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Drones and Robots: On the Changing Practice of Warfare

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Abstract and Keywords

The recent development of unmanned technology—drones and robots of various types—is transforming the nature of warfare. Instead of fighting against other human beings, combatants will soon be fighting against machines. At present, these machines are operated by human beings, but they are becoming increasingly autonomous. Some people believe that, from a moral point of view, this development is worrisome, especially insofar as fully autonomous offensive systems ('killer robots') are concerned. I claim that the arguments that support this belief are pretty weak. Compared with the grand battles of the past, with their shockingly high toll of casualties, drone-centered campaigns seem much more humane. They also enable a better fit between moral responsibility and vulnerability to defensive action. Drones and robots may well be recorded in the annals of warfare as offering real promise for moral progress.

Keywords: drones, robots, targeted killing, unmanned technology, warfare

1. Introduction

The history of warfare has witnessed many changes following the introduction of new weaponry. However, although many inventions, such as gunpowder, had dramatic effects in their world, none of them changed the basic character of war as a direct and violent confrontation between combatants on more or less defined fields of battle. Until recently, modern wars retained this essential characteristic. The only difference was that instead of meeting the enemy in personal combat with a sword or a knife, he was met with a rifle, an armored vehicle, or a missile fired from an aircraft. But now, with the rapid development of unmanned technology—drones and robots of various types—humanity seems to be moving towards a state of affairs in which fighting is increasingly less between human beings and more between human beings, on the one hand, and machines, on the other. At present, these machines are operated by humans, but they are becoming increasingly autonomous.

Some people believe that, from a moral point of view, this development is worrisome. An important human rights organization went so far as to refer to the use of such weapons as a case of *losing humanity*.[1] The assumed moral defects of the new technologies pertain mainly to fully autonomous offensive systems ('killer robots'), in which humans are completely 'out of the loop'. But strong criticism is also mounted against automated systems that require a human operator: systems in which humans are either 'in the loop' (when the decision to fire is theirs) or 'on the loop' (when they maintain the option of intervening in the 'decisions' made by the system).

This chapter takes an opposing view. I seek to show that, in spite of some drawbacks, the new technologies overall mark significant moral progress in the history of warfare. In what follows, I focus mainly on drones because it is their use that has drawn the most attention in discussions about the changing practice of warfare. But what holds true for drones applies, *mutatis mutandis*, to other unmanned platforms, be they airplanes, submarines, or armored vehicles.

The question regarding the morality of drones is a good illustration of a wider theoretical question: namely, whether, and in what ways, technological developments that transform traditional practices necessitate changes in the norms that govern these practices. In a sense, the answer is obviously affirmative because the application of moral principles always depends on premises about the factual reality. If reality changes, the moral norms also change. What is less obvious is whether the underlying moral principles change as well.

Although drones and other automated weapons can be used in conventional warfare, their actual use has been limited to unconventional, asymmetric warfare between states and non-state groups (see Chapter 21). Hence, although there is no essential connection between the use of drones and asymmetric warfare, the two issues are, albeit contingently, strongly connected. In particular, since drones, when used for attack, are employed mainly in the targeted killing of assumed members of hostile organizations, the moral debate about drones is very much entangled with the debate about the morality and legality of targeted killing. The first sections of the chapter, then, are devoted to the debate about drones and killer robots, after which I turn to the issue of targeted killing.

2. The Advantages of Drones

Drones are just a tool of war, one among many: there are tanks, cannons, aircraft, submarines, and now there are also drones. The question of their moral legitimacy is one, therefore, of *jus in bello*. If drones raise any special difficulties beyond those raised by other tools of war, this can only be because they pose some special threat to the central goal of *jus in bello*, which is the protection of civilians. (For those who believe that *jus in bello* is also about reducing harm to combatants, see below.) Recall that *jus in bello* incorporates two main constraints on the conduct of war: (1) never attack noncombatants directly, and (2) when indirectly harming noncombatants, do not inflict disproportionate harm on them. How does the use of drones fit these constraints?

There is no reason to think that drones are more dangerous than other tools of war in terms of the intentional killing of noncombatants. To be sure, they can be used to attack noncombatants directly, but so can tanks and aircraft. Moreover, if some country decided to attack enemy civilians directly, drones would be less effective than other tools in its arsenal. Carpet bombing would cause more extensive harm to the enemy than the precise 'surgical' attacks carried out by drones.

What about collateral damage? Does the use of drones put civilians at higher risk of harm than alternative measures? The crucial point to remember here is that the alternative to the use of drones is not the avoidance of violence altogether, but employing other, more conventional, lower tech measures, such as tanks and helicopters. These, though, would almost certainly lead to more civilian casualties rather than fewer. True, there could be times when the greater collateral harm inflicted by low-tech measures would render the attack disproportionate to the particular military objective and hence rule it out. Then civilians would be made worse off by the possibility of drone use because, without it, they would not be exposed to harm at all. But this seems an unlikely scenario. If states believe that they are under a serious threat that justifies resort to military force and think that by the use of drones they could neutralize the threat, it is hard to imagine that they would refrain from doing so only because they realize that the results would be disproportionate. In the real world, the alternative to drones would be artillery or bombers, which are either less precise or more destructive (or both).

One might argue that while the use of drones in state-on-state wars would pose no special problem in terms of *jus in bello*, asymmetric wars are different. Does the use of drones in these contexts put civilians at special risk, thus giving us a reason to consider banning their use? Again, the alternative to using drones in fighting against organizations such as al Qaeda is not peaceful negotiation, but other, far less discriminate, measures. So if lethal measures (under the rubric of war rather than under that of law enforcement) are permitted in these conflicts at all, it is hard to see why drones should be seen as especially worrisome. Needless to say, drones might be abused, but so could other tools of war. At any rate, the danger of abuse should not make us lose sight of the great moral promise at hand. Other things being equal, *the more precise a weapon is, the better its use can comply with the requirements of discrimination and proportionality*.[2]

I have been assuming so far that the main point of *jus in bello* is the protection of noncombatants. Some philosophers believe that the ethics of warfare should also be concerned about the protection of combatants. As Kasher and Yadlin put it, combatants' blood is no less red and thick than that of civilians.[3] But from this perspective, too, drones should be welcomed. Their availability on the battlefield enables those using them to be more precise in

their attacks—for example, by targeting officers rather than privates. Another moral advantage of drones is the reduced risk to a country's own soldiers. The availability of unmanned measures means that countries can, and hence should, expose their soldiers to the lowest possible risk in defence against their enemies. Bradley Strawser derives this duty from a wider moral principle that he terms 'the principle of unnecessary risk': if X gives Y an order to accomplish some good goal G, then X has an obligation not to expose Y to unnecessary risk in doing so.[4]

Reducing casualties among the soldiers of one's own side is not only a moral issue, but a prudential one, too. Not only do losses undermine the army's ability to withstand its enemy, but 'sensitivity to military losses has increased in democratic societies since the 1960s, playing a key role in limiting the state's freedom of operation in deploying the armed forces for military missions'.[5] This aversion to casualties is influenced by the public's assessment of the success of the military campaign.[6] Since asymmetric wars are typically long, indecisive, and without a clear end point, the aversion is expected to be especially high. As drones and other unmanned devices reduce the risk of casualties, their role might turn out to be critical in the winning of such wars.

Furthermore, lowering the risk to soldiers by using unmanned weapons may encourage states to get involved in humanitarian interventions[7] and would make such interventions less problematic in terms of the risks incurred by the soldiers of the intervening countries. It is not easy to justify forced participation in war to defend one's own country, still harder to justify war to defend *another* nation from an oppressive or genocidal regime.[8] Reducing the risk to soldiers by using drones helps alleviate this problem. (Some might regard this as an argument *against* drones; see section 5 below.)

The option of carrying out effective attacks by drones might also have the advantage of delaying full-scale war or even avoiding it altogether. Drone attacks might be sufficient to convince the enemy to desist, thus obviating the need to mobilize troops and get involved in bloody battles on the ground.[9] Finally, as Strawser points out, potentially worthwhile cost savings can be made by using drones.[10]

To conclude, drones seem to have significant moral advantages:

1. other things being equal, they comply better than other tools of war with the requirements of discrimination and proportionality;
2. they enable states to reduce the risk to their own soldiers;
3. they weaken moral arguments against involvement in wars of humanitarian intervention;
4. they make it possible to respond effectively against perceived aggression without the need to engage in a full-scale war;
5. they are cheaper in comparison to human-operated tools of war and thus leave more public money available for other causes.

Nevertheless, many critics are still quite worried by the increasing use of drones and even more so by the development of killer robots. The next sections are devoted to the evaluation of their arguments.

3. Unfair, Disrespectful Warfare: Arguments Against the Use of Drones and Killer Robots

This section examines arguments against any (lethal) use of drones even if humans are still in or on the loop; Section 4 goes on to discuss arguments that apply only to fully autonomous weapons—killer robots.

3.1. Disrespectful Death

Imagine a person walking in his neighborhood when suddenly, literally out of the blue, he is shot and killed by a drone that he can't even see. Now compare this to the death of a soldier on the battlefield. Arguably, there is something disturbing about the former kind of death, something particularly disrespectful or humiliating.[11] The intuition underlying this argument seems to be:

> 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.[12]

But what exactly is disrespectful in being killed by a robot—in comparison to being killed by a tank or a helicopter? Why is 'being killed by remote control' so 'powerfully disturbing and morally troubling'?[13] Maybe it is because when a human being does the killing, that human being acknowledges, albeit in a paradoxical manner, the humanity of his victim. He identifies the victim as a fellow human being, though one posing a threat to him. For a very short time, they meet on the same plane, so to say, thus mutually affirming each other's existence and humanity. In contrast, when a drone shoots and kills a person, no such meeting takes place; hence, the humanity of the victim is denied or, at any rate, does not receive the acknowledgement it merits.

There is something appealing about this argument, although on reflection I don't find it convincing. First, it is unclear in what sense a helicopter pilot 'affirms the humanity' of her victim when she targets and kills her from afar. Second, the argument works best when one thinks of a physical, close confrontation between combatants, in which they see the faces of one other and, in some sense, thereby acknowledge their humanity. But most fighting has long lost this feature. Operators of cruise missiles don't see the faces of their victims, nor do pilots or, typically, even tank operators. The victims of such weapons are no less 'faceless' than those of drones.

Arguments against drones and killer robots must be powerful enough to explain why they are morally wrong—without implying that conventional weapons, the legitimacy of which is universally accepted, are also morally wrong. The denial of such legitimacy would lead to a position close to pacifism; indeed, we shall see that most objections to drones fall very close to this position.

3.2. Unfair or 'Dirty' Killing

Maybe the sense of disrespect just mentioned grows out of a sense of unfairness. One might regard the killing of the person walking in his neighborhood as 'fighting dirty', probably because the victim stands no chance against the drone. But soldiers are often similarly defenceless against combat aircraft or long-range artillery.

There seem to be two separate arguments here, though they overlap: one against unfairness in the sense of asymmetric military force[14] and one against unfairness in the sense of visiting death upon the enemy by using 'dirty' measures and tactics. But both of them fail. To realize just how weak and unstable the argument from unfairness is, one should note its resemblance to the arguments formerly raised against submarines and military aviation,[15] or even, much earlier, against the crossbow—'a moral abomination that made warfare into a depersonalized and dishonourable "point-and-click" affair, disrupting the existing code of ethics and balance of power'.[16] Unless one wants to rule out machine guns (the modern version of crossbows), submarines, and jets, one cannot rule out drones on the basis of their being unfair or dishonourable means of warfare.

3.3. Riskless Killing Undermines the License to Kill in War

In Paul Kahn's view, the morality of law is caught in a paradox. On the one hand, countries have a moral obligation to minimize the risk to their soldiers and to create what he calls an 'asymmetrical situation' in which they can totally overpower their enemies. On the other hand, beyond a certain threshold, such asymmetry undermines the very license to kill in war. Why is that so? Kahn contends that due to their youth, indoctrination, and pressures from peers and superiors, most combatants are not morally guilty for their participation in war and, insofar as such guilt is concerned, are no worse than noncombatants. If the mutual killing of combatants in war is permissible, it must have a different ground. In Kahn's view, this is mutual self-defence: each side is defending itself from the threat posed by the other. But to say that each side poses a threat to the other is just a different way of saying that they impose a risk on each other, or that *both sides are exposed to some nontrivial risk when in combat*. What follows is that when such mutual exposure to risk does not exist because the power relation between the warring parties is manifestly asymmetrical, the paradigm of war is inapplicable, together with the mutual license it entails to kill enemy combatants. 'Without reciprocal imposition of risk', asks Kahn, 'what is the moral basis for injuring the morally innocent?'[17]

Kahn's argument for the mutual license to kill in war reflects a widespread intuition that 'it is the willingness to die that creates the license to kill'.[18] Since the drone operator 'kills but does not live with the risk of sacrifice',[19] she has no license to kill enemy soldiers. Thus, the more warfare consists of drones and killer robots, the less justified these operators are in bringing death and destruction on their enemies. This argument is unconvincing. First, drone operators are not the only combatants whose risk is close to zero. The same is true for those who fire artillery or

cruise missiles far away from their targets, for those who fly aircraft that drop bombs in circumstances where the enemy has no effective anti-aircraft weapons, and so on. Second, the use of drones is unlikely to lead to a situation in which most soldiers face no, or merely nominal, risk. In the near future, drones will provide invaluable help to armies in carrying out their missions, but they will not completely replace them. It will remain true that soldiers in general (not each individual one) undertake risks.

Third, if incurring risk were a condition for engaging in warfare, then humanitarian intervention by third parties would hardly ever be justified.[20] Since the soldiers of such third parties are antecedently under no threat at all, they could not claim to be acting in self-defence. Most humanitarian interventions would be ruled out, even if Kahn's analysis applied only to the *jus in bello* level, because democracies, increasingly hesitant to risk their troops in humanitarian missions, limit military activities of this nature to attacks from the air or from a distance with very low risk to their personnel. Kahn's view would rule out such attacks—leaving the international community with no effective (and morally justified) way of preventing humanitarian crises.

3.4. Wars Without Virtue

With drone operators taking very low risk upon themselves, not much room is left for the virtue of courage, which is mainly manifested on the battlefield, or for other martial virtues, such as honour, comradeship, and loyalty. Is 'war without virtue'[21] a reason to object to drones? Hardly so. First, in the foreseeable future, wars will continue to involve operations on the ground[22] in which the martial virtues will be no less relevant than they were in the past. Second, courage in combat is arguably an 'instrumental virtue' whose value depends on its contribution to a perceived worthwhile goal—in this case, the defeat of the enemy.[23] If this goal can be achieved without courage, courage simply loses its value. To avoid a new method of war that is expected to be more effective and less destructive just because it makes the martial virtues redundant is to get things the wrong way round.[24]

4. Arguments Against Fully Autonomous Killer Robots

Among critics of drones there are some whose concern stems mainly from the fear that drones are just one step behind the 'shocking and unacceptable'[25] development and use of fully autonomous killer robots. In their view, drones put us on a slippery slope at the bottom of which we'll be giving 'machines the power to make decisions about whom to kill'.[26]

Note that nobody objects to the use of automated systems for defence, such as the 'Iron Dome' system that automatically intercepts and destroys rockets directed against populated areas. Indeed, it is hard to see on what ground one might object to systems of this kind. The problem lies, at least prima facie, with automated systems that lethally attack human beings. Critics have in mind a scenario where drones (or some kind of ground robots) with artificial intelligence make their own decisions about where and whom to attack. For the sake of the present discussion, I ignore the question of how likely it is that such automated systems will in fact be developed and employed in the near future[27] and ask merely whether there is ground for moral concern.

4.1. Robots and the Conditions for *Jus in Bello*

Critics view the ability of robots to comply with the two main requirements of *jus in bello*—discrimination and proportionality—as much poorer than that of humans. Hence, to take humans 'out of the loop' would be a serious moral fall. While the identification of combatants is relatively easy in conventional wars, it is much more difficult in asymmetric warfare in which regular armies struggle against fighters who wear no uniforms and are not situated in clearly defined locations closed to noncombatants. In such circumstances—the majority of armed conflicts today—there are no clear criteria that could be programmed into a robot to make sure it attacks only combatants. The ability to discriminate depends on many cues that are not explicit and hence cannot be translated into orders to robots ('if X, then shoot; if Y, hold fire and check whether Z; if Z, then withdraw; etc'.). Calculating proportionality is even more problematic[28] and is inevitably left to the subjective evaluation of the military commander or the soldier on the ground. But the ability to make such subjective evaluations is precisely what robots lack.

However, I see no reason to rule out a priori the possibility of robots doing just as well—and even better—than humans in both these respects. Not that long ago, many were skeptical about the possibility of a driverless car that

could bring us safely from one point to another. The amount of tacit knowledge and subjective judgment involved in driving seemed impossible to feed into a machine. But such cars now exist, and riding in them will soon be safer than driving a regular car. Similarly with killer robots. There is no reason to despair of being able to translate the cues that help us distinguish between combatants and noncombatants into computer language. Robots might make mistakes or be misled by the enemy, but the same is true of humans.[29]

If there are no objective standards to determine the right proportion between military achievements and harm to civilians, then there is no basis for saying that robots do worse than humans. If such objective standards, however imprecise, exist, there is again no reason to rule out the possibility that they could be programmed into a computer that could then be trusted to be no less sensitive than humans in issues of proportionality.

At any rate, *if* robots are ever to be programmed to carry out attacks under the *in bello* constraints, things like necessity and proportionality—currently vague at best—will need to be codified. The same for target selection: a much more precise definition of the distinction between legitimate and illegitimate targets will be required. The robot's default position vis-à-vis targets outside the definitions programmed into it will also need to be set. In other words, in case of doubt, should the robot be programmed to fire or to refrain from doing so? This need to rethink and redefine the *in bello* conditions is a good illustration of the point mentioned at the outset about technological developments calling for a change in norms or their redefinition.

4.2. Accountability

When a drone operated by a human being fires a missile at a group of civilians, there is an address for moral and legal complaint and measures: namely, the operator. What happens when a fully automated robot makes such a mistake and carries out what would regularly be termed a war crime? Who can/could be held accountable? In Robert Sparrow's view, no one.[30] Surely not the robot itself, to which no moral responsibility could be assigned. Nor the programmer who, in essence, cannot fully predict and control the behaviour of a fully autonomous robot. The last option is the officer who ordered the use of a killer robot, but this seems unsatisfactory, too. Let's assume that the officer has good reason to believe that killer robots would lead to better results, both tactically and morally, than other measures. Given the autonomy of such devices, there is no way she could predict that something will go wrong. Hence, it seems unfair to hold her accountable for the 'crimes' committed by robots.

What exactly is so bothersome in having nobody accountable for (unpredictable) violations of the war convention by killer robots? One answer is that it contradicts the requirement of respect for people: 'the least we owe our enemies is allowing that their lives are of sufficient worth that someone should accept responsibility for their deaths'.[31] Another answer is consequentialist: with nobody held responsible for unjust deaths, the incentive to avoid them diminishes. This, though a common objection to fully automated robots,[32] is not very compelling. What is meant by the idea of respect owed to other people is always ambiguous. What is morally important in warfare is that only legitimate targets are attacked and that the collateral harm caused to illegitimate targets is proportionate. If these conditions are met, then, from a Kantian perspective, the enemy has been treated with respect, even if the people killed, or their relatives, never know the identity of those directly or indirectly involved in their deaths. By contrast, if the conditions for permissible killing are not met—for instance, if civilians are harmed disproportionately—then it is the impermissible killing that expresses disrespect towards them, not the fact that there is no person to whom responsibility for their deaths can be assigned.

Furthermore, there is only something disrespectful about not accepting responsibility for the harm imposed upon X when some perpetrator exists who *is* responsible for this harm and nonetheless refuses to acknowledge her responsibility, thereby adding insult to injury. In circumstances in which there is no such perpetrator—which, according to the present argument, is precisely the case with killer robots—it is unclear where the disrespect lies. In any case, I don't see why the *state* can't accept responsibility for the deaths it unjustifiably brings about. When people *accept* responsibility, it is usually because they are not responsible in the usual sense of the word: they are not blameworthy for whatever the relevant wrong is. If the robots of the state bring about unjustified harm, there is no reason why the state shouldn't accept responsibility and even apologize to the victims, thus expressing proper respect for them.

Harm caused by such robots is not unique in this sense. Given human limitations, there is no way to avoid fault altogether. Military and political leaders might make completely reasonable decisions that then lead to a disaster.

They are not to blame for such decisions, but they are nevertheless expected to take responsibility for the results, apologize, and seek ways to compensate the victims.[33] The assumed relation between accountability and compliance with the laws of war is based on the thought that post hoc punishment is essential to achieving such compliance, the fear of which will assumingly deter politicians and soldiers from immoral behaviour. However, Anderson and Waxman argue that this focus is a mistake.[34]

Finally, the difficulty of allocating accountability in the cases at hand should be balanced against the unprecedented improvement in monitoring the military activity carried out by drones and robots in comparison to that carried out by traditional, low-tech military measures. When a platoon of infantrymen engages the enemy and civilians are killed, it is often very hard to find out who exactly did the killing, who gave the order, what the circumstances were, and so on. These questions are much easier to answer in the case of drones and robots because all the data fed into them are recorded, as are their 'decisions', the circumstances in which they act, and the results of their attacks, thus producing 'unprecedented accountability for military operations'.[35]

4.3. Robots and Emotions

Killer robots act in the way they are programmed, making their own 'judgments' about when and whom to attack. They feel nothing when they blow up human beings on the other side; no compassion, no reluctance, no regret. Some critics believe that removes some of the central constraints on killing in war. For Armin Krishman, this makes war 'inhumanely efficient' and 'no longer constrained by the natural urge of soldiers not to kill'.[36] Since lack of emotion is essential to robots, this is not a problem that could be fixed as technology progresses. Killer robots should thus simply be banned.

The high toll paid by civilians in the wars of the twentieth century sheds some doubt on the restraining power of human compassion. One might say, of course, that without compassion the toll would have been even higher, but the truth of this counterfactual is hard to establish. At any rate, compassion is not the only emotion active in war. There are also negative emotions such as national pride, rage, the longing for revenge, and so on, and these seem much more effective on the battlefield than compassion. Therefore, lack of emotion seems a moral advantage and not a downside.

5. Harmful Results of the Use of Drones

I leave the world of killer robots and return to drones to deal with objections based on the assumed excessive harm they cause. The main worry is that the distance between the drone operators and their victims will lead to a more callous attitude towards killing. This is a version of the argument from emotions just discussed. The idea is that sympathy with our fellow humans is intensified when we come into close contact with them—when we see them (and more so when we make eye contact), hear them, are in actual physical contact with them—and weakened the farther we get from such contact. At some extreme point of distance, human beings lose their reality, so to say, and, consequently, become (psychologically) much easier to kill.

Again, this argument leads to something like pacifism, because most killing in war today takes place from afar without the killers seeing, hearing, or smelling their victims. The psychological distance is even greater in these cases: whereas drone operators can at least see and track their victims on their monitors, this is not the case with soldiers firing artillery. And since nobody regards the use of artillery as worrisome because of the psychological distance between their operators and their targets, drones should not be regarded as worrisome either.

Peter Singer concedes that 'each new technology, from the bow and arrow to the bomber plane, has moved soldiers farther and farther from their foes' but nonetheless believes that 'unmanned systems have a more profound effect on "the impersonalization of battle"'.[37] Maybe this profound effect has to do with the fact that killing with drones resembles 'killing' in video games. The operators sit in front of computer screens and chase the bad guys just like they do when they play video games.[38] The danger is that drone operators will lose sight of the fact that, in this case, clicking the mouse doesn't gain the player extra points but instead visits death and destruction upon real human beings. I'm not sure how significant this danger is, but there are ways to deal with it—for example, by tight supervision and by requiring high-rank approval for every attack carried out.

A different objection to the use of drones is that the decreased risk they pose to soldiers may encourage countries

to go to war in circumstances where doing so would be morally wrong.[39] Again, it is hard to estimate how likely this would be. Long-range missiles, especially GPS-guided ones, can cause massive destruction with zero risk to their operators; nonetheless, countries don't resort more easily to (full-scale) war as a result. Moreover, as suggested earlier, drones might allow states to *avoid* full-scale war, or at least delay it.[40] Finally, the fear of casualties is not the only disincentive to war. There is also the likely harm to civilians and to civilian infrastructure (which might increase precisely because the enemy has no military targets to attack), the economic price, and more. Nor is it the case that even combatants would be completely spared the risks and horrors of war. Hence, although drones might reduce the risk to some soldiers, the risk in going to war would still be high enough to deter countries from doing so unless they believe they have no other choice—and if this is how they see things, then, as history has taught, they will often be willing to undertake significant risk.

6. Targeted Killing

The most widespread objection to the use of drones is based on their having become the main tool for the targeted killing of assumed members of terror organizations, which is an important aspect of the changing practice of warfare. In conventional warfare, one's enemies are met on the battlefield. In most contemporary wars, one side is a non-state organization whose members instead hide in the mountains or among civilians. In these circumstances targeted killing becomes the most logical way of conducting war.[41] The alternative would be to engage in a ground attack causing many more deaths and much more harm—to both sides—with no guarantee of better results in neutralizing the relevant threats.

The morality (and the legality) of targeted killing is only contingently connected to the development and deployment of drones. One can carry out targeted killing using other measures, and one can use drones for other missions. In practice, denying the legitimacy of targeted killing in asymmetric warfare would amount to a rejection of the war model as a means of dealing with such conflicts. But this denial is not very convincing. Suppose that some aggressive organization (or, for this matter, a regular state), Aggressor, has a proper army and conducts unjust attacks against country Victim (e.g., fires rockets at its military bases). Assuming that the standard conditions for *jus ad bellum* are met, everybody would agree that Victim is permitted to defend itself by force, meaning that it has moral (and legal) permission to kill each of Aggressor's soldiers. Victim is under no obligation to satisfy the strict conditions for the use of force that are demanded by criminal law. It may carry out 'extra-judicial' killing of any member of the armed forces that fights against it (except, of course, for the wounded, POWs, and so on) with nothing like due process and with no need to establish the moral responsibility of the target or the necessity of killing him.

Now suppose that Aggressor is losing, so it orders its soldiers to remove their uniforms and avoid direct confrontation with Victim's soldiers but to continue the same kind of attacks, this time while hiding among the civilian population. The only thing that has changed is the structure and the organization of Aggressor's armed body and the strategy of its attacks against Victim. If anything, the threat to Victim has increased, because those attacking are much harder to locate and, as they find shelter among civilians, there are stronger moral constraints in fighting against them. It seems implausible that this mere change in strategy and organization could make such a normative difference; namely, render Aggressor's soldiers morally immune to the kind of regular military attacks to which they would be vulnerable in a standard war.

A helpful way to see the moral legitimacy of targeted killing is to see how it fits different versions of just war theory. In *individualism*, the license to kill human beings in war is ultimately the same license we have to kill in individual self-defence: 'justified warfare just *is* the collective of individual rights of self- and other-defence in a coordinated manner against a common threat'.[42] Since, in McMahan's theory of self-defence, the aggressor's moral responsibility is crucial in making him liable to defensive attack, it plays such a role in war, too. So formal affiliation with some organization, or even with some state, plays no intrinsic role in making a person liable to attack. The fact that al Qaeda militants are not soldiers in the usual sense of the word makes no difference to their moral status vis-à-vis the potential victims of the threats that they (individually or collectively) pose. Hence, if the only way to block such threats is to kill these activists, according to individualism, there is no reason why doing so should be impermissible. Moreover, given the voluntary nature of enlisting in these organizations and acting within them, their members seem typically *more* liable to defensive attack than conscripted soldiers in regular armies, whose responsibility for participation in unjust wars is rather weak. If the latter are legitimate targets for attack—as all

nonpacifists agree—the former are certainly so as well.[43]

Individualism, then, views targeted killing not just as one permissible tactic among others, but the preferred one. It does a much better job of distributing the self-defensive harm in accordance with moral responsibility. Bear in mind still that the alternative to targeted killing is not no-killing (some form of pacifism), but *nontargeted* killing; namely, ordinary military operations which are far less sensitive to differences in moral liability. Whereas individualism is most clearly compatible with targeted killing, I show elsewhere that the same holds true for other prominent versions of just war theory, *collectivism* and *contractualism*.[44]

Pure moral considerations aside, how effective is targeted killing in deciding asymmetric conflicts? Since the main use of drones for attack is targeted killing, one could just as well ask how effective drones are as a tool of warfare. The questions are hotly debated.[45] Since they turn on empirical evaluations of social and political reality, I shall limit myself here to one comment. The level of evidence required to establish the effectiveness of attacks in conventional warfare is pretty low. Soldiers are permitted to kill enemy soldiers with no need to demonstrate that the killing of some specific individual or group of individuals is necessary for victory. If asymmetric warfare is perceived under the war model, it is unclear why the burden of establishing the effectiveness of the measures used should be any higher.[46]

7. Conclusion

The practice of war at the beginning of the twenty-first century is undergoing two major changes. First, today, there are hardly any old-style wars with proper armies confronting each other on the battlefield. Instead, wars are fought by states against non-state organizations with no clear battlefield, no clear distinction between combatants and noncombatants, and no clear idea of what victory might mean.[47] Second, weaponry is becoming increasingly automated and technologically sophisticated. These two changes are connected as we watch drones and other automated devices become the main tools of warfare against non-state organizations.

In the first sections of this chapter, I criticized arguments aimed at showing that the use of drones and killer robots is morally problematic. These arguments are so weak that one suspects that, for the most part, they are motivated not by worries about the intrinsic nature of these devices, but by a concern about the way they are actually used. In other words, drones and killer robots are assumed to be problematic because they are believed to enable and encourage a specific practice that is deemed wrongful: targeted killing. In Section 6, therefore, I aimed to show that this practice is far less problematic than critics would have us believe. If so, then the (albeit contingent) connection between drones and targeted killing does not constitute a persuasive argument against the use of drones either.

One must always be cautious in predicting the future. Nevertheless, compared with the grand battles of the past, with their shockingly high toll of casualties, drone-centered campaigns seem much more humane. They also enable a better fit between moral responsibility and vulnerability to defensive action. Judged against bombers, cruise missiles—and, obviously, against various kinds of weapons of mass destruction—the drone may well be remembered in the annals of warfare as offering real promise for moral progress.

Notes:

(1) Human Rights Watch, *Losing Humanity: The Case Against Killer Robots* (‘Printed in the United States of America’, 2012). See also Marcel Dickow and Hilmer Linnenkamp, ‘Combat Drones—Killing Drones’, *SWP Comments* 4 (2013), 1–8.

(2) For the view that drones are effective in reducing civilian casualties, see Daniel Brunstetter and Megan Braun, ‘The Implications of Drones on the Just War Tradition’, *Ethics and International Affairs* 25 (2011), 348; Bradley Jay Strawser, ‘Moral Predators: The Duty to Employ Uninhabited Aerial Vehicles’, *Journal of Military Ethics* 9 (2010), 352; and Avery Plaw, ‘Counting the Dead: The Proportionality of Predation in Pakistan’, in *Killing by Remote Control: The Ethics of an Unmanned Military*, edited by Bradley Jay Strawser (New York: Oxford University Press, 2013), 126–153. For the opposite perspective, see Joint and Coalition Operational Analysis (JCOA), ‘Drone Strikes: Civilian Casualty Considerations’, https://info.publicintelligence.net/JCOA-DroneStrikesSummary.pdf.

(3) Asa Kasher and Amos Yadlin, ‘Military Ethics of Fighting Terror: An Israeli Perspective’, *Journal of Military Ethics*

4 (2005), 3–32.

([4]) Strawser, 'Moral Predators', 342.

([5]) Yagil Levy, *Israel's Death Hierarchy: Casualty Aversion in a Militarized Democracy* (New York: New York University Press), 2.

([6]) Christopher Gelpi, Peter Feaver, and Jason Reifler, *Paying the Human Costs of War: American Public Opinion and Casualties in Military Conflicts* (Princeton, NJ: Princeton University Press, 2009), 21.

([7]) See Zack Beauchamp and Julian Savulescu 'Robot Guardians: Tele-operated Combat Vehicles in Humanitarian Intervention', in *Killing by Remote Control*, 106.

([8]) For a helpful discussion of this dilemma regarding humanitarian intervention, see Michael Gross, *Moral Dilemmas of Modern War: Torture, Assassination and Blackmail in an Age of Asymmetric Conflict* (New York: Cambridge University Press, 2010), ch. 9.

([9]) Brunstetter and Braun, 'The Implications of Drones', 339.

([10]) Strawser, 'Moral Predators', 344.

([11]) See Yitzhak Benbaji, 'Culpable Bystanders, Innocent Threats and the Ethics of Self-Defence', *Canadian Journal of Philosophy* 35 (2005), 623–640.

([12]) Strawser, 'Moral Predators', 357.

([13]) Jai Galliott, 'Closing with Completeness: The Asymmetric Drone Warfare Debate', *Journal of Military Ethics* 11 (2012), 355.

([14]) Idem, 353–354.

([15]) Kenneth Anderson and Matthew C. Waxman, 'Law and Ethics for Autonomous Weapon Systems: Why a Ban Won't Work and How the Laws of War Can' (American University Washington College of Law Research Paper No. 2013-11, 2013), 8, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2250126).

([16]) Patrick Linn, 'Drone Ethics Briefing—What a Leading Robot Expert Told the CIA', *The Atlantic,* December 2011, 321.

([17]) Paul Kahn, 'The Paradox of Riskless Warfare', *Philosophy & Public Policy Quarterly* 22 (2002), 2. Kahn first developed this line of thought in his critical discussion of the US intervention in Kosovo: Paul Kahn, 'War and Sacrifice in Kosovo', *Report from the Institute for Philosophy and Public Policy*, 19:2 (1999).

([18]) Paul Kahn, 'Imagining Warfare', *European Journal of International Law* 24 (2013), 218.

([19]) Idem, 224.

([20]) Jeff McMahan, 'Foreword', in *Killing by Remote Control*, xii–xiii.

([21]) Robert Sparrow, 'War Without Virtue?' in *Killing by Remote Control*, edited by Bradley Jay Strawser (New York: Oxford University Press, 2013), 84–105.

([22]) Idem, 103.

([23]) Edmund L. Pincoffs, *Quandaries and Virtues Against Reductivism in Ethics* (Lawrence: University Press of Kansas, 1986).

([24]) For a similar argument, see Saul Smilansky, *Ten Moral Paradoxes* (Oxford: Blackwell, 2007), ch. 7.

([25]) Human Rights Watch, *Losing Humanity*, 26.

([26]) Noel Sharkey, 'Saying "No!" to Lethal Autonomous Targeting', *Journal of Military Ethics* 9 (2010), 381.

([27]) See Peter Singer, *Wired for War: The Robotics Revolution and Conflict in the Twenty-first Century* (New York: Penguin, 2009), and the criticism by Werner Dahm, 'Killer Drones Are Science Fiction', *Wall Street Journal*, 12 February 2012. See also Anderson and Waxman, 'Law and Ethics for Autonomous Weapon Systems', 2.

([28]) Sharkey, 'Saying "No!"', 380. See also his "Death Strikes from the Sky: The Calculus of Proportionality', *Technology and Society Magazine* 28 (2009), 16–19.

([29]) See Wendell Wallach and Colin Allen, *Moral Machines: Teaching Robots Right from Wrong* (New York: Oxford University Press, 2008), who predicted that 'within the next few years, there will be a catastrophic incident brought about by a computer system making a decision independent of human oversight' (4).

([30]) Robert Sparrow, 'Killer Robots', *Journal of Applied Philosophy* 24 (2007), 62–77.

([31]) Idem, 67.

([32]) See also Sharkey, 'Saying "No!"', 381; Ryan Vogel, 'Drone Warfare and the Law of Armed Conflict', *Denver Journal of International Law and Policy* 39 (2010–11), 136; Ugo Pagallo, 'Robots of Just War: A Legal Perspective', *Philosophy and Technology* 24 (2011), 307–323.

([33]) The obligation to take responsibility for results beyond our control is a case of moral luck. See Margaret Walker, 'The Virtues of Impure Agency', in *Moral Luck*, edited by Daniel Statman (Albany, NY: SUNY Press), 235–250.

([34]) Anderson and Waxman, 'Law and Ethics for Autonomous Weapon Systems', 17.

([35]) Rebecca J. Johnson, 'The Wizard of Oz Goes to War: Unmanned Systems in Counterinsurgency', in *Killing by Remote Control*, edited by Bradley Jay Strawser (New York: Oxford University Press, 2013), 172. See also Strawser, 'Moral Predators', 353.

([36]) Armin Krishnan, *Killer Robots: Legality and Ethicality of Autonomous Weapons* (London: Ashgate, 2009), 130. See also Human Rights Watch, *Losing Humanity*, 28–22.

([37]) Singer, *Wired for War*, 396.

([38]) See Sharkey, 'Saying "No!"', 372, for some anecdotal evidence for this attitude.

([39]) Idem, 376.

([40]) Recently, it has been suggested that the set of questions dealing with the limited use of force (by drones or other measures) short of—or instead of—full-scale war constitutes a subfield of its own, *jus ad vim*. See Daniel R. Brunstetter and Megan Braun, 'From Jus ad bellum to Jus ad vim: Recalibrating Our Understanding of the Moral Use of Force', *Ethics and International Affairs* 26 (2013), 87–106.

([41]) It 'is already on the way to becoming a norm'; see David Whetham, 'Drones and Targeted Killing: Angels or Assassins?', in *Killing by Remote Control*, edited by Bradley Jay Strawser (New York: Oxford University Press, 2013), 83.

([42]) Jeff McMahan, 'The Ethics of Killing in War', *Ethics* 114 (2004), 717.

([43]) See Daniel Statman, 'Targeted Killing', *Theoretical Inquiries in Law* 5 (2003), 63–82.

([44]) Daniel Statman, 'Can Just War Theory Justify Targeted Killing? An Investigation into Three Models', in *Targeted Killings: Law and Morality in an Asymmetrical World*, edited by Claire Finkelstein, Jens David Ohlin, and Andrew Altman (New York: Oxford University Press, 2012), 90–111.

([45]) On targeted killing, see Michael Gross, *Moral Dilemmas of Modern War: Torture, Assassination and Blackmail in an Age of Asymmetric Conflict* (New York: Cambridge University Press, 2010), 114–121. On drones, see Michael Boyle, 'The Costs and Consequences of Drone Warfare', *Journal of International Affairs* 89 (2013), 1–29.

([46]) For the recent debate about the morality and legality of targeted killing and for helpful references, see

Finkelstein et al. (eds.), *Targeted Killings*.

([47]) See Daniel Statman, 'Ending Wars: A Contractarian View of Jus ex Bello', *Ethics* 125 (2015), 1–31.

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