – than individual soldiers. Consequently, commanders bear responsibility for ensuring that orders properly adhere to the principles of *jus in bello*.

The chain of command does not alter the moral requirements of agents at any level. Instead, it identifies a social structure that distributes knowledge and control among different actors. It is no more permissible for a soldier to knowingly kill a civilian than for a com-

mander to knowingly order the killing. However, the chain of command isolates information between the levels of command. If a soldier acts unjustly contrary to his commander's orders, blame falls to the soldier rather than the commander. Of course, allowing pervasive abuses of the laws of war does become a commander's responsibility (Walzer, 2008; Thompson, 1980). By contrast, when a soldier who unknowingly kills civilians under unjust orders from a knowledgeable commander, blame falls on the commander. Importantly, if a soldier knowingly follows unjust orders, blame falls on both the soldier and the commander, since each failed to exercise moral responsibility that was clearly within their powers.

3.5 The Horizontal Distribution of Labor: Compartmentalization

The military, like any complex organization, has a wide horizontal division of labor. Research and development, logistics, communications, intelligence gathering, intelligence processing, command decisions, and combat execution fall in the hands of many people and organizations. However, no military operation can occur unless all of these tasks are executed. Moral responsibility is not generally considered to fall outside of the command or execution organizations. However, the advent of new technologies makes it difficult to isolate responsibility to those organizations, especially as intelligence units gain increased execution abilities and technologies incorporate information processing systems that provide command recommendations. If many units now bear responsibility for an action, the distribution of blame for an impermissible actions has the potential to dissolve among the "many hands" (Thompson, 1980).

The problem of information processing can be seen clearly in the case of the downing of an Iranian passenger flight 655 during the Iraq-Iran War. An American warship in the Persian Gulf using the Aegis missile system misidentified the aircraft as a threat. Despite conflicting information from other systems, the sailors obeyed the fire recommendation from the automated system, in part believing the computer was more trustworthy than their own

intelligence processing (Singer, 2009, Kindle Location 2348). As technologies incorporate increasing levels of information processing and command decisions, the moral responsibility of research and development organizations and individuals to ensure the system does no unjustified harm must increase as the moral responsibility of intelligence analysts and commanders decreases.

The horizontal distribution of labor has an important effect on the knowledge possessed by individual agents. Distinct units are tasked with gathering and processing information, actors outside of those units receive only the information deemed most relevant by those units. Consequently, the knowledge provided to actors with control over the use of force reflects the moral input of other actors. On the other hand, intelligence units do not necessarily know how the information provided will be used. If such units are sufficiently isolated from the action, the intelligence agents may not themselves have knowledge of how their intelligence is used and may not be blameworthy. All units in the horizontal distribution are subject to institutionalized ignorance if sufficiently compartmentalized.

The horizontal distribution of labor does not have as significant of an impact on coercion as the vertical distribution of labor. By design, horizontally distributed units have minimal coercive influence on each other. However, if knowledge is asymmetrically distributed, it is possible that units with more information may coerce those with less information by selectively informing other agents. Selectively providing information would increase the responsibility of the individuals deciding to use knowledge as a coercive instrument. If this information asymmetry is institutionalized, then responsibility should fall to those commanders responsible for institutionalizing such a system. Furthermore, the distinct units contain their own command structures, collapsing the horizontal system into a vertical one with the more knowledgeable unit's command structure having responsibility for the outcome.

3.6 The Problem of the Doctrine of Double Effect

The Doctrine of Double Effect (DDE) plays an important role in just war theory. The simple form of DDE posits that harm to innocents cannot be used as a means to an end, but harm to innocents may be permissible as a foreseeable but unintended consequence of an otherwise just action. In this form, DDE hangs on intentionality in determining the ethical standing of an act. In this form, developing technologies and organization would have no fundamental effect on the ethical standing of a military strike that causes harm to civilians. Whether conducted by carpet bombing or precision drone strike, an attack on a militarily justified target that puts civilians in harms way is justified as an unintended consequence of the attack. In this form, DDE is the subject of active debate. The moral permissibility of an action that entails foreseeable harm seems difficult to justify if such harms are impermissible when intended. Likewise, it seems difficult to argue an action that entails identical harms is unjust because it was intended where it would be acceptable if merely foreseen (Scanlon, 2008). From this argument, some of the principles of just war theory become more difficult to defend.

In one strain of thought, it is argued that there is no moral difference by intent, and therefore foreseen deaths justified by military advantage can be justified as intentional if it contributes to the same military advantage (Kamm, 2004). The example of a munitions factory helps elucidate the point. A munitions factory, as a supplier of weaponry to the enemy, can be a legitimate military target meeting the principles of necessity and proportionality. However, the plant employs civilians who likely reside in relatively close proximity to the plant even after their shifts end. If the plant is attacked, it is accepted that civilians, both legitimate targets actively producing weapons and illegitimate targets living nearby, will be killed. The just war literature used to accept that such a target was permissible, even though it would result in a given number of civilian deaths. Walzer (2008) argues that the munitions plant is a permissible target provided it meets the conditions of necessity and

proportionality, including the civilian deaths in the considerations of proportionality. Kamm (2004) argues that if it is permissible to attack the munitions plant knowing that the civilians will die, it would also be permissible to attack the civilians directly to achieve the same military ends, namely the halting of the factory. Indeed, if one could directly attack some civilians and terrorize the remaining factory workers into stopping work while an attack on the factory would kill more to achieve the same end, one is obligated to attack the civilians directly rather than limit the attack to the factory. This is in direct contradiction with Walzer (2008), who argues that it is always impermissible to attack with the intention of killing civilians.

I accept the criticisms of the DDE as a criterion for permissibility. However, I argue it remains significant when determining the blameworthiness of an actor who commits and impermissible act. As argued above, blame hinges on the moral status imputed to an actor by an action. In this case, intentionality figures prominently into understanding the relationship of the actor to the action. An actor who harms civilians as a means to an end demonstrates a willingness to deny the status of the individual as an end in herself. This changes the relationship of the actor to others, since the actor does not view herself as living in a community of moral beings but as herself alone among individuals to be used. Such an actor is rightly subject to blame for an action, permissible or otherwise. By contrast, an actor who undertakes an action according to the principles of the DDE demonstrates that they see others in society as ends in themselves rather than means to her own ends. Therefore, they do not demonstrate a difference in character that alters their relationship to society.

If one accepts the blanket impermissibility of attacking civilians, it brings into question the degree of blame assignable to someone responsible for civilian deaths. Michael Walzer argued for a form of DDE, whereby civilian deaths must be not only unintended but actively avoided even to the point of putting oneself in harm's way to avoid harm to civilians (Walzer,

2008, p. 155). If we revise this argument to consider DDE as a criteria for blameworthiness – and therefore responsibility – for one who commits an impermissible act, DDE carries new weight in helping us understand the responsibilities of soldiers to limit harm to civilians. In the above munitions factory example, the harm to civilians remains impermissible. What is now under consideration is what degree of blame is due to the soldiers and commanders responsible for carrying out the attack. Assuming the attack is necessary and proportional, then the alleviation of blame requires the soldiers and commanders do everything in their power, including taking on additional risk to themselves, in order to identify, inform, and avoid the civilians in the otherwise just attack. The death of civilians remains impermissible, but the attacker may not be blameworthy under the proper conditions.

The horizontal division of labor has a particular importance when addressing the problem of the doctrine of double effect. Taken in the stronger form advocated by Walzer (2008), the doctrine of double effect requires that one must take precautions, including putting oneself at risk, in order to justify a foreseeable loss of civilian life. The remote weapon operator cannot move beyond the information provided through her drone’s sensors, and she cannot put herself at risk of harm to further protect potential victims. However, the specialization of tasks divides this responsibility among more actors. While the operator is limited, intelligence personnel may now have a greater responsibility for ensuring the safety of civilians in a potential target area.

4 The Case of Drones

Remote and automated weapons are not a new phenomenon. Even traps and land mines represent attempts to have a military impact on an area distant from the soldiers laying them. However, recent developments have changed remote weaponry from indiscriminate triggers to highly discriminate targeting devices. While land mines react to a trigger, there

is no moral judgment made concerning the target: a tank and a school bus will trigger a mine equally well.UCAVs allow states much greater control over the use of lethal force. Consequently, drones have been praised by some as a way of following the principles of *jus in bello* to a higher degree than ever before (Strawser, 2010). By contrast, others have noted that drones have the potential to desensitize nations employing them and risk expanding the use of force by creating a sub-war level of force that may be readily employed without the repercussions of war (Brunstetter and Braun, 2011). Still others argue that, for better or for worse, the expansion of remote and automated weapons systems is inevitable in the military profession as militaries focus on acting more quickly than their opponents (Adams, 2001). Based on the use of drones so far, the effect appears in line with the principles of *jus in bello*: attacks are more discriminatory and involve fewer, though certainly not inconsequential, numbers of civilian deaths than alternative weapons like attack airplanes or cruise missiles.⁴

It is useful to first look at how a drone operation is conducted. Within the context of military operations, drones generally play either the role of reconnaissance or close air support (operations that provide firepower in direct support of ground operations). This is distinct from air superiority, which seeks to control the airspace and allow for free operation of one's own aircraft and deny access to enemy aircraft, or bombardment missions, which seeks to destroy enemy facilities beyond the range of territory controlled by one's ground units. It is important to distinguish this from the operations conducted by the CIA, which rarely involve ground personnel in the area of the operations. On the battlefield, drones operated by the Air Force are maintained and launched in theater from local airfields. Pilots control the aircraft from several bases in the United States.⁵ The pilots are officers in the Air

⁴While government accounting of civilian deaths from drone attacks is dubious at best, the civilian casualty rate from drone strikes in Pakistan is estimated at about 10% from 2004 to 2012, with rates falling considerably throughout the years (*New America Foundation drone database*, 2013). However, *Living Under Drones: Death, Injury, and Trauma to Civilians from US Drone Practices in Pakistan* (2012) challenges some of these numbers and notes other types of damage through drone warfare.

⁵Both Germany and the United Kingdom have built drone operation centers for their own militaries. The United States has worked closely with its allies in developing their training programs for these operations.

Force and operate the drone with the help of an enlisted sensor operator inside an isolated environment. Briefings are conducted before the operation, but no one is allowed to enter the control room once a mission begins. However, the pilot and sensor operator are in radio and e-mail communication with soldiers in the field, intelligence personnel both in the field and elsewhere, and commanders (Singer, 2009; Zakaria, 2013). Finally, once information is processed and conveyed to the pilot, it is her duty to determine whether or not to use lethal force and fire the laser guided missiles from the drone.

Figure 1 shows the organization of a drone operation. Information is concentrated in the chain of command as normal, however the drone operation allows for an unusually high level of communication between the pilot of the drone and soldiers in the field as well as intelligence personnel. Information concentrated in the command structures relate to the pilot in a briefing before the mission starts. Thin arrows show the a flow of information. While the bold arrow shows the direction of control. At the pre-operation briefing the drone pilot is informed of the area in which she is going to be operating relevant known concerns such as the potential for enemy actions within the area, known civilian locations, and it's friendly soldier operation. Was the freaking is concluded the pilot and the sensor operator, who is enlisted airmen rather than an officer, are locked into a drone operation module (essentially a shipping container with computers and radio systems, or). From this control room the pilot is in direct communication with soldiers in the field as well as the recipient of information from intelligence units. This intelligence can come in the form of direct radio communications or e-mails and other text services. Both the pilot and the sensor operator review the information from the readouts of the drones sensors, including conventional cameras, infrared cameras, radar, and routine aeronautical sensors. The pilot upon reviewing the information available through the computers as well as through radio communications this make the decision for weapons release if that is called for.

Figure 2 shows the organization of a close air support mission with conventional manned

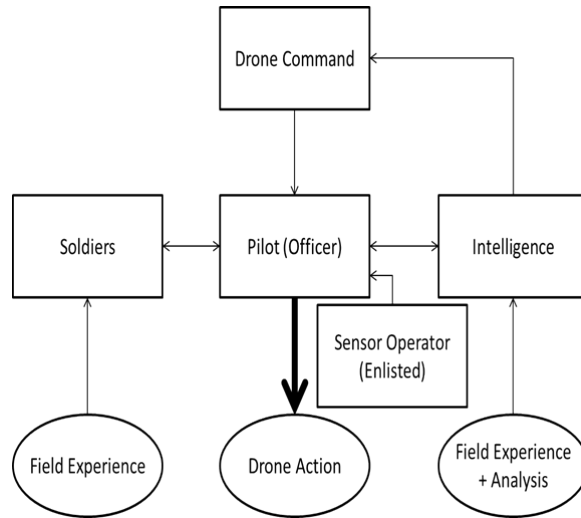


Figure 1: Organization of Drone Operations (taken from descriptions in Singer (2009) and Zakaria (2013))

aircraft. Again, the solid lines show the direction of information flow and the bold arrow shows the direction of control. The key differences between this command structure and the drone command structure is a flow of information into air command and the disconnection of information flows between soldiers and intelligence units provide virtually no real-time information to pilots in close air support roles. Instead, information is concentrated in the chain of command and given to the pilot at the briefing alone. Air to ground communications are limited to the area the operation itself. The pilot must then decide on the use of force solely on the information provides in the briefing and the little information available through direct communications in the combat zone. These flows of information therefore concentrate knowledge in the chain of command, whereas in the new drone operations possession of knowledge is distributed across a horizontal range of actors who are in direct communications with each other.

In terms of information present in the system, drones appear to provide a great improvement over any weapon system available before. Additionally, the use of precision guided

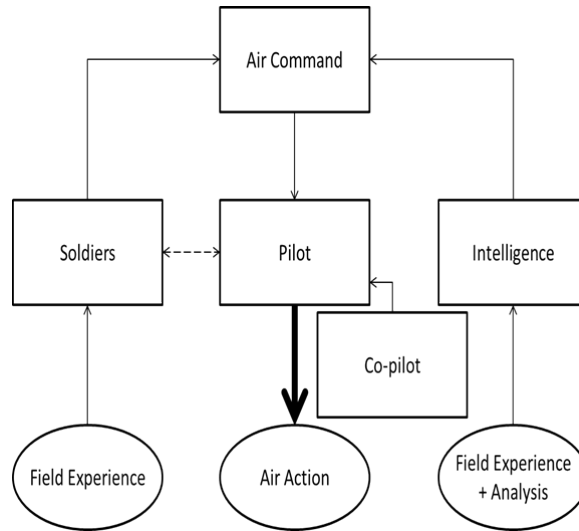


Figure 2: Organization of Aircraft Operations (taken from descriptions in Singer (2009) and Zakaria (2013))

munitions allows drones to target with greater discrimination than ever before.⁶ However, the flow of information between units in a drone operation gives us good reason to question the capacity of drone operators to exercise a moral decision. Therefore, it is important to look at how drone operations affect the distribution of knowledge and control between agents in order to determine what degree of ethical responsibility can be placed on the different agents.

While drones properly employed have the potential to mitigate the undesirable consequences of war, it is not clear that the moral implications are limited to the resultant casualties. In fact, some of the greatest challenges to the just war tradition come not from the use of abuse of the weapons, but rather from the nature of operators' relationship to the battlefield in light of changing technology and organization. The use of drones creates a situation where ethical responsibility is distributed among many actors, both in terms of a

⁶It is worth noting that, while laser guided munitions are a great improvement in discrimination over some options, such as carpet bombing, a Hellfire missile is not a clean weapon. The missile is an anti-armor weapon designed for use against tanks, helicopters, and bunkers (Navy, 2009). The weapon causes both direct damage and spreads shrapnel.

vertical distribution of power and a horizontal distribution of information. In other words, even if the use of drones does not change the permissibility of a given use of force, the blame assigned to actors involved in the use of force is significantly changed. Drones and the organizations surrounding them are redistributing moral responsibility for adherence to *jus in bello* principles. The result is a greater sharing of responsibility among previously distinct agents. As parties in close communication with drone operators who lack the situational context, scouts and intelligence units now assume a greater responsibility for proper use of weapons. At the same time, isolation has limited the responsibility of the drone operator compared other weapons. With the changing responsibilities for just action, blame has spread among many previously removed actors.

This is not to claim that blame has moved in equal proportion. Blame is related to the degree of control an agent exercises over the final action, but it is also a measure of moral rather than strictly an active capacity. Therefore, new technology may increase the number of blameworthy parties without decreasing the blameworthiness of any one party. The ability from blame to be distributed but not divided is most importantly considering the consequences of organization compartmentalization. It is also possible that obstruction of knowledge distributes responsibility to many while reducing the blameworthiness of any one. Drones have brought moral responsibility to more agents than before. Where intelligence units once lost control of an action after they transmitted information to supervisors, constant communication means intelligence units have greater responsibility for ensuring a target as appropriate. This does not diminish the commanders' responsibility for ordering the use of force, despite the increase in responsible agents.

4.1 Knowledge

Drones facilitate the compartmentalization of knowledge within the military. Organizationally, the military has always sought to control access to knowledge through unit divisions

and the chain of command. However, remote weapon systems divide units in ways that complicate the question of moral responsibility. Unlike "fire and forget" weapons that are released with limited information on orders from superior officers, drone pilots are responsible for integrating information from their superiors' orders, radio communications with soldiers on the battlefield, and visual information from the drones' cameras and sensors. Initially, this appears to indicate that drone pilots have an unusually high level of moral responsibility given the knowledge concentrated at their level. However, all of the information that comes to the drone pilot is filtered through information networks that prioritize and conceal information in a way that is not possible for those on the battlefield.

Information systems have a significant effect on the type of information available to actors. Information systems process information in a way that pre-judges morally relevant information for the actor. Consequently, decisions made with the assistance of information systems both provide the ability to better evaluate the battlefield and intervene in the moral calculus of agents.

Information systems drastically increase the amount of information available and provide it to soldiers in new ways. Traditionally, soldiers relied on the information available to them on the battlefield and the information provided from superiors. The soldier then processed that information in making a decision on how to conduct himself or herself. Therefore, to the extent that the information provided by superiors was correct, the soldier was responsible for the actions taken. New information systems gather information from a much wider variety of sources. The raw information available far exceeds the human capacity to process and select relevant information. Therefore, the information system processes that information for the soldier in order to make use of the information deemed necessary by the computer systems. Computer systems thus greatly increase the amount of information available to soldiers, but they also selectively provide that information according to programming choices made in development (Strawser, 2010). Therefore, responsibility for ensuring that an action meets

the relevant criteria for a legitimate use of force falls on the shoulders of many more actors, including intelligence gatherers, system developers, and computer programmers. Since each actor bears responsibility for a small part of the final action, blame due to any individual for an illegitimate use of force is limited.

Information systems and remote control diminish the ability of controllers to exercise control over knowledge and agency in their actions. They are therefore unable to act according to consequentialist ethical arguments, relying entirely upon acting according to the duties assigned to their limited roles. Additionally, the distribution of responsibility to other actors in the increasingly complex weapons systems of advanced warfare brings responsibility to many new actors, including intelligence personnel and weapons developers. In doing so, information systems fall into the "problem of many hands" where each actor has so little effect on the final outcome that none may be blamed for an illegitimate action.

4.2 Control

Control of the use of force concentrates at higher levels with increasing technology developments. The ability of commanders to directly oversee operations leaves drone operators with less autonomy to make moral decisions than with other weapons systems. This is exacerbated by the ability of commanders to readily remove an operator unwilling to comply with orders. Consequently, even those operators willing to exercise their moral authority to refuse an order would have a very limited ability to prevent the use of force.

While the ability to blame drone operators is reduced compared to other weapons operators, it increases for scouts and intelligence units. Whereas intelligence units formerly exercised very little control over the use of force due to communication limitations, soldiers on the ground now have direct and constant communication with drone operators. Therefore, units on the ground have a responsibility for ensuring any use of force complies with the laws of war and are liable to blame if the action is illegitimate. Furthermore, as the only

personnel in a position to verify that noncombatants are not in the line of fire, soldiers on the ground have an increased responsibility to ensure that the use of force distinguishes between civilians and combatants, even at risk to themselves. Walzer's formula for the doctrine of double effect as applied to blameworthiness leaves soldiers in the combat zone exposed to a greater degree of potential harm, since drone operators cannot exercise the same level of caution. This is in contrast to other weapon systems, such as aircraft, that can place a pilot in harm's way in order to guard against civilian casualties.

The break up of the use of force into many distinct units has created a problem of "many hands" that makes determining blame much more difficult in the case of drones. While blame for an action falls squarely on an actor – subject to ignorance and duress concerns – in other military operations, the use of drones breaks down the use of force among many participants where no one party can exercise a great amount of control over the final outcome.

In addition to many human agents involved in the use of force, new weapon systems have an increasing level of automation. Drone operators may still have final responsibility to fire the weapon, but new systems have more automated features allowing them to operate independently of human involvement until the computer system identifies a potential target based on pre-determined characteristics.

This oversight position should not have a significant impact on the control a drone operator exercises over the decision to use force. However, maintaining control requires the operator both know his position and exercise the control. The account of the downing of an Iranian passenger jet shows that soldiers do not always trust their own capabilities when they disagree with the automated system (Singer, 2009). Additionally, the growing complexity of weapon systems exacerbates this uncertainty as soldiers are less likely to know the complex calculations performed and information distilled for them before a course of action is advised (Adams, 2001). The result is that human decision-making is increasingly removed from the battlefield in favor of automation. Kaag and Kaufman (2009) point out that this increasing

reliance on automated systems can create a drive to reduce ethical decisions to calculable matters with quantifiable inputs and outputs. The danger, they argue, is that capabilities become the dominant factor in the choosing of an ethical framework. While designers of automated weapon systems may intend to create more ethical weapons, the loss of human input – either in capability or in practice – requires consideration of the ethical decision to employ a machine that calculates moral value independent of moral agents.

4.3 Responsibility and Blame in Drone Operations

Drones have redistributed ethical responsibility among agents. Responsibility now lies with intelligence units to a much greater extent than before, since those units have situational awareness, broader campaign knowledge, and the ability to identify at risk civilians even at their own risk. Additionally, the control of information through command channels in a way that operators cannot readily overcome gives commanders a degree of knowledge control that mitigates operators' blameworthiness and increases command blameworthiness.

The compartmentalization of knowledge has reduced the level of blame that can be assigned to the individual drone operator. However, ground level agents and intelligence analysts are still responsible for gathering information on potential targets and distinguishing between legitimate targets and civilians. Those in a position to gather information regarding the moral status of those in harm's way have an increased responsibility to do so as the ability of the weapon operator to do so is reduced.

The problem of many hands has created uncertainty over who is responsible for the use of force. Two considerations come into play in this situation. First, sufficient distribution of responsibility leaves none with sufficient knowledge or control to bear blame. If a use of force is unjustified, each agent involved may be blameworthy for the action. However, this blameworthiness depends on the knowledge they possess and the control they exercise over the act. By including more moral agents in the process of acting, technological advancements

have expanded the number of people who might have knowledge of an action. Unfortunately, the isolation of those individuals with knowledge of an action means that each individual's responsibility is reduced. The result is that so many actors bear responsibility for an action that none can control or have knowledge of the operation. As a result, none can be held blameworthy for an illegitimate use of force.

Second, the problem of many hands may effectively reduce blameworthiness among horizontally distributed agents, but that does not mean it reduces moral responsibility in the vertically distributed agents, i.e. the chain of command. When commanders employ a weapon system they know cannot be effectively held to the principles of *jus in bello*, they become responsible for any action the system takes (Walzer, 2008, 312). Therefore, when compartmentalization limits the ability of ground level soldiers to make moral decisions, it is the command structure that becomes responsible for the system.

5 The Continuing Revolution in Military Affairs

While humans remain in control of firing orders for UCAVs at present, that is likely not the case for long. There are other weapons systems that do allow for computer control of firing orders. These include anti-missile defense weapons as well as anti-personnel weapons. It is likely only a matter of time before the human role on the battlefield is reduced to overseeing the deployment of semi-autonomous weapon systems. While many argue that humans will remain "in the loop" as technologies develop, even the meaning of oversight is changing as technologies progress (Adams, 2001; Singer, 2009). The implications of these changes on the distribution of ethical responsibility will be even more difficult to deal with in the absence of a coherent theory of responsibility on the battlefield. The scope of permissible uses of force – at least against humans – may need to be revisited. The concepts of necessity and proportionality will not remain constant as risks to the lives of soldiers diminishes in favor of

risks to semi-autonomous robots. Is it necessary to use lethal force to prevent the destruction of a robot holding territory? How many human deaths is proportional when no humans are at risk on the other side?

Other weapons that presented major ethical questioning include landmines and chemical weapons. Such weapons, unlike targetable weapons, cannot be controlled once they are released. Similar to the duty of commanders to regulate their own militaries and punish systematic abuses, the prohibition on landmines and chemical weapons centers on the inability of the weapon to discriminate between civilians and soldiers. Of course, artillery also has no ability to differentiate between civilians and soldiers, but militaries can readily end their use of such weapons once they find there are civilians at risk. Since indiscriminate weapons cannot be controlled once deployed, the ethical responsibility to prevent their deployment falls to anyone with control over the release, subject to ignorance and duress defenses.

While landmines are indiscriminate by nature, new technologies promise to make available the advantages of discrimination without danger to soldiers. Robots can theoretically be programmed to discriminate between legitimate targets of war and civilians. While many vagaries exist that could cause one to question the plausibility of such automated decision-making, the use of "pattern of life" criteria in determining legitimate targets by the CIA's drone program indicates that some policymakers believe it is possible to reduce the ethical dilemma of the use of lethal force to a series of identifiable characteristics independent of any contact with the battlefield (*Living Under Drones: Death, Injury, and Trauma to Civilians from US Drone Practices in Pakistan*, 2012, p. 12). This is unlike the use of lethal drones by the Air Force, which serve a similar role to close air support rather than long-range search and destroy missions.

While robots could have a programmed adherence to the laws of war, the responsibility to ensure the robots act according to the laws of war becomes difficult to clearly identify. Soldiers using and commanders deploying such weapons would depend on the programming

to perform according to the laws of war. Without control in the hands of soldiers, ethical responsibility may simply rise through the chain of command until the individual with deployment authority can be held responsible. However, that individual would have deployed the system with the understanding that the weapon will make the appropriate decision. Responsibility could now include those responsible for designing the system, particularly the programming that weighs ethically relevant information. While such individuals would be far removed from the battlefield actions, and their situational knowledge would be virtually non-existent, it would be their actions that determine how an ethical decision is made in the future. Moral responsibility for obeying the laws of war is rarely conceived as lying beyond the military or certain political individuals. If civilian research and development institutions are determining the process of deciding whether individuals are targeted or protected on the battlefield, this ethical responsibility will be distributed in even more complicated ways.

6 Conclusion: The Problem of Amoral Agents

The implementation of new technology into just war theory requires a careful consideration of the principles of ethical responsibility and blameworthiness. Since an ethical decision requires knowledge and agency regarding the action taken, technologies that simplify knowledge and reduce agency to following a fire command lower the level of ethical responsibility held by the actor. Therefore, the consequentialist ethical responsibility is concentrated in the decision-maker that develops and deploys the self-guiding weapon systems. The actor has no control over the final outcome, but instead can only control their own adherence to duties assigned in the chain of command.

Both normative and empirical studies of international relations rely on the presence of agents, whether individual human beings or abstractions such as states, to explain how human should and do act. However, the development of new modes of interaction requires

careful consideration of its impact on the assumptions and units of analysis used. The modern organization of states is relatively new in human history. That reorganization of human interaction leads to an understanding of what is right and what is possible based on its particular arrangement of relationships and capabilities. New technologies, particularly those changing the relationship of agents and actions, must be carefully considered in identifying how and why individuals and states act as they do under anarchy. If states and individuals become increasingly willing to delegate those responsibilities to agents lacking the concept of blameworthiness, not to mention the ability to receive punishment and alter future actions, then the dynamics of acting in the international sphere will change greatly as well.

References

- Adams, Thomas K. 2001. "Future warfare and the decline of human decisionmaking." *Parameters* 31(4):57–71.
- Beard, Jack M. 2009. "Law and War in the Virtual Era." *American Journal of International Law* pp. 409–445.
- Brunstetter, Daniel and Megan Braun. 2011. "The Implications of Drones on the Just War Tradition." *Ethics & International Affairs* 25(3):337–358.
- Brunstetter, Daniel and Megan Braun. 2013. "From Jus ad Bellum to Jus ad Vim: Recalibrating Our Understanding of the Moral Use of Force." *Ethics & International Affairs* 27(1):87–106.
- Bumiller, Elizabeth. 2011. "Air Force Drone Operators Report High Levels of Stress." *New York Times* .
- Convention (II) with Respect to the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land. The Hague, 29 July 1899.* 1899.
- Copp, David. 2007. "The Collective Moral Autonomy Thesis." *Journal of Social Philosophy* 38(3):369–388.
URL: <http://dx.doi.org/10.1111/j.1467-9833.2007.00386.x>
- Emerton, Patrick and Toby Hanfield. 2009. "Order and Affray: Defensive Privileges in Warfare." *Philosophy & Public Affairs* 37(4):382–414.
URL: <http://dx.doi.org/10.1111/j.1088-4963.2009.01167.x>
- Enemark, Christian. 2011. "Drones over Pakistan: Secrecy, Ethics, and Counterinsurgency." *Asian Security* 7(3):218–237.
URL: <http://www.tandfonline.com/doi/abs/10.1080/14799855.2011.615082>
- Erskine, Toni. 2001. "Assigning Responsibilities to Institutional Moral Agents: The Case of States and Quasi-States." *Ethics & International Affairs* 15(2):67–85.
URL: <http://dx.doi.org/10.1111/j.1747-7093.2001.tb00359.x>
- Fiala, Andrew. 2010. *Private War, Public Conscience: The Ethics of Political Violence*. Continuum.
- Gray, Colin S. 2010. "Moral Advantage, Strategic Advantage?" *Journal of Strategic Studies* 33(3):333–365.
URL: <http://www.tandfonline.com/doi/abs/10.1080/01402391003750010>
- Gross, Michael L. 2010. *Moral Dilemmas of Modern War: Torture, Assassination, and Blackmail in an Age of Asymmetric Conflict*. Cambridge University Press.

- Grotius, Hugo. 2005. *The Rights of War and Peace*. Liberty Fund Press.
- Hathaway, Oona A. 2005. "Between Power and Principle: An Integrated Theory of International Law." *University of Chicago Law Review* 71.
URL: <http://ssrn.com/abstract=655221>
- Kaag, John and Whitley Kaufman. 2009. "Military frameworks: technological knowhow and the legitimization of warfare." *Cambridge Review of International Affairs* 22(4):585–606.
- Kamm, F.M. 2004. "Failures of Just War Theory: Terror, Harm, and Justice." *Ethics* 114:650–692.
- Kamm, F.M. 2011. *Ethics for Enemies: Terror, Torture, and War*. Oxford University Press.
- Koeman, Annalisa. 2007. "A Realistic and Effective Constraint on the Resort to Force? Pre-commitment to Jus in Bello and Jus Post Bellum as Part of the Criterion of Right Intention." *Journal of Military Ethics* 6(3):198–220.
URL: <http://www.tandfonline.com/doi/abs/10.1080/15027570701585373>
- Lazar, Seth. 2010. "The Responsibility Dilemma for Killing in War: A Review Essay." *Philosophy & Public Affairs* 38(2):180–213.
URL: <http://dx.doi.org/10.1111/j.1088-4963.2010.01182.x>
- Living Under Drones: Death, Injury, and Trauma to Civilians from US Drone Practices in Pakistan*. 2012. International Human Rights and Conflict Resolution Clinic at Stanford Law School and Global Justice Clinic at NYU School of Law.
- McMahan, Jeff. 2009a. "Intention, Permissibility, Terrorism, and War." *Ethics* 23:345–372.
- McMahan, Jeff. 2009b. *Killing in War*. Clarendon Press.
- McMahan, Jeff. 2012. "Rethinking the 'Just War'." *The New York Times* .
- Miller, Seumas. 2007. "Against the Collective Moral Autonomy Thesis." *Journal of Social Philosophy* 38(3):389–409.
URL: <http://dx.doi.org/10.1111/j.1467-9833.2007.00387.x>
- Mkel, Pekka. 2007. "Collective Agents and Moral Responsibility." *Journal of Social Philosophy* 38(3):456–468.
URL: <http://dx.doi.org/10.1111/j.1467-9833.2007.00391.x>
- Navy, US. 2009. "AGM-114 Hellfire Missile Factsheet."
- New America Foundation drone database*. 2013.
URL: <http://counterterrorism.newamerica.net/drones>
- Norman, Richard. 1995. *Ethics, Killing and War*. Cambridge University Press.

- Rawls, John. 1999. *The Law of Peoples*. Harvard University Press.
- Sassoli, Marco. 2004. "Use and Abuse of the Laws of War in the "War on Terrorism"." *Law and Inequality* 22:195–221.
- Scanlon, T.M. 2008. *Moral Dimensions: permissibility, meaning, blame*. Harvard University Press.
- Singer, Peter Warren. 2009. *Wired for war: The robotics revolution and conflict in the 21st century*. Penguin Pr.
- Strawser, B.J. 2010. "Moral predators: the duty to employ uninhabited aerial vehicles." *Journal of Military Ethics* 9(4):342–368.
- Tanguay-Renaud, Francois. 2012. "Criminalizing the State." *Criminal Law and Philosophy* .
- Thompson, Dennis F. 1980. "Moral Responsibility of Public Officials: The Problem of Many Hands." *The American Political Science Review* 74(4):905–916.
URL: <http://www.jstor.org/stable/1954312>
- Waltz, Kenneth Neal. 1979. *Theory of international politics*. Addison-Wesley series in political science Reading, Mass.: Addison-Wesley Pub. Co. 78062549 Kenneth N. Waltz. 24 cm. Bibliography: p. [223]-239. Includes index.
- Walzer, Michael. 1973. "Political Action: The Problem of Dirty Hands." *Philosophy & Public Affairs* 2(2):160–180.
URL: <http://www.jstor.org/stable/2265139>
- Walzer, Michael. 1983. *Spheres of justice: A defense of pluralism and equality*. Basic Books.
- Walzer, Michael. 2008. *Just and unjust wars : a moral argument with historical illustrations*. New York: Basic Books.
- Watkin, Kenneth and Andrew J. Norris, eds. 2012. *Non-International Armed Conflict in the Twenty-First Century*. Vol. 88 of *International Law Studies* Naval War College.
- Zakaria, Tabassum. 2013. "In New Mexico desert, drone pilots learn the new art of war." .
URL: <http://www.reuters.com/article/2013/04/23/us-usa-security-drones-idUSBRE93M04520130423>