

This article was downloaded by: [Institutional Subscription Access]

On: 28 July 2011, At: 10:16

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Journal of Military Ethics

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/smil20>

Moral Predators: The Duty to Employ Uninhabited Aerial Vehicles

Bradley Jay Strawser^a

^a University of Connecticut, Storrs, Connecticut, USA

Available online: 16 Dec 2010

To cite this article: Bradley Jay Strawser (2010): Moral Predators: The Duty to Employ Uninhabited Aerial Vehicles, *Journal of Military Ethics*, 9:4, 342-368

To link to this article: <http://dx.doi.org/10.1080/15027570.2010.536403>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.tandfonline.com/page/terms-and-conditions>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan, sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

Moral Predators: The Duty to Employ Uninhabited Aerial Vehicles

BRADLEY JAY STRAWSER

University of Connecticut, Storrs, Connecticut, USA

ABSTRACT *A variety of ethical objections have been raised against the military employment of uninhabited aerial vehicles (UAVs, drones). Some of these objections are technological concerns over UAVs abilities' to function on par with their inhabited counterparts. This paper sets such concerns aside and instead focuses on supposed objections to the use of UAVs in principle. I examine several such objections currently on offer and show them all to be wanting. Indeed, I argue that we have a duty to protect an agent engaged in a justified act from harm to the greatest extent possible, so long as that protection does not interfere with the agent's ability to act justly. UAVs afford precisely such protection. Therefore, we are obligated to employ UAV weapon systems if it can be shown that their use does not significantly reduce a warfighter's operational capability. Of course, if a given military action is unjustified to begin with, then carrying out that act via UAVs is wrong, just as it would be with any weapon. But the point of this paper is to show that there is nothing wrong in principle with using a UAV and that, other things being equal, using such technology is, in fact, obligatory.*

KEY WORDS: Risk, UAVs, drones, protection, just war theory

Introduction

Lethal employment of uninhabited aerial vehicles (UAVs) has risen precipitously by a few Western nation-states (most notably the United States) across several theaters of operation (Afghanistan, Pakistan, Yemen, and other locations).¹ The emergence of this technology has sparked widespread debate over the ethical justification of its use. Some claim these drones create a particularly asymmetrical form of warfare that is somehow ignoble or dishonorable. Others contend that UAVs impede certain *jus in bello* principles. Some claim that drones create psychological conflicts for their operators (who are often thousands of miles away) causing unacceptable cognitive dissonance in the mindset of the warrior. Still others raise concerns over drones carrying out targeted killings by non-military government agencies (such as the CIA) and other concerns over their present employment. There is a worry that UAVs could lead to autonomous weapons that make lethal decisions on their own. Finally, some argue that by removing the pilot from the theater of

Correspondence Address: University of Connecticut, 101 Manchester Hall, 344 Mansfield Road, Storrs, CT 06269-2054, USA. E-mail: Bradley.Strawser@uconn.edu / BJStrawser@gmail.com.

combat a degree of asymmetrical warfare is attained such that the risk threshold for a given state is lowered too far – that it becomes too easy for a state using drones to go to war; thus, their use is ethically pernicious.

In this paper I argue that there is an ethical obligation to use UAVs. Indeed, I hold that, in principle, there is no need for special ethical concern for this weapons system as opposed to any other more standard weapon technology. All of the concerns just listed either miss their mark and do not challenge the ethical obligation to employ UAVs in principle or else do not rise to the level needed to override the principles which form the basis of ethical obligation for UAV employment. I argue that remotely controlled weapons systems are merely an extension of a long historical trajectory of removing a warrior ever farther from his foe for the warrior's better protection. UAVs are only a difference in degree down this path; there is nothing about their remote use that puts them in a different ethical category.

My argument rests on the premise that if an agent is pursuing a morally justified yet inherently risky action, then there is a moral imperative to protect this agent if it possible to do so, unless there exists a countervailing good that outweighs the protection of the agent. Thus, I will contend that, as a technology that better protects (presumably) justified warriors, UAV use is ethically obligatory, not suspicious. After some preliminaries, I will first present the argument for the ethical obligation to use remotely controlled weapons. Then I will walk through the various ethical concerns which are supposed problems for UAV implementation and show how each of these worries is misplaced or fails to adequately counter the ethical obligation for their use.

Remote Weapons as Ethically Obligatory

Media coverage and public debate over the military use of uninhabited remotely controlled weapons is currently *en vogue*.² It is surprising then, given such a backdrop, that the case for the ethical obligation to employ UAVs has yet to have been definitively made. That is precisely what I intend to do. First, some distinctions must be made regarding what the target of my claims in this paper will be. Primarily, I am referencing those aircraft presently employed by the United States (and other) militaries commonly known as 'Unmanned Aerial Vehicles' or drones. To avoid unnecessary gender bias I prefer the locution of Uninhabited Aerial Vehicles (UAVs) which I will use throughout.³ Examples include the General Atomics MQ-1 Predator and the General Atomics MQ-9 Reaper.⁴ UAVs have been employed for some time as reconnaissance aircraft, but only fairly recently have such platforms been used for lethal engagement. Critically, when referencing UAVs I only intend those aircraft which are under human control for, at the minimum, any particular lethal action the machine executes. Autonomous weapon systems, which can execute lethal actions apart from a human decision to do so – that can operate 'on their own' – will be addressed below in Objection 1. Finally, my discussion here regarding the ethical obligation to employ UAVs could be applied, with

the necessary changes, to any remotely controlled lethal weapon system, including land- or sea-based remotely controlled weapons.⁵

I contend that in certain contexts UAV employment is not only ethically permissible, but is, in fact, ethically obligatory. The basis for this claim rests upon what I call the principle of unnecessary risk (PUR). PUR proceeds as follows: If X gives Y an order to accomplish good goal G, then X has an obligation, other things being equal, to choose a means to accomplish G that does not violate the demands of justice, make the world worse, or expose Y to potentially lethal risk unless incurring such risk aids in the accomplishment of G in some way that cannot be gained via less risky means. That is, it is wrong to command someone to take on *unnecessary* potentially lethal risks in an effort to carry out a just action for some good; any potentially lethal risk incurred must be justified by some strong countervailing reason. In the absence of such a reason, ordering someone to incur potentially lethal risk is morally impermissible. Importantly, PUR is a demand not to order someone to take unnecessary risk *on par* with alternative means to accomplish some goal G. This is what the other things being equal clause is meant to capture. That is, in some cases, the only possible way to accomplish G will be to order Y to undertake a particular means which exposes Y to potentially lethal risk. In such cases, PUR is not directly applicable; whether or not the order is justified must be determined on other grounds. PUR simply demands that no *more* risk than is required for the accomplishment of G (no unnecessary risk) is ordered by X to be incurred by Y.

I take PUR to be uncontroversial. In fact, it is possible that an even stronger form of PUR could be developed that morally bars not only potentially lethal risk, but any risk of bodily harm whatsoever. Further, there may be a reflexive form of PUR available that could entail self-regarding duties not to incur potentially lethal risk unnecessarily. But some may complain that an individual has the moral permission to incur lethal risk in carrying out act X in pursuit of good A even if the risk in no way aids the accomplishment of A (or some other good B) nor is demanded by justice. To avoid such controversy, I employ here the more modest form of PUR as I have developed it. So even if some wish to contend that it is morally permissible for an individual to take unnecessary potentially lethal risks upon his or herself in accomplishing some good, it still seems that PUR holds with no problems, focused as it is upon commanding others to action.⁶ That is, if some argue that there are no moral prohibitions against recklessly endangering one's own life for no good reason, certainly morality demands that there is a strong moral prohibition against unnecessarily endangering another's life.⁷

Another important argument can be used for the obligation to employ UAVs over inhabited aerial vehicles. Namely, UAVs are, *on par*, cheaper to produce and deploy than inhabited planes that accomplish similar missions. Thus, the argument could run, we are obligated to spend as little shared resources as are necessary on any given collective venture (such as a military undertaking), since those resources are scarce and could be used for other worthy goals. A principle of unnecessary waste of scarce resources (PUWSR) could be formulated to capture the normative appeal of such an approach.⁸ PUWSR would contend that by not employing UAVs to the greatest extent

possible militaries are wasting scarce resources and that UAVs should, therefore, be used in place of inhabited aircraft so as to be better stewards of said shared resources. For, after all, any money not spent on a military venture could be allocated towards other important demands of social justice, such as (say) an egalitarian concern for equal opportunity of welfare.⁹ Such a principle, then, could be used to put normative pressure on the financial budgets of Western militaries and demand that efficiency of cost is an important moral issue.

I laud such approaches – and find financial concerns to be particularly relevant in the case of UAV underemployment – but in this paper I set aside such arguments and focus instead on what I see as the stronger normative principle of unnecessarily risking an agent performing a morally justified act. I do this because appeals to principles like PUWSR, while legitimate, are often more easily overridden by other competing normative concerns. That is, even a relatively significant cost difference between two competing methods for carrying out a given act could quickly become moot were there any relevant differences warranting moral concern between the two courses of action. Of course, in this case (UAVs versus inhabited aircraft) whether there are such differences will often be an empirical question. And if, as I assume in this paper, UAVs can carry out similar missions without any significant loss in capability, then concerns over cost would apply just as well. But I still view PUR as a stronger moral claim – one that demands a higher justificatory bar to override – than principles such as the PUWSR; thus, it is upon PUR that I base my central claims in this paper.

Returning then to PUR, an example may help demonstrate its modest moral demands and *prima facie* appeal. Imagine a group of soldiers are fighting in a just war against an unjust enemy. The (unjust) enemy soldiers are, say, invading the just soldiers' country and committing horrific crimes against humanity in the process. In the defensive effort a group of just soldiers, led by Captain Zelda, engage the enemy who are a short 50 yards away. Assume that engaging these enemy soldiers is a just action in pursuit of some good (in this case the good of defending their homes, families, themselves, and other innocents.) Captain Zelda has an idea. She decides to remove her bullet-proof vest, throw down her rifle, and charge the enemies with nothing more than a large rock and chutzpa. She turns to the troops under her command and orders them to do likewise. Set aside whether or not such an action is morally permissible for Captain Zelda to pursue individually. Also assume that charging the enemy in this fashion would in no way aid in accomplishing the good of successfully attacking the enemies yet would dramatically increase the lethal risk her troops incur. PUR says that it is morally impermissible for her to order her fellow troops in her squad to take off their bullet-proof vests, throw down their rifles, and charge the enemy with only a rock since there is no good reason to do so. PUR holds that it is morally impermissible for Captain Zelda to endanger the lives of her troops any more than is necessary for the accomplishment of good A. My argument below for the moral obligation to employ UAVs rests on PUR as a sound moral principle.

Note that such an action as Captain Zelda's planned foolhardy charge *may* contribute to some other thing, Q, which she takes as a good, such as an adrenaline rush or perceived valor gained by taking such inordinate risks. In such a case, one could try to argue that the act passes PUR since it aims at some other (purported) good. But PUR is not in the business of determining whether or not certain goals are goods worthy of being sought. It is a structural principle that functions on permissible commands to others only after it has been determined what the morally proper good to pursue should be. So, granting a proper good, PUR demands that one commands others to incur lethal risk (or increased lethal risk) only in pursuit of that good (or some equal or greater good) if it is necessary in the way defined. That is, the risk one orders another to incur must track exactly with the necessity of that risk in relation to the accomplishment of the purported good. In this case, we are agreeing that the good sought (or the good that *should* be sought) is the successful attacking of the enemy; hence, Captain Zelda's actions are impermissible by way of PUR for they do not aid in the accomplishment of the proper good nor are they demanded by justice or some other good. If Captain Zelda engages in reckless warfare and orders others to do likewise not because of necessity but because of some personal pleasure gained by the excitement of risk-taking and combat, then we would conclude her actions to be morally impermissible for other reasons outside PUR. That is, it may very well be that Captain Zelda orders her troops to make such a brash charge in the pursuit of something she takes as a good. In that case, the reason her action is wrong is not due to PUR but because she is mistaken that this is a good worthy of being sought and ordering others to seek (the adrenaline rush of risky combat, say). But, if we agree that the good that *should* be sought is attacking the enemy, her orders are impermissible via PUR because her commands in no way help in this aim even though they cause her troops to incur (greater) lethal risk.

Granting PUR then, consider the following claim, OP:

- (OP) For any just action taken by a given military, if it is possible for the military to use UAV platforms in place of inhabited aerial vehicles without a significant loss of capability, then that military has an ethical obligation to do so.

I argue that OP is true. It could, of course, very well turn out that OP is only vacuously true because the antecedent is false. This paper will not primarily be arguing for or against the truth of OP's antecedent, but instead assume it is true and argue that the normative consequent follows.¹⁰ The antecedent of OP could be false for any number of reasons. First, it could turn out to be technologically infeasible to transition some military aircraft into remotely piloted vehicles without a significant loss of capability, for various reasons.¹¹ Or it could be near impossible to do so due to budgetary constraints.¹² Further, it could be that the antecedent of OP is false because remotely controlled weapon systems cannot practice target discrimination as effectively as inhabited vehicles can; and this would constitute a significant loss of capability. Or it could turn out that for some as of yet unforeseen reason remotely piloted weapon systems are not as

capable in some other manner as inhabited vehicles. In any such case, the antecedent is false and OP is vacuously true.

There are very good reasons to believe, however, that the antecedent of OP could be true and even likely, as will be mentioned at points below. The central aim of this paper, however, is to establish that the normative consequent follows if the antecedent is true. Further, the antecedent of these claims is an empirical question – one that can be tested for its veracity. What I am investigating is whether there is any principled reason for *not* employing UAVs. I contend that there is not, and further (based on PUR) that there is a strong moral obligation to use them in place of inhabited aircraft. If there is such an obligation, then OP follows.¹³

Note that the ‘in place of’ criterion of OP is crucial for its derivation from PUR. A given commander in a combat context is obligated by PUR to order her troops to use weapon Z in place of W if and only if Z reduces the risk placed on that soldier in comparison with and as an alternative to W. It is the risk differential between options Z and W that is the source of the obligation. To put it another way, because Z exists and is presently available for the commander to order her troops to use *in place of* W, the commander is obligated *not* to order the use of W so long as Z is a viable alternative that meets the other criteria (such as not violating the demands of justice). That is to say, the ordering to use Z is (presumably) permissible in a just warfighting context; it becomes obligatory only as an *alternative* to W. But, if only W exists (or is the only option for other reasons, such as the demands of justice), then it could very well be permissible to order the use of W. Both W and the less-risky Z must be viable options for the obligation to use Z to instantiate via PUR.

To build the case for OP’s consequent, consider the following scenario. Two small towns, Prudentville and Recklessville, each have a local police force that includes a highly trained ‘bomb squad.’ Each bomb squad has been very successful in disarming and disposing of malicious explosive ordnance throughout the years with few (but some) casualties. Recently, both towns acquired remotely controlled robots that can be used to disarm explosives while being operated from afar. Under the control of a trained explosive ordnance disposal (EOD) technician, these robots are just as capable at disarming bombs as the EOD technicians are themselves working ‘hands on.’ And with the robots, of course, the EOD technicians are not at any risk of injury or death. After some initial experimentation to ensure use of the robots did not cost them any bomb-disarming capability, Prudentville decides to have their bomb squad use the robots in any situation where it was possible to do so. They viewed the decision as a ‘no-brainer’: saving the life of even one bomb-technician would be well worth the cost of using the robot. Recklessville decides not to have their EOD technicians use the robots, even though they have them available and are capable of doing so. Thus, they put their bomb technicians at risk for no reason (or no *good* reason, at any rate) and violate PUR.

Take the above story as a guiding normative analogy for claim OP.¹⁴ If it is possible for the bomb squad to use a robot to defuse the bomb remotely, with no

significant or relevant loss of capability, then via PUR the bomb squad has a clear ethical obligation to use the robot in place of a human handling the bomb directly. The situation is relevantly analogous with the current and future use of remotely controlled military aircraft. That is, if it is possible for a state to have its military use remotely controlled weapon systems to carry out combat missions instead of inhabited weapon systems, with no significant or relevant loss of capability, then via PUR (assuming military missions carry potentially lethal risks) the state has a clear ethical obligation to do so. This is simply because by operating at a much greater distance from combat, the operator of the weapon system is exposed to significantly less risk. And if there is no compelling reason to expose a soldier to risk, then it is wrong to do so. Hence, OP.

One important caveat: The justification of remotely controlled weapons in war here assumes that their employment is done as part of a fully justified war effort meeting both *jus ad bellum* and *jus in bello* criteria. Thus, if the military in question is justified in a particular military strike in the first place, they should protect the just warrior carrying out the action to the greatest extent as is possible – up until protecting the warrior impedes his/her ability to behave justly in combat, as will be argued below. Granted, if a given military action is unjustified, then it is unjustified whether it is done by a pilot flying an aircraft remotely or otherwise. That is, my argument that the employment of UAVs is ethically obligatory follows out of PUR in that a given military action in question must be a proper good in the first place. If the act is morally unjustified to begin with, then it is morally impermissible for other reasons outside of the scope of PUR. Notice, for example, that this leaves open the possibility that universal pacifism may be the correct moral outlook towards warfare and yet OP still holds (although vacuously, because a pacifist will hold that there simply are no justified military actions).

A related point is that some may here object that my analogy between a bomb squad and a military force fails for the bomb squad is trying to disarm a bomb, and thereby *prevent* the loss of life, whereas a military strike is attempting to *take* life. Yet the point of connection for the analogy is not what, specifically, the given action is attempting to carry out (be it disarming a bomb or delivering a bomb), but simply that a particular action is justified and aiming towards *some* worthy good combined with being inherently risky to the agent engaging in the action. Again, the analogy to UAV use rests on a presumption that a given military strike employing a UAV is justified to start with – if it is not, then the UAV strike is morally impermissible, of course.¹⁵ So the case with the bomb squad is intended to focus on the moral principle of unnecessary risk in the execution of *some* good. The bomb squad, commanded by their town, undertakes morally justified but risky action F aiming to accomplish good goal G. If G can be accomplished just as effectively but with less risk to the bomb squad by a means other than F (such as by using a robot), then there is a moral obligation to use the robot.

The same reasoning applies, with the necessary changes, for a given military force. A military, commanded by their state, undertakes morally justified but risky action F aiming to accomplish good goal G. If G can be accomplished equally as effectively but with less risk to the military members (such as by using

an uninhabited drone), then there is a moral obligation to use the drone. That the good G for the bomb squad case is the protection of life while in the UAV case G is the taking of life is not a relevant difference for the analogy. What matters is that G is a good worthy of pursuit.

To put the position another way still: ordering a warfighter to take on risk in any activity must be justified. If a given action can be equally well accomplished via two different methods, one of which incurs less risk for the warfighter's personal safety than the other, then a justification must be given for why this safer method is not used. If there is no good reason not to use it, then we are obligated to employ the safer method. For all cases of ordering a warfighter to undertake any given risky action, there should be a reason that demonstrates why the risk is necessary for the accomplishment of the given objective. If one grants that removing a pilot from the theater of combat by using a UAV instead of an inhabited weapon platform greatly reduces the risk to that pilot, then there should be a presumption for using a UAV (or any remote weapon) whenever it is possible to do so in a way that does not compromise the capability of a given warrior to behave justly. The burden of proof, then, is on those who argue that we should not employ UAVs or similar remote technology. Such a position needs to justify why we should have pilots take on such risk. As mentioned above, there are a variety of objections usually offered as to why UAV employment is ethically suspicious. I shall now review each of these in turn and show why they fail to overcome the claim that UAVs are, in principle, ethically obligatory.¹⁶

Objection 1: The Move to Independent Autonomous Weapons Systems

Some worry that UAVs lead us down a road toward independent autonomous weapons (IAWs); robots that make lethal decisions on their own.¹⁷ Where to draw the line when a weapon system is 'autonomous' is notoriously difficult.¹⁸ For simplicity's sake here, I refer to any weapon that makes a decision on its own accord to launch a particular lethal attack as 'independently autonomous' (or 'fully' autonomous as is sometimes used). Thus, a cruise missile that guides itself to a target would not be an IAW because a human agent made the decision to launch it and for it to go attack the given target, but a Predator drone programmed so as to make the particular decision to fire on a specific target of its own accord would become an IAW. So long as there is a 'human in the loop' (to use the common military parlance) for each particular lethal decision, I consider it non-autonomous for the purposes of this paper. That is, so long as a human agent makes the decision whether or not to employ lethal force, the weapon is not an IAW as I use the term. The argument against the employment of UAVs runs like this: IAWs are morally impermissible. UAV development will lead to IAWs. Therefore, UAV development is impermissible.

Response

As an objection against UAV usage goes, this fails to counter the moral obligation for their employment. In fact, we can grant the first premise (that

‘IAWs are morally impermissible’) but dispatch the objection by arguing that its second premise is presently unsubstantiated (that ‘UAV development will lead to IAWs’). One could agree with the objection that we should not develop IAWs and that we should not allow development of UAVs to lead us down the road towards IAWs. Indeed, it is plausible that it could be difficult to stop such a progression, but it is not true that the development of UAVs will *necessarily* lead to the development of IAWs. Thus, we need empirical evidence to show that this is the case. The objection is a kind of slippery slope objection because it assumes that the development and employment of UAVs must lead to the development and deployment of IAWs. Slippery slope objections are problematic because they fail to acknowledge a plausible middle ground stopping point. Namely, this objection misses the possibility of maintaining the employment of UAVs while at the same time working for the banning of IAWs (something I recommend Western nation-states do). Thus, at present, this objection fails as an argument against the ethical obligation to employ (and develop) UAV technology.

I raise this objection first so as to make an important distinction for the scope of this paper. In this paper I am only arguing for the moral obligation to use remote weapons that are explicitly non-autonomous, at least regarding any lethal decisions. On my view, the distinction between IAWs and non-autonomous remote weapons is of paramount importance in this debate and is often neglected. One reason it is so important is that if this distinction is neglected and, even more importantly, if this distinction is not enforced and efforts to develop IAWs are not stopped, then objection 1 stands (assuming that one grants its first premise). That is, to be clear, it is entirely possible that the use of UAVs will in fact lead to the use of IAWs. If this can be shown to be the case and if it cannot be stopped, then, since I do grant the first premise, I see it as a legitimate objection against the employment of UAVs. But my hope is that the development of IAWs can be stopped even while UAVs are employed and developed. I do not here have space to argue against the moral permissibility of IAWs – that has been done effectively elsewhere (see Sparrow 2007; Asaro 2006, 2007; Himma 2007).¹⁹

Some may object that my acceptance of the premise that ‘IAWs are morally impermissible’ is inconsistent with my use of PUR to ground the moral obligation to use UAVs. The objection would contend that many weapon systems which could (arguably) be considered IAWs offer far better protection of a just warfighter and are thereby obligatory via PUR. Examples could be weapons systems such as the Phalanx Close In Weapon System or the SeaRAM employed by the US Navy when they are used in fully autonomous mode. Without such weapon systems many sailors would potentially be at unnecessary risk, or so this objection claims.²⁰ But this objection fails to appreciate that PUR, although a strong at first view moral principle, can be overridden by a strong enough countervailing normative reason. In this case, although I do not argue for it here, I find the principled objections to IAWs to be sufficiently strong such that they override the moral demands of PUR. That is to say, it is perfectly compatible and in no way logically inconsistent to hold (as I do) that some non-autonomous weapon

systems (such as UAVs) are obligatory via PUR and at the same time hold that IAWs are impermissible on grounds specific to their autonomous nature which overrides PUR. In any case, regardless of whether or not one accepts the first premise of objection 1, the objection on the whole fails because it is a slippery slope argument that is inadequately substantiated.

Objection 2: UAV Limitations Lead to *jus in bello* Violations

Some grant that remotely controlled weapons better protect the just warfighter but argue that they do so at the cost of a decreased ability to discriminate combatants from noncombatants and other *jus in bello* compromises.

Response

Certainly, if an UAV operator engaging the battlefield from thousands of miles away through a video feed is unable to properly adhere to the *jus in bello* principles of discrimination and proportionality, then such drones should not be used. Indeed, if using a UAV in place of an inhabited weapon platform in anyway whatsoever decreases the ability to adhere to *jus in bello* principles, then a UAV should not be used. This is consistent with OP since adhering to principles of discrimination and proportionality are key aspects of a weapon system's capability. And the just warrior's increased protection (which a UAV provides) should not be bought at an increased risk to noncombatants. Martin Cook (2004) makes this point effectively when he discusses the 1999 NATO air campaign waged in Kosovo. It seemed to some that by conducting missions at a minimum of 15,000 feet, NATO was more concerned with force-protection than noncombatant discrimination (see Cook 2004: 126–127). Had the combat missions been flown at a lower altitude they would have put the pilots at more risk but would have been significantly better at discriminating between, say, an ambulance and a military transport. It is the duty of the just warfighter, I contend, to take additional risk upon him/herself if such risk is required in order to better shield innocents from harm.²¹ Thus, in arguing for OP, part of the assumption of the antecedent is that the use of UAVs does not hamper the warfighter's (technical) ability to discriminate between combatants and noncombatants nor make judicious decisions of proportionality. Such a technical weakness would constitute a 'significant loss of capability.'

However, there is good reason to think just the opposite is true: that UAV technology actually *increases* a pilot's ability to discriminate. For example, the Israeli government-owned Rafael Armament Development Authority claims that with the new Spike Extended Range precision missile, which is designed to be used by UAVs, they have achieved 'urban warfare precision' (Rafael Advanced Defense Systems 2010). The missile can be launched in a fire, observe, and update mode (as opposed to a 'fire and forget' mode) that 'allows the UAV operator to update the missile, aim, point, or steer the missile off course if the intended target turns out to be a civilian' (Rafael Advanced

Defense Systems 2010). The report goes on to quote an Israeli pilot who has used the weapon system: ‘The beauty of this seeker is that as the missile gets closer to the target, the picture gets clearer. . . The video image sent from the seeker via the fiber-optic link appears larger in our gunner’s display. And that makes it much easier to distinguish legitimate from non-legitimate targets’ (Rafael Advanced Defense Systems 2010).²²

And recent studies bear out that UAVs appear to have, in fact, greater technical capabilities at making determinations of combatant status. Avery Plaw (2010) has recently compiled a database combining reports from a variety of sources on the results of United States UAV attacks carried out in Pakistan from 2004 to 2007. This data shows that UAV strikes were far better at noncombatant discrimination than all other methods used for engaging Taliban fighters in the region. For example, the UAV strikes resulted in a ratio of over 17 to 1 of intended militant targets to civilian deaths compared with a 4 to 1 ratio for Pakistan Special Weapons and Tactics Teams team offensives or a nearly 3 to 1 for Pakistan Army operations in the same region during the same time period. Or, compare the 17 to 1 ratio for the UAV employment to the shocking 0.125 to 1 militant to civilian casualty ratio estimate for all armed conflict worldwide for the year 2000 (Plaw 2010).²³ If these numbers are even close to accurate, it seems that there is strong evidence which directly contradicts the central premise of objection 1. That is, UAVs are better, not worse, at noncombatant discrimination.

Regardless, however, whether or not UAVs are as technically capable of making determinations of proper target discrimination is an empirical question. If it turns out that UAVs are not as capable, then OP’s antecedent is false and the claim is vacuously true. At present, however, all available evidence points strongly towards there being no reduction in the technical ability of UAV pilots to discriminate as opposed to inhabited aircraft pilots’ ability. But, this being an empirical matter, there is no in-principle objection here to UAVs being ethically obligatory for military use.

Objection 3: Cognitive Dissonance for UAV Operators

This objection worries that the use of drones leads to psychological conflicts for their operators causing cognitive dissonance in the mindset of the warrior. The worry can manifest two separate ethical concerns, first that it is wrong to do this to UAV operators – for them to kill the enemy from their ‘desk’ at work and then go home to dinner and their child’s soccer match – that this places an unjust psychological burden on them. The second and greater concern is that this cognitive dissonance will weaken the operator’s will to fight justly in several ways (e.g. the operators not taking the warfare as ‘real’ or serious enough but instead viewing it as a video game; the operators suffering mental problems and post traumatic stress disorder which, because of their distance from the battlefield, could go untreated and unrecognized, causing further problems and leading to inappropriate decisions; and so forth.)²⁴

Response

The argument that the ethical justification for UAVs is threatened if UAV operators are more likely to behave unjustly in their combat actions due to this cognitive dissonance is unsound. First, it can be argued that the temptation for the warfighter to commit *jus in bello* violations would actually lessen, perhaps significantly so, once the warfighter is not at risk. The remote pilot can take more time in evaluating a target before firing – to ensure that target is an enemy combatant – than they would be able to otherwise; for in the worst case scenario a machine is lost, not a human pilot. Returning to the bomb squad analogy, in using a robot the EOD technicians do not experience the same level of stress because there is no danger to themselves; thus, they are not as nervous and, presumably, more successful. The same could hold true for UAV pilots making judicious decisions in combat. Once fear for their own safety is not a pressing concern, one would assume the operator would be more capable, not less, of behaving justly.

But perhaps this is not the case. Maybe the distance and disjunct of this level of remote weaponry does create a significant and genuinely new kind of stress on warfighters that might compromise their abilities to behave justly. There is significant empirical work here yet to be done. But even if we grant that displaced combat harms UAV pilots' abilities, first note that there are means of overcoming this problem and, second, that this issue is not a knock against the ethical justification of UAVs themselves. If necessary we could, for example, move all UAV operators much closer to the theater of combat; forcing them to live in a deployed environment, along the same time-zone as the combat, and under more standard battlefield conditions and stresses.²⁵

Further, note that all UAV action has the ability to be recorded and monitored. By default since it is remotely controlled, whatever data feed a UAV pilot received can easily be overseen by many others simultaneously and later for review and critique. This added level of accountability could be used to get, if necessary, further added layers of scrutiny over lethal decisionmaking – even demanding more than one officer agree to a kill, for example. Indeed, an entire team of officers and human rights lawyers could oversee every single lethal decision made by a UAV, if desired or deemed necessary. The point is that there are a variety of ways to overcome any concerns that the pilots of UAVs would be somehow less judicious on average than inhabited weapon systems would be. All of this argues against this cognitive dissonance problem as being somehow insurmountable, much less negating the ethical obligation for UAV use in principle. Moreover, even if there is some psychological harm done to UAV pilots that we cannot overcome, it certainly seems that such harm would be less damaging than the expected harm that could come about via inhabited flights.

Objection 4: Targeted Killing by UAVs

Recent media coverage has raised concerns over the use of UAVs for targeted killings, particularly as is currently being done by the Central Intelligence

Agency (CIA) in Pakistan, Yemen, and other theaters of operation.²⁶ The specific objection is that assassinations fall outside the bounds of acceptable just-war theory/practice and that UAVs somehow make this practice too easy or contribute to it in some unacceptable manner.

Response

Although I will not argue for the position here, I wholeheartedly share the ethical concerns over assassinations.²⁷ I further share the underlying concerns regarding a non-military government agency carrying out independent lethal operations in a foreign theater. But none of these concerns are restricted in any significant way to remotely controlled weapon systems. The CIA could be carrying out these same missions with a trained sniper or an inhabited aircraft. It is this particular *policy* that is of proper ethical concern here, not UAV technology or use in general.

Some might argue, however, that the UAV makes targeted killing of this sort particularly pernicious because, first, an aerial vehicle flying over airspace is in some principled way different than sending in a ground special forces unit. Second, the objection claims that the battle for the ‘hearts and minds’ of local nationals in a given theater is significantly worsened by what they view as ignoble warfare; UAVs are thought to be ‘cowardly.’ And, third, the objection continues, there are some ways in which UAV technology makes such policies easier to execute because of the abilities unique to current UAV platforms.

As to the first concern, this is admittedly an interesting case that could appear to be peculiar to UAVs. Namely, if a nation-state sends a UAV over another sovereign nation-state’s airspace they have not sent an actual person or agent over the airspace. This could perhaps leave room for a contrived argument that because no actual person crossed a border no infringement of national sovereignty occurred. Although intrigued by this distinction for UAV weaponry, I do not find it persuasive. For a UAV strike in terms of sovereignty issues is analogous to a long-distance artillery shell fired across the border or other forms of attack that do not involve an agent crossing an actually geographic border such as cyber-warfare.²⁸ In such cases, yes, no actual person violated the territorial integrity of the sovereign state in question, but, of course, all nations would still (rightly) view such acts as a direct violation of their sovereignty. So, contra the worry, UAVs do not create a special class of weapons that can escape traditional just-war theory scrutiny or respect for territorial integrity and national sovereignty through an odd loophole.

As for the second concern, two points are in order. First, I would argue that it is at least possible that if UAVs are used in line with the rules of warfare, and civilian casualties are not increased (and perhaps even lessened) due to their usage, then there might be no *greater* resistance from a local populace than would be encountered for more conventional weapons. There is some empirical evidence (albeit limited) to back up this possibility (Plaw 2010). Further, the possibility has some intuitive plausibility when we note that the

majority of hostile responses to UAVs by local populaces have come, as usual, when they have inadvertently hit civilian targets – but we have seen this same response in other conflicts when similar strikes were delivered from (say) a B-52 bomber flying at altitude dropping munitions. Again, this seems to point to the possibility that the particular platform dropping the bomb (inhabited or uninhabited) is not what generates a hostile response from the people below, but whether the attack was justified and hits legitimate targets.

But perhaps this response fails. There is, admittedly, some strong empirical evidence suggesting just the opposite: that local populaces' particular resistance to UAVs is precisely due to the fact that they are uninhabited. But so be it. For even if the first response fails, recall that my argument for the ethical justification of UAVs requires that there be no reduction in just warfighting capability. So even if it *does* turn out that in a given theater of operation UAVs do, in fact, cause significantly greater resistance from the local populace as compared to the resistance that similar inhabited vehicles would generate (perhaps because the population thinks they are cowardly or some similar response), then they should not be used on OP grounds. Such a limitation would clearly fall under the 'significant loss of capability' clause of OP. And, of course, this is an empirical question, not an in-principle objection to UAVs.²⁹

The third concern – that UAV technology makes such actions easier to carry out – similarly does not offer a principled objection to the moral obligation to use UAVs.³⁰ It is true that the extended ability of platforms such as the Predator to 'hover' and stay in a localized area for long hours, even days, and observe targets, is a clear combat advantage. Many inhabited aircraft do not have such capacities. And, further, some of the remote areas where such strikes are carried out by UAVs are such that they would be inaccessible to similar inhabited weapon platforms. But these facts about the superior capabilities of UAVs do not count against OP. Just as the advent of airpower brought with it many new and often superior ways warfighters could engage in combat (both justified and not), such advantages do not imply anything inherently wrong with airpower as airpower. Further, the mere existence of such advantages does not force policymakers to misuse these capabilities. Certainly, it would be impossible to drop bombs on innocent civilians if planes did not exist. But that some drop bombs on innocent civilians does not make airplanes morally suspicious, but rather those who so use them to drop bombs. The same holds true for the new capabilities brought about by UAVs.

Thus, there is nothing peculiar to UAVs in regards to the ethical concerns over their present use in targeted killings around the globe. It is the morality of the United States' recent policy of targeted killings we must debate here; not the ethical justification of UAVs.³¹

Objection 5: UAVs Create Unjust Asymmetry in Combat

This objection normally runs as follows: The use of remotely controlled weapons by one force against another force that does not have similar technology crosses an asymmetry threshold that makes the combat inherently

ignoble. That is, the extent of asymmetry in the combat abilities between two opposing sides becomes so great when one side employs remote weapons that the fight is intrinsically unfair and that, in turn, makes the use of said remote weapons morally impermissible. This position is usually held because in such circumstances one side literally does not take *any* life-or-death risks whatsoever (or nearly so, since its warfighters are not even *present* in the primary theater of combat) whereas the opposing side carries all the risk of combat.

Response

As an objection against the ethical justification for remotely controlled weapons broadly, and UAVs in particular, this commonly heard argument fails. First, if someone holds that justified combat should be a ‘fair fight’ between sides, at least to some degree, then I would argue that contemporary military engagements crossed that threshold long ago. How fair is the present fight between an F-22 pilot flying at altitude delivering a precision missile and a tribal warrior wielding a rocket-propelled grenade? If there is a moral problem here due to asymmetry, it seems to have occurred long before UAV implementation and is not endemic to them. But, second, even *if* the actual removal of the warrior from the theater of combat represents a truly new level of asymmetry in combat (and perhaps it does), this alone is still no argument against doing it.³² This is because if one combatant is ethically justified in their effort, and the other is not, then it is *good* that the just warrior has the advantage and is better protected.³³

Here I am following Jeff McMahan’s recent work rejecting the moral equality of combatants (see McMahan 2009). That is, the warrior fighting for a just cause is morally justified to take the life of the enemy combatant, whereas the unjust fighter is not justified, even if they follow the traditional principles of *jus in bello* such as only targeting combatants and the like, to kill the justified fighter. Thus, there is no chivalrous reason for a just combatant to ‘equal the playing field’ or ‘fight fair.’ If combatant A fights under a just cause, while combatant B fights for an unjust cause, combatant A owes nothing to combatant B by way of exposing his/herself to some minimal threshold of risk. Thus, it is *right* for combatant A to reduce the risk in an engagement with the unjust enemy.

But even if one disagrees with McMahan’s position and the rejection of the MEC, there are still no grounds to object to the protecting of a soldier under the ‘fair fight’ objection. A MEC advocate would still presumably agree that armed forces pursuing a justified action as part of a just war is justified to do all they can to protect their soldier so long as that protection does not hinder the soldier’s ability to follow *jus in bello* principles. The only difference is that a MEC advocate will think the unjust aggressor state enjoys the same allowance to protect their warfighter similarly.³⁴ That is, even if one thinks that soldiers enjoy a symmetrical position of the right to individual defensive measures in a given conflict, this in no way prevents either side from maximizing their personal defense so long as it is not at the

cost of *jus in bello* precepts; indeed, such precepts (under MEC) would explicitly allow it.³⁵

Thus, again, the argument for a 'fair fight' fails on two counts. First, it is already overcome by earlier technological advancements because present military operations are already far from fair even without the asymmetry of UAV weapon systems and thus the issue here is not with UAVs properly speaking. And, second, the desire for a 'fair fight' is simply a weak claim in the first place; something akin to an archaic demand of military commanders in eighteenth century warfare to line up their troops across from one another for a 'dignified battle.' There is simply no normatively compelling reason to think a justified military force need have a fair fight anymore than we would think a police force ought not use bullet-proof vests to offer dangerous criminals a fair fight.³⁶

But perhaps this still does not give the objection its due. Paul Bloomfield once remarked that simply the idea of 'being killed by remote control' is powerful and disturbing.³⁷ The intuition seems to be that killing someone in such a manner is profoundly disrespectful; that a human being deserves to be able to at least point at his or her killers (and condemn them, if they are unjust) even if his or her killers are cruising 20,000 feet above in a plane. The thought is that at least a human being in a plane high above is less of a 'faceless' death wrought upon someone than a robot being operated remotely would be. Or consider the sentiment Uwe Steinhoff raises in discussing remote weaponry generally and how the odd risk asymmetry it creates (making the targets of attack 'defenseless') does not feel like 'honorable' warfare:

To be sure, I do not deny that there is something fishy about attacking the defenseless. What is fishy about it might be captured very well in this passage: 'The pilot of a fighter-bomber or the crew of a man-of-war from which the Tomahawk rockets are launched are beyond the reach of the enemy's weapons. War has lost all features of the classical duel situation here and has approached, to put it cynically, certain forms of pest control' (Steinhoff 2006: 7).³⁸

It must be admitted that there does appear something ignoble or dishonorable in such a vision of warfare as 'pest control' that Münkler's quote describes. Perhaps it is that such distance makes warfare seem too clinical or cold-hearted.³⁹ Many will have sympathy with such a sentiment when envisioning UAV warfare – myself included. But whatever this sentiment is, it does not amount to a normative argument; such a 'feeling' does not constitute a moral reason for rejecting UAV use. Something being disturbing does not by itself make it wrong. This sense of the ignobility must be elucidated into a coherent and compelling ethical argument against using UAVs; mere displeasure at imagining their employment does not help us. As Steinhoff writes,

Judged from a traditional warrior's code of honor, a code that emphasizes, among other things, courage, there is nothing honorable in killing off defenseless enemies (whether it is therefore already *dishonorable* is yet another question). But honor and morality are not the same, and honor and the laws of war are not either. In short, the prohibition of

assaults upon the defenseless is neither an explicit nor an implicit principle of the laws of war or of just war theory (Steinhoff 2006: 8).

Steinhoff is certainly right in this. I would add that a crucial element in how one ‘feels’ about imagining such warfare depends on whether or not the precision missile strike in the picture envisioned is justified or not. Is it a military strike as part of a fully justified defense against an aggressing, unjustified, destructive enemy force? Is the strike hitting a legitimate and morally culpable target? If it is, such factors temper our view of the strike considerably and move us away from the ‘pest control’ picture. In such a case, we should desire that the just warrior be well protected from any possible threat that this enemy might proffer – protection that the UAV affords.

Objection 6: Reduction of the *jus ad bellum* Threshold

The worry here is that the asymmetry in combat abilities created by the advanced technology of UAVs, and in particular by the massive reduction of risk to the UAV pilot, makes it too easy for the nation employing UAVs to go to war.⁴⁰ That is, the asymmetry created by UAVs lowers the *jus ad bellum* threshold such that more unjust wars might be conducted because the risks of war to a nation-state could become so minimal.⁴¹

Response

This objection, on first glance, may appear to be the strongest objection to the implementation of UAVs. The worry that it will be easier to go to war if we have technology X, and thus more tempting to enter into unjust wars (making more unjust wars more likely), is intuitively plausible. But this kind of argument ultimately fails for the objection does not succeed in negating the present moral imperative to use UAVs as derived from PUR. To see why this is, consider two possible worlds, Alpha and Beta. In Alpha, nation-state Zandar has developed the technology to make bullet-proof vests for its military members to wear in combat which significantly decreases the risks they incur in battle. Zandar, in accordance with PUR, produces these bullet-proof vests and has its military members wear them. In world Beta, nation-state Zandar has developed the same technology and has the bullet-proof vests available. However, it reasons that if it uses these bullet-proof vests, war would ‘cost’ it less in terms of risks to its own troops and, thus, be easier (and thus more tempting) to wage. In such circumstances, Beta-world-Zandar worries, more unjust wars are more likely. So it decides not to use bullet-proof vests in order to make war more costly to wage (by intentionally increasing the risk to its soldiers) in the hopes that this will lessen the likelihood that Zandar will engage in an unjust war in the future. Aside from this one decision, the worlds Alpha and Beta are identical.

Let us assume that it turns out Beta-world-Zandar’s reasoning was correct. That is, going forward from this juncture there does, indeed, end up being some greater number of unjust wars waged in world Alpha than in world

Beta. The use of the bullet-proof vests in some way lowered the threshold for going to war for Alpha-world-Zandar enough that it made a positive difference on the total number of wars fought – which included some unjust wars. I still contend that Beta-world-Zandar’s decision was morally impermissible. This is because the normative force of PUR upon present actions is too strong to overcome such weak predictive calculations of future possibilities.⁴²

I will show why this is shortly, but first note that the scope of this issue far exceeds UAVs and bullet-proof vests, of course, but strikes at *any* asymmetry in military technological development whatsoever. Any improvement to a given military’s capabilities that gives it an advantage over its potential enemies will face the same objection offered here against UAVs. But that would mean that this objection could be used to block the development and implementation of *any* military technology that creates any asymmetry. Further, the objection could actually be employed to work backwards: that current militaries should intentionally reduce military capabilities in order to make war more costly to them since doing so would place their soldiers at greater risk. Following this logic could even lead to the conclusion that a state should have their militaries throw away their weaponry and all defensive technology, for certainly a neutered military would be less likely to engage in unjust wars in the future.

I grant that this worry about asymmetry created by improvements in military technology making it easier to go to war may well be a legitimate concern. But it is a logic that quickly runs to demanding no military technology whatsoever in the hopes of avoiding future unjust wars. Perhaps this is correct. Perhaps there should be no militaries. But notice that we are now a far cry from arguing over UAV technology. We are arguing over the existence of any military weaponry or advancement whatsoever. If so, then this is not actually an objection *specific* to UAVs in principle. Moreover, if objection 6 is correct in this way, then OP still stands – it is just a vacuous claim: as would be *any* claim about the possibility of justified use of military weaponry of any kind.

But the problems with the objection run even deeper. As I alluded to above, the reasoning by Beta-world-Zandar not to use the vests, notice, rests on epistemically dubious calculations that are predictive about *themselves* doing something wrong in the future (‘we might be more likely to do wrong action X down the road’) over epistemically solid calculations to protect their own just warfighters presently (‘our soldiers will be safer *today* if they wear the vests.’) Notice what odd moral reasoning would be occurring were objection 6 to work: *because* we will most likely behave unjustly in the future, we should behave unjustly in the present (by violating PUR in choosing not to protect our warriors as best we can) in order to try to prevent ourselves from acting unjustly in the future. If that holds, we have a strange account of moral epistemology at work, to say the least. We should forego taking presently morally correct action A in order to help restrain our future selves from the likelihood of committing morally wrong action B. In other words, we should do something wrong now in order to (hopefully) better stop ourselves from doing something wrong in the future.

This seems odd, although there could perhaps be cases where such decisions are the right actions – the lesser of two evils, perhaps. But notice that the Beta-world-Zandar decision is not a straightforward case of present self-restraint to limit future potential wrongdoing for, presumably, *usual* cases of present self-restraint are not acts that are themselves impermissible. For example, imagine a man, Tom, who knows he tends to get very angry and do intemperate things. Tom decides he should lock up his gun in a safe and give the key to it to a trusted friend. Tom does this present act to restrain his future self from doing something wrong. But Tom's locking up his gun is not an impermissible act viewed on its own. Violating PUR by not protecting just warfighters is a presently impermissible act viewed in isolation. Thus what makes the reasoning of Beta-world-Zandar's decision so strange: they are intentionally putting their soldiers at greater risk now (which would be considered impermissible in isolation) in order to restrain themselves from doing something impermissible in the future. The comparison back to Tom would be if Tom decides to punch his friend Sam now (which is impermissible) because it will help him not do something worse in the future (such as kill Bob). If that is actually the case, then this *could* be the right thing to do. But notice that we would require a rather high level of epistemic certitude for Tom's knowledge of this scenario – and that there is no other means to avoid killing Bob – in order to deem his act justifiable. That is, if Tom has near *certainty* that the only way to prevent himself from killing Bob in the future is by punching Sam now, then perhaps it is a justified act. But one wonders how Tom could *ever* have such epistemic certitude predicting future acts. The same is true for Beta-world-Zandar.

But perhaps it is still possible that such a decision is justified. This is because, one could argue, I am here equivocating on the moral weight of the present wrong of failing to protect just warfighters and the future potential wrong of more unjust wars. If they are of vastly different moral significance and consequence, then perhaps it is justifiable to do a lesser wrong now in order to increase even the slightest chance of avoiding a much greater wrong in the future. I grant this possibility. Indeed, one could argue that such a decision is directly in accord with PUR since the good of avoiding future wars is a greater good than the present protection of just soldiers (that is, some would argue that such a calculus is demanded by justice).

The trouble with applying this to our present case is the high degree of epistemic uncertainty we have in predicting future states of affairs, particularly future decisions to go to war. That is, even if the wrong of sacrificing the protection afforded to just soldiers is a lesser evil than the possibility of future unjust wars, we have complete confidence in the *present* wrong occurring but we would be far less than certain of the future wrong occurring. In other words, the *odds* of that future wrong occurring will matter and it is unclear how we could reliably predict such odds. The odds need not be equal between the wrongs, of course. If the greater evil was great enough, we could perhaps need only a relatively small chance of its occurrence to outweigh even the certainty of a lesser evil. But, again, it is unclear if we can even have *that* small level of epistemic confidence that a given weapon

technology (be it bullet-proof vests, M-16 rifles, or UAVs) would lead to greater instances of unjust wars; or at least not the level of confidence we would need to trump the demand not to commit the present wrong.

So even if it turns out that future worlds would be ones with less war were we to intentionally limit our own military technological development, we cannot have enough epistemic certainty in knowing this presently to overcome the demands to protect the just warfighter. Short of a crystal ball, I cannot imagine how we could ever have the level of certainty for predictive knowledge claims of future group behavior that would be necessary to claim that the future *possible* good should outweigh our present moral duty not to unnecessarily risk others. Perhaps it can be done, but this must be demonstrated before we intentionally bring unnecessary risk upon others. That is, one would have to show how we can have such epistemic confidence that we are not violating PUR (via the demands of justice override) in not presently protecting just warfighters. The burden of proof will be on those claiming that we must presently undertake an act that we would usually consider impermissible in isolation in order to avoid a future evil that we do not have complete confidence in. Hence, although it is certainly possible that use of UAVs could lower the costs of going to war for a given state and, thereby, lower the threshold for going to war such that a state might have an increased likelihood of engaging in a war that is unjust, such predictions cannot be the basis for demanding an intentional violation of PUR given our present epistemic limitations.

This is an unhappy conclusion. While I have great sympathy for the worry, it seems PUR is too strong to overcome with such shaky future predictions as to the unethical decisions a future state would make. And, again, if we allow this block against UAVs it would set in motion a moral principle that would not stop at UAVs but encompass all military technology – not just its future development but retroactively demand that present military technology creating force asymmetry be intentionally reduced.⁴³ If this is sound we could eventually be back at demanding that Captain Zelda *should* be required to fight with no bullet-proof vest, no rifle, and with only a rock in order to make war ‘cost us more’ so that we would be less likely to engage in an unjust one. But this is absurd. If a war is just, we are obligated to protect the just warfighters engaging in it. UAVs do precisely that.

Conclusion

UAVs will have an increasingly large presence in military operations on all levels; this much appears increasingly inevitable. Here I have made the case that any new technology that better protects the just warfighter is at least a *prima facie* ethical improvement and is morally required to be used unless there are strong countervailing reasons to give up that protection. I have argued that if using UAVs (as a particular kind of remote weapon) does not incur a significant loss of capability – particularly the operators’ ability to engage in warfare in accordance with *jus in bello* principles – then there is an ethical obligation to use them and, indeed, transition entire military

inventories to UAVs anywhere it is possible to do so. In fact, I endorse the stronger claim that such a proposed transition would not only be feasible without a significant loss of capability but would actually *increase* weapons systems capability *and* the ability to fight justly.⁴⁴ All of the concerns regarding UAVs presently on offer do not negate this ethical obligation to use uninhabited weapon systems and should be properly viewed instead as indictments against mistaken policy decisions and specific instances of force application – not as principled objections against UAVs themselves for none of the concerns are endemic to UAVs in any significant way.

Finally, I note that this paper is in the odd position of arguing for the ethical obligation to use UAVs for a putatively just military action in the current context wherein much, if not all, *actual* UAV employment is part of military actions that are morally questionable or outright impermissible. The particular contemporary circumstances and misuses of UAVs, however, do not trump the moral principles underlying the ethical obligation to employ UAVs for *just* actions. Indeed, this highlights the central point well: the first question for the morally permissible use of *any* weapon technology is, of course, whether the military action itself is morally justified. If it is not a justified undertaking in the first place, then it does not matter if it is carried out via a crossbow, a sniper rifle, or a UAV; it is morally impermissible regardless. If the act is morally justified, however, we are obliged via the demands of PUR to protect the agent ordered to carry out that action as best we can; be it a police officer apprehending a dangerous criminal, an EOD technician disarming a bomb, or a just warrior fighting an unjust enemy. Hence, the ethical obligation to employ UAVs.

Acknowledgements

The author would like to thank Jeff McMahan, Martin Cook, Uwe Steinhoff, Avery Plaw, Paul Bloomfield, Shawn Kaplan, Andrew Ely, Alexis Elder, Donald Joy, Matt Hallgarth, John Sherman, Casey Johnson, Abbi Lynn Strawser, and Bill Rhodes for helpful discussions, comments, and editorial advice on this paper throughout its various stages. Special thanks are owed to Stephen Kershner, in particular, for his thorough criticism and help. Thanks as well to an anonymous reviewer for the *Journal of Military Ethics* for his or her very helpful comments. Thanks are also due to the participants at the 2010 International Society of Military Ethics Conference and the participants of the 7th Global Conference on War and Peace where some early sections of this paper were presented. Finally, the author is indebted to the members of the UConn Ethics Summer Reading Group for a thorough discussion of the paper.

Notes

¹ And there are other locations where it is presumed (although not verified) that lethal UAV employment has taken place, such as in Gaza by the Israel Defense Forces. In this paper I will refer to these remotely controlled weapon systems primarily as UAVs (Uninhabited Aerial Vehicles) and occasionally

as drones. UAVs that are used for lethal combat purposes are sometimes referred UCAVs (Uninhabited Combat Aerial Vehicles), but I will not use that locution here. See below for further clarification of these terms and some important distinctions. For a far more in-depth classification of various types and kinds of remote weapon systems see Sparrow (2009).

- ² Singer (2009) gained wide press and much of his work discusses these ethical concerns over drones. Recent events such as the potential *jus in bello* violations wrought by Predator drones in Afghanistan – have received international media attention. Various human rights watchdog groups raised alarm over recent Israeli strikes in Gaza using the Predator platform supposedly against noncombatants. In the past year alone, publications such as *The New Yorker*, *The Atlantic*, the *Washington Post*, *Scientific American*, the *New York Times*, and media outlets such as National Public Radio and Public Broadcasting Systems, have all had substantial reports and several highly critical opinion pieces on the use of UAVs. Additionally, there are many in the United States military community itself who do not question the efficacy of UAV usage but rather have principled worries concerning their use such as those mentioned above. It is currently a ‘hot topic’ at professional military ethics and development conferences.
- ³ Occasionally, such aircraft are instead referred to as Remotely Piloted Vehicles (RPVs). This is especially the case in present US Air Force usage which could be due to public relations concerns over worries regarding autonomous weapon systems. That is, ‘RPV’ emphasizes that these vehicles are still controlled by human pilots. That we see a move away from the UAV moniker back to the RPV idiom in common discourse is telling of the felt need by some in the military community to emphasize that these aircraft still require human pilots (particularly the pilot community in the US Air Force). For more on this phenomenon see Fitzsimonds and Mahnken (2007). See Sparrow (2009) for more fine-grained distinctions on the kinds of uninhabited weapon systems and their classifications. Also see Sparrow (2007).
- ⁴ See all of the following for good expositions of the historical trail leading to present day lethal UAVs: Singer (2009), Card (2007), Mustin (2002). For a good overview of the planned future of UAVs, see Office of the Under Secretary of Defense (2006). Note that technically speaking, UAVs are not individual aircraft but weapon systems involving several aircraft and ground control stations.
- ⁵ Such as the land-based Foster-Miller’s Special Weapons Observation Remote Direct-Action System (SWORDS) or Qinetiq’s Modular Advanced Armed Robotic System (MAARS) weapons. See Arkin (2009) for a good overview of such weapons.
- ⁶ Some argue that PUR as presented here is false due to the possibility of someone entering into a foolish agreement with another. Imagine if X signs a contract with Y to follow his commands no matter how stupid or irrational they may be. In such a case, if Y orders X to incur potentially lethal risk for no good reason, then X cannot claim that his right is infringed. Assuming X entered into the agreement with informed consent and was not under coercion or exploited, one could argue that Y’s order is not morally impermissible. (Thanks to Stephen Kershnar for this objection.) If one wish to grant this is possibility, then PUR can be amended to reflect those relationships where X enters under the authority of Y on the assumption that Y will not order him to take on risk for no good reason; that is, X assumes Y will follow PUR. At any rate, I think most military members in Western militaries implicitly expect their commanders not to risk their lives unnecessarily.
- ⁷ That is, in my view there may very well be a self-regarding duty to oneself that is entailed by PUR, but I set aside the possibility here to avoid libertarian objections and paternalism concerns. I am strongly inclined to think, however, that there is a self-regarding form of PUR that could hold up against many libertarian objections so several initially apparent counter-examples to PUR would not actually hold. For example, some may offer the activity of skydiving as a morally permissible act to undertake even though it involves incurring potentially lethal risk. But PUR would allow for the moral permissibility of this action for, presumably, the lethal risk involved in skydiving is actually a necessary part of the good sought by the action. In this case, the good is the thrill and excitement of the act of jumping out of an airplane. Thus, the ‘rush’ sought after by such skydivers (among other possible goods they seek when undertaking the activity) requires taking on the risk. So, according to a self-regarding PUR, it would be morally permissible for an agent to take on the risk of skydiving because that risk directly contributes to the good sought. Whether or not seeking out death-defying activities for the sake of an adrenaline rush is a good that should be sought (or a good at all) is another matter. The PUR does not resolve disputes over what is and is not a good to seek, but rather only the moral demand not to unnecessarily incur lethal risk in seeking an established *putative* good.

- ⁸ Thanks to an anonymous reviewer for suggesting such a principle.
- ⁹ Indeed, I think there are strong arguments that can be made against resource expenditures for military ventures in general when it is shown the plethora of other good ways such resources could be alternatively spent. It is an empirical question, certainly, but it is not implausible in the least to imagine that, for example, the roughly \$750 billion dollars the United States has spent thus far on the war in Iraq could not have been spent in other ways that would have done far more good in the world. But that is a debate for another paper. For an interesting presentation of the various trade-offs military expenditures impose on a populace, see the National Priorities Project (2010) for the literal financial cost of war.
- ¹⁰ Notice that, if true, then OP carries with it a corollary to pursue the development of and transition to an all-UAV military force: (OPT) For any given state, if it is possible to transition its entire military inventory of inhabited aerial vehicles to UAVs without a significant loss of capability, then that state has an ethical obligation to do so.
- ¹¹ Although it certainly appears to be technologically possible since there are already UAVs in operation. See below for some discussion on this.
- ¹² Although, granting the ethical obligation to protect the just warfighter I lay out below, this would have to be a truly astronomical cost – particularly in relative comparison to the amount presently spent on defense budgets. Of course, it's entirely possible that morality demands resources be spent on other things entirely outside of defense costs, such as education, development, and the like. But that is another matter.
- ¹³ Notice that although this paper is focused on lethal UAVs, the corollary claim of OPT (see note 10) would hold for all aircraft. That is, even cargo planes and the like (even those used to transport soldiers), should be transitioned to UAVs. The idea is simple: risking one less person on the flight (the pilot or pilots) is better than risking them if not necessary. However, of course, it is quite possible that troops would refuse to fly on a plane without a present pilot. If that is the case, then that would be a 'significant loss of capability' and so, perhaps, UAVs are not equally capable as inhabited aircraft in the case of troop transporting cargo planes. An example of such platforms for small cargo loads is the Mist Mobility Integrated Systems Technology (MMIST) CQ-10A SnowGoose which is already operationally capable.
- ¹⁴ Singer (2009) also discusses the use of bomb-disarming robots and the connection between their use and the use of remote robots and weaponry more broadly by military forces.
- ¹⁵ Thus, while it is true that UAV usage is ethically impermissible in such instances, so too would *any* kind of strike via *any* kind of weapon system (inhabited or uninhabited) be impermissible; the impermissibility does not derive from UAV-specific employment. That is, it is not the UAV *qua* UAV that makes such a strike impermissible.
- ¹⁶ I will note briefly that I am not even airing objections that claim UAV employment is 'weak' or somehow not 'tough enough' or 'cowardly.' These responses against UAVs derived from some type of wrong-headed machismo are certainly common but, one hopes, are not taken seriously by any military policy decisionmakers. See below for discussion on how the perception of the UAV by enemy forces, however, could have an impact on determining its capability.
- ¹⁷ Some worry over this development and others laud it. Arkin (2009), for example, sees the development of UAVs as in-line with the development of IAWs and focuses his work on how to develop such autonomous systems to follow the Laws of Armed Conflict and various Rules of Engagement (how to give the machines an 'ethics upgrade'). Arkin contends that such developments are moral improvements and should be pursued with vigor.
- ¹⁸ For some helpful efforts to this end, see Sparrow (2007).
- ¹⁹ Indeed, precisely because I do agree with the first premise of objection 1, I argue that now is the time to institute policies that would block IAW development even while we develop UAV and other remote weapon systems that are human controlled.
- ²⁰ Many thanks to an anonymous reviewer for this objection.
- ²¹ This position is controversial and widely discussed. Or, better, the entire notion of who should bear risks in any conflict is greatly contested, but most of the debate hinges on questions of liability, debates over the doctrine of the moral equality of combatants (MEC), and distinction issues. If a just warrior was fighting in a truly just war and the innocents in question were truly innocent and in no way liable, some will argue their moral status (the just combatant and the innocent) is equal. And, thus, while just warriors should do all they can to shield the innocent from harm, they should not treat the

noncombatants' worth as above their own safety. And once the doctrine of the moral equality of combatants is disposed of (see below on McMahan), it can become difficult to sustain my view (that the just warrior ought to bear the burden for shielding innocents from harm) for all cases, particularly once strict boundaries between combatants and noncombatants are questioned. Seth Lazar has argued that McMahan's position becomes untenable in precisely this way because liability will extend to far too many noncombatants in ways that should make them justifiable targets in McMahan's rubric. See Lazar (2010). Steinhoff (2008) has challenged McMahan on his rejection of MEC by using claims from within McMahan's own theory. See McMahan (2008) for a thorough response.

- ²² *Nota bene*: In this objection I am focusing solely on the *technical* ability of UAVs to discriminate properly; I will consider the impact on the psychology of the warfighter (and subsequent *in bello* worries therein) below in objection 2.
- ²³ And see Plaw (2010) cited above for all the various references used in creating the database. Regarding the estimate for the global causality ratio, see Osiel (2009: 143) and Kaldor (1999: 8).
- ²⁴ Many thanks to several UAV pilots for firsthand accounts and discussion of these phenomena (their identification is withheld by request). See Wallach and Allen (2009) and Singer (2009) where the cavalier attitude of treating UAV operations like a video game is discussed.
- ²⁵ Militaries could even go so far as to force UAV operators to live in bunkers and set off fake mortar rounds and so forth around the compound in order to make it feel more 'real' if such effects were shown to help overcome this supposed problem of cognitive dissonance caused by being too far from the battlefield.
- ²⁶ See, for example, Mayer (2009). Notice that nowhere in this long article does the author ever discuss the ethical justification of UAVs themselves. As nearly all recent discussions of UAVs in the public square do, it goes into great detail regarding the ethical concerns raised by targeted killings, sovereignty issues regarding operations in Pakistan, worries over military functions being carried out by a non-military department of the government (the CIA), and so forth, without ever discussing the ethical justification of UAVs in principle.
- ²⁷ For an interesting discussion of the justification of assassination see Kaufman (2007). See also Kershnar (2004). For an argument that many leaders should not be treated with non-combatant immunity but are legitimate targets, see Kershnar (2005). Presumably, the UAV-targeted leaders of Al-Qaeda and the Taliban would fit as such targets under Kershnar's argument. Gross (2006) gives the argument that targeted killings cannot fit into a proper moral category. If they are an extension of law enforcement, they fail due process, and assassination as self-defense seems implausible, or so Gross argues.
- ²⁸ For a helpful account of the future of this new form of warfare, see Dipert (2010).
- ²⁹ I will note, however, that such an empirical question would be very difficult to determine in many contexts. That is, the question is not if a given local populace would display resistance to munitions being dropped by UAVs (that is likely). Rather the empirical question that would have to be determined is if that resistance to UAVs is significantly greater than what resistance *would be* encountered via an inhabited aircraft. And that would be hard to determine, to say the least.
- ³⁰ This kind of objection is raised by Phythian (2010).
- ³¹ For a helpful discussion of this point see Kolff (2003).
- ³² A further reason to think that the removal of the warrior from the theater of combat in itself is nothing particularly new is the existence of Intercontinental Ballistic Missile operators and the like who are certainly removed from the theater of combat where their munitions would be delivered. (Thanks to an anonymous reviewer for this point.)
- ³³ An important point to note here is that the operators of UAVs would be considered combatants under the traditional just-war theory rubric. (Thanks to Uwe Stienhoff for raising this point.) I'll remain neutral on this point (if for no other reason than that I reject the moral equality of combatants thesis), but note that whatever one's division of combatants, the UAV pilots would certainly still qualify. This has the (perhaps odd) result of meaning the UAV operators would be legitimate targets under most just-war accounts, even though they would be conducting operations from their office thousands of miles away (at places like Nellis Air Force Base, Nevada.) So be it.
- ³⁴ Interestingly, McMahan holds that those who fight without a just cause cannot, in principle, ever satisfy the *ius in bello* principle of proportionality. See McMahan (2004). But a traditional advocate of MEC would disagree, of course. For an attempt to defend some of the traditional elements entailed by MEC, see Benbaji (2008).

- ³⁵ For a good discussion of some of the complexities and difficulties of symmetrical rights to personal defensive measures enjoyed by soldiers on the traditional just-war theory model (contra the asymmetry of a right to personal defensive measures in individual self-defensive cases where culpability is included in such determinations) see Emerton and Handfield (2009). For a good note on this issue of liability and defense see McMahan (2005: 10) and McMahan (2009).
- ³⁶ Additionally, there is a different concern with the asymmetry created by advanced technology which worries that the asymmetry makes it too easy to go to war and thus lowers a nation's *ius ad bellum* threshold too far. I will address this separate concern below.
- ³⁷ Paul Bloomfield, personal correspondence, 12 July 2010 and discussions held at the University of Connecticut ethics reading group, summer 2010.
- ³⁸ Steinhoff is quoting from Münkler (2003: 234), Steinhoff's translation. In the original paper Steinhoff is discussing the general lack of bravery involved in attacking the defenseless as part of the debate over torture. The quote is referencing an attitude against any remote weaponry where the warrior has effectively removed his/herself from risk, and, as such, can easily be applied to UAV usage. Note that it further affirms the point above that if there *is* some kind of dishonorable fight for UAVs due to the asymmetry of the combat, the threshold was crossed long before UAVs (as in Münkler's referencing Tomahawk missiles) and is therefore not endemic to them, in particular, but to modern warfare across the board. The use of the phrase 'pest control' to describe what is seen as this particularly non-courageous form of warfare was discussed in my panel at the 7th Global Conference on War and Peace, 2010, Prague, Czech Republic. Many thanks to Uwe Steinhoff for permission to use the remark and directing me toward Münkler's work.
- ³⁹ Bloomfield argues that the root of the 'pest control' worry is our aversion to being treated as pests ourselves were we to be attacked via remote control. If UAVs were used by our enemies against us, we would think they are wronging us in some way to kill us in this manner (wronging us over-and-above the killing itself, that is.) Thus, the thought runs, we should extend this respect for all people into all contexts, even against the unjust enemy: that is, all humans deserve the respect of not being killed via such remotely controlled 'pest control' measures.
- ⁴⁰ Notice I say the 'massive reduction in risk' not total reduction for, presumably, on most just-war theory accounts, the UAV operators would still be considered liable targets for attack since they would most certainly be combatants. For more on UAV operators being legitimate targets, see Singer (2009: 386).
- ⁴¹ Thanks to the audience at the 2010 International Society of Military Ethics Annual Conference in San Diego for the thorough discussion of this objection.
- ⁴² It could be objected here that this analogy does not hold because of different obligations that arise from 'purely' defensive military technologies (such as bullet-proof vests) as opposed to those offensive weapons that serve to increase defensive capabilities (such as UAVs). The distinction between offensive versus defensive military capabilities is contentious for many reasons. For one, anything (such as a vest) that increases a soldier's defensive abilities will thereby increase that person's value as an offensive force. But, I will not argue this point here. If one is convinced that my story regarding Zandar does not apply to UAVs due to the offensive/defensive distinction, then the entire thought experiment could be re-cast with the use of eighteenth century muskets versus the use of contemporary M-16 rifles as the competing choices. The muskets (clearly offensive weapons) would reduce the troops' defensive capabilities because they take longer to load, are less accurate, etc. After replacing vests with M-16s, the results of this thought experiment, *mutatis mutandis*, would be the same. Thanks to Donald Joy for helping to develop this point.
- ⁴³ I should note, of course, that there is a long history of arguments for disarmament that proceed precisely along these grounds; particularly for nuclear weapons. Notice, however, that the strongest arguments of this type are advanced against particular technologies that are viewed as ethically problematic in principle in isolation from other evils. That is, there is something wrong with (say) nuclear weapons or landmines in principle (the inability to discriminate, etc.) that provides an impetus for banning them in the first place, wholly apart from what future harms they could make more likely. *Additionally*, by reducing them we reduce the future chance of their unjust use. But this is precisely because any future use of them would be unjust so we can have a *certainty* that if they were ever used in the future, such use would be unjust. This is entirely different for UAVs, which *can* be used justly in some circumstances.

⁴⁴ Although I have not fully argued for this stronger claim here. Again, see Plaw (2010) cited above. Of course, if this stronger claim is true, it would press an even greater ethical obligation to employ UAVs and transition military inventories to all-UAV forces.

References

- Arkin, R. (2009) *Governing Lethal Behavior in Autonomous Robots* (New York: Chapman & Hall).
- Asaro, P. (2006) What Should We Want From a Robot Ethic? *International Review of Information Ethics*, 6, pp. 9–16.
- Asaro, P. (2007) How Just Could a Robot War Be? Paper presented at 5th European Computing and Philosophy Conference, Twente, NL, June.
- Asaro, P. (2007) Robots and Responsibility from a Legal Perspective. Paper presented at IEEE International Conference on Robotics and Automation, Rome.
- Benbaji, Y. (2008) A Defense of the Traditional War Convention, *Ethics*, 118, pp. 464–495.
- Card, J. (2007) Killer Machines, *Foreign Policy*, May, p. 92.
- Cook, M. (2004) *The Moral Warrior* (Albany, NY: SUNY Press).
- Dipert, R. (2010) The Ethics of Cyberwarfare. Paper presented at International Society of Military Ethics Annual Conference, San Diego, CA, January.
- Emerton, P. & Handfield, T. (2009) Order and Affray: Defensive Privileges in Warfare, *Philosophy and Public Affairs*, 37, pp. 382–414.
- Fitzsimonds, J. R. & Mahnken, T. G. (2007) Military Officer Attitudes Toward UAV Adoption: Exploring Institutional Impediments to Innovation, *Joint Forces Quarterly*, 46, pp. 96–103.
- Gross, M. (2006) Assassination and Targeted Killing: Law Enforcement, Execution, or Self-Defence? *Journal of Applied Philosophy*, 23(3), pp. 323–335.
- Himma, K. (2007) Artificial Agency, Consciousness, and the Criteria for Moral Agency: What Properties Must an Artificial Agent Have to be a Moral Agent? Paper presented at 7th International Computer Ethics Conference, San Diego, CA, July.
- Kaldor, M. (1999) *New and Old Wars* (Palo Alto, CA: Stanford University Press).
- Kaufman, W. R. P. (2007) Rethinking the Ban on Assassination, in: M. W. Brough, J. W. Lango & H. van der Linden (Eds), *Rethinking the Just War Tradition* (Albany, NY: SUNY Press).
- Kershnar, S. (2004) The Moral Argument for a Policy of Assassination, *Reason Papers*, 27, pp. 45–67.
- Kershnar, S. (2005) Assassination and the Immunity Theory, *Philosophia*, 33(4), pp. 129–147.
- Kolff, D. W. (2003) Missile Strike Carried Out with Yemeni Cooperation – UsingUCAVs to Kill Alleged Terrorists: A Professional Approach to the Normative Basis of Military Ethics, *Journal of Military Ethics*, 2(3), pp. 240–244.
- Lazar, S. (2009) Responsibility, Risk, and Killing in Self-Defense, *Ethics*, 199, pp. 699–728.
- Lazar, S. (2010) The Responsibility Dilemma for Killing in War: A Review Essay, *Philosophy and Public Affairs*, 38(2), pp. 180–213.
- Mayer, J. (2009) The Predator War: What are the risks of the CIA's covert drone program? *The New Yorker*, October, accessed 26 October 2010, available at: http://www.newyorker.com/reporting/2009/10/26/091026fa_fact_mayer; Internet.
- McMahan, J. (2004) The Ethics of Killing in War, *Ethics*, 114(4), pp. 708–718.
- McMahan, J. (2005) Just Cause for War, *Ethics and International Affairs*, 19(3), pp. 1–21.
- McMahan, J. (2008) Debate: Justification and Liability in War, *Journal of Political Philosophy*, 16(2), pp. 227–244.
- McMahan, J. (2009) *Killing in War* (New York: Oxford University Press).
- Münkler, H. (2003) *Die neuen Kriege* (Reinbek at Hamburg: Rowohlt).
- Mustin, J. (2002) Future Employment of Unmanned Aerial Vehicles, *Air and Space Power Journal*, 16(2), pp. 86–97.
- National Priorities Project (2010) *Cost of War*, accessed 1 September 2010, available at: http://www.nationalpriorities.org/costofwar_home; Internet.
- Office of the Under Secretary of Defense (2006) *Unmanned Aircraft Systems Roadmap: 2005–2030* (Washington, DC: Office of the Under Secretary of Defense).
- Osiel, M. (2009) *The End of Reciprocity* (Cambridge: Cambridge University Press).
- Pythian, M. (2010) Ethics and Intelligence: The Implications of the Rise of the Armed Drone. Paper presented at 7th Global Conference on War and Peace, Prague, 30 April.

- Plaw, A. (2010) Sudden Justice. Paper presented at 7th Annual Global Conference on War and Peace, Prague, 1 May.
- Rafael Advanced Defense Systems (2010) *Spike ER Precision Missile*, accessed 1 June 2010, available at: http://www.rafael.co.il/marketing/sip_storage/files/0/600.pdf; Internet.
- Singer, P. W. (2009) *Wired for War: The Robotics Revolution and Conflict in the 21st Century* (New York: Penguin Press).
- Sparrow, R. (2007) Killer Robots, *Journal of Applied Philosophy*, 24(1), pp. 63–77.
- Sparrow, R. (2009) Building a Better Warbot: Ethical Issues in the Design of Unmanned Systems for Military Applications, *Science and Engineering Ethics*, 15, pp. 169–187.
- Steinhoff, U. (2006) Torture: The Case for Dirty Harry and against Alan Dershowitz, *Journal of Applied Philosophy*, 23(3), pp. 337–353.
- Steinhoff, U. (2008) Jeff McMahan on the Moral Inequality of Combatants, *Journal of Political Philosophy*, 16(2), pp. 220–226.
- Wallach, W. & Allen, C. (2009) *Moral Machines: Teaching Robots Right from Wrong* (New York: Oxford University Press).

Biography

Bradley Jay Strawser is currently pursuing his Ph.D. in Philosophy at the University of Connecticut. He specializes in ethics and political philosophy, particularly just-war theory, military ethics, various applied ethics issues, and issues pertaining to autonomy and liberalism. He also works in metaphysics and other areas. His paper, ‘Rea’s Revenge and the Persistent Problem of Persistence for Realism,’ was recently accepted for publication in *Philosophia*. Formerly, Strawser served as a Captain in the United States Air Force. His service therein included work in Anti-terrorism, Force Protection, and Manpower, among other roles. He also was an Instructor of Philosophy at the US Air Force Academy where he taught ethics, logic, and other courses. He earned his MA in Philosophy from the University of Connecticut in 2005 under the Air Force Institute of Technology civilian institution fellowship program. He separated from military service in early 2008.