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# A Taste of Armageddon: When Warring is Done by
# Drones and Robots

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CHAPTER 2

# A Taste of Armageddon: When Warring Is Done by Drones and Robots

BRIAN STILTNER

## War by Remote Control

The late 1960s television show *Star Trek* excelled in one of the purposes of science fiction: helping us think about a contemporary controversial practice by imagining its use in a future world. In the episode "A Taste of Armageddon," the starship *Enterprise* visits a solar system in which two planets, Eminiar and Vendikar, are locked in a centuries-old war. Long ago, these two planets decided to reduce the physical destructiveness of their war by conducting it solely with computers. Each side would launch virtual attacks and the computers would calculate the death toll. The attacked side would then have 24 hours to send that many of its own citizens—people specifically identified by the computers—to disintegration booths. If either side refused to abide by this practice, the terms of their treaty would be discarded and physical bombings would resume. The leaders of the planet Eminiar, visited by Captain Kirk and some of his crew, are so fearful of the older style of warfare that they maintain the simulated war with its real, deadly consequences.

Before the crew of the *Enterprise* realize what is going on, their starship is virtually attacked by Vendikar. The leaders of Eminiar tell Captain Kirk that all of his crew have been killed in the simulation, so they must report for disintegration within a day. Kirk finds the scenario perverse. When his attempts to reason with Eminiar's leaders get nowhere, he disrupts the war by destroying their main computer. He believes that the Eminians have been lulled into complacency because they no longer see all the horrific consequences of war. Nonetheless, their terror at resuming conventional warfare is shared by the Vendikans, who contact them to open up negotiations for peace. Leaving the solar system, Kirk believes that his gamble was worth it. After all, he says, the Eminians, who seem motivated to keep an orderly

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society, recognize that "actual war is a very messy business. A very, very messy business."

This episode sheds light on the swift rise in the use of drones for counter-terrorist warfare. Like the computers used by the two planets, unmanned weaponized drones have been touted as tools that enable necessary fighting to continue, but more bearably. These weapons have played an increasing role in the United States' pursuit of Taliban and al-Qaeda fighters and leaders. Supporters of drone attacks enthuse that the United States is "taking out" many al-Qaeda leaders and combatants, with no loss of American soldiers' lives and with very few civilian deaths. Yet critics caution that war by remote control lulls the United States into a false sense of security and makes it difficult for Americans to see the all-too-messy consequences of war for civilians. War with drones looks effective and safe—for us. But is it?

Weaponized drones are just one of several unmanned systems already being used in the theaters of Iraq and Afghanistan. Rather than focus on the ethical and legal use of drones in asymmetrical warfare, which has been the subject of several other important books and articles,[1] this chapter will address the ethical issues attending *unmanned* weapons, both drones and robots. Humans' experience with technology is typically that once a genie is out of the bottle, there is no putting it back in. So there is every reason to believe that unmanned and robotic systems will figure increasingly in the warfare of the future. It is important to keep in mind that such systems need not only be used for fighting. There are relatively uncontroversial, even virtuous, applications for military robots and drones. But since these technologies have already been used for fighting, with great controversy, the key question here is whether the just war tradition (JWT) has the resources to keep their use directed to ethical ends. In principle, the answer is "yes," but as with any other application of just war principles, we have to follow the discipline of the theory to gain any benefits from it.


### *Science Fiction Has Become Military Reality*

It will be helpful to sketch a picture of the unmanned technologies already in use and what might be coming down the pike. The four main uses for unmanned systems are reconnaissance and surveillance, disarming bombs,

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1. See John Kaag and Sarah Kreps, *Drone Warfare* (Malden, MA: Polity Press, 2014); Bradley Jay Strawser, ed., *Killing by Remote Control* (New York: Oxford University Press, 2012); and Claire Finkelstein, Jens David Ohlin, and Andrew Altman, eds., *Targeted Killings: Law and Morality in an Asymmetrical World* (New York: Oxford University Press, 2012).

attacking, and rescue. Both drones and robots have been used for all four purposes.[2]

Drones, also known as unmanned aerial vehicles (UAVs), are flying machines operated by a remote human operator but featuring varying amounts of self-control. Many of them can stay up in the air for 24 hours or more over Iraq, Afghanistan, Pakistan, or Yemen and be controlled by someone operating a joystick at an operations center in the United States. The Predator, a 27-foot-long plane, which was first used for reconnaissance and surveillance in the Balkan wars of the 1990s, saw heavy use in the Afghanistan war. General Tommy Franks said in the early years of the war, "The Predator is my most capable sensor in hunting down and killing Al-Qaeda and Taliban leadership and is proving critical to our fight." P. W. Singer reports, "The ugly little drone has quickly become perhaps the busiest US asset in the air. From June 2005 to June 2006, Predators carried out 2,073 missions, flew 33,833 hours, surveyed 18,490 targets, and participated in 242 separate raids. Even with this massive effort, there is demand for more."[3]

There are drones of all sizes and for all purposes, from the 40-foot-long Global Hawk to the 38-inch, 4-pound Raven. The Global Hawk is used in Iraq in much the same way as the Predator, while the Raven is used by soldiers for surveillance.

> In a sort of irony, soldiers launch the tiny plane using the same over-the-shoulder motion that the Roman legionnaires used in war two thousand years ago, just tossing a robot instead of a javelin. The Raven then buzzes off, able to fly for ninety minutes at about four hundred feet. Raven carries three cameras in its nose, including an infrared one. Soldiers love it because they can now peer over the next hill or city block, as well as get their own spy planes to control, instead of having to beg for support from higher-ups.[4]

This vignette illustrates that drones are used not only for shooting. Nor are they used only abroad. After Hurricane Katrina, drones searched for survivors.[5] More controversially, the Department of Homeland Security uses at

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2. There are several books that report on the technical, military, and political aspects of drones; few books also consider military robots. The best book-length examination to date of both systems, and a primary resource for this chapter, is P. W. Singer, *Wired for War: The Robotics Revolution and Conflict in the Twenty-First Century* (New York: Penguin, 2009).

3. Ibid., 35.

4. Ibid., 37.

5. Ibid., 41.

least ten drones to patrol the United States–Mexico border and wants to purchase more.[6]

While drones have been used for reconnaissance and rescue, their most controversial purpose is to kill. To get a handle on the deadliness of drone attacks is difficult, in large part because the administrations of presidents George W. Bush and Barack Obama have been very secretive about the deaths caused by drones, about when and where drones have been used, and about their legal rationales for using drones. A well-respected bipartisan report provides a helpful summary of American use over the past decade:

> Unmanned aerial vehicles have been used extensively in Afghanistan and Iraq, for intelligence, surveillance and reconnaissance (ISR) purposes, to carry out strikes and to provide close air support to ground troops. They have also become a weapon of choice for counterterrorism strikes in regions where US troops are not engaged in ground combat. Between 2004 and 2014, US UAV strikes in Pakistan are estimated to have killed approximately 2,000 to 4,000 people, while US strikes in Yemen are estimated to have killed several hundred people. A small number of UAV strikes are believed to have occurred in Somalia, and there are also unconfirmed reports of US UAV strikes in a handful of other countries, including Mali and the Philippines.[7]

The second major unmanned technology is robots, which are more common than people might realize. "All told as of 2008, some twenty-two different robot systems were operating on the ground in Iraq."[8] PakBot is a lawnmower-sized robot, and Talon is a tank-sized machine. Both robots were used to search the wreckage at Ground Zero and then employed in Afghanistan and Iraq to detonate improvised explosive devices (IEDs). Another robot, called SWORDS, "is basically Talon's pissed-off big brother, with its gripping arm replaced with a gun mount."[9] In other words, robotic systems, although so far mostly used for reconnaissance and disarming IEDs, can be weaponized like drones. Both drones and robots are controlled by humans in their main operations, yet they rely upon sophisticated computer chips and the power of wired networks and big data to work autonomously

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6. Trahern Jones, "U.S. Set to Deploy More Drones along U.S. Borders, Despite Concerns about Effectiveness and Cost," Walter Cronkite School of Journalism and Mass Communication, September 24, 2013, http://cronkite.asu.edu.

7. Gen. John P. Abizaid (ret.) and Rosa Brooks, co-chairs, *Recommendations and Report of the Task Force on US Drone Policy*, Stimson Center, June 2014, http://www.stimson.org.

8. Singer, *Wired for War*, 32.

9. Ibid., 30.

much of the time. There is no reason, in principle, why they cannot be pro-grammed to make decisions to kill on their own.

This point raises the issue of how drones and robots will be used as part of a systematic strategy of computerized warfare in the future. Singer describes two different strategies that are already being put into use. The first is the "mothership" strategy, which is modeled on how the US Navy is already using its unmanned systems. Since it is difficult for submarines to move into shal-low waters and since traditional sonar gives away one's location, unmanned submarines are being used to expand the reach of traditional subs and ships. Naval officers see robotic minisubs as the figurative eyes, ears, and teeth that extend the reach of the mothership, which could even be a permanent sailing base at sea.[10] The other strategic concept is the "swarm." Weapons scientists have studied natural predators for inspiration. The most efficient predators hunt in packs; swarms are made up of independent parts without a single leader necessary to coordinate them. These concepts are being used to plan coordinated attack by swarms of drones and robots. "Much like being sur-rounded by bees, the experience of fighting against swarms may also prove incredibly frustrating and even psychologically debilitating. . . . With the simple rules guiding them and the simpler, cheaper robots that they require, there is no limit on the size of swarms. iRobot has already run programs with swarms sized up to ten thousand, while one DARPA researcher describes swarms that could reach the size of 'zillions and zillions of robots.'"[11]

Singer concludes, "Whatever doctrine prevails, it is clear that the Ameri-can military is getting ready for a battlefield where it sends out fewer humans and more robots."[12] As on the planets of Eminiar and Vendikar, the attacks may involve no humans, but the deaths certainly will. What does the JWT have to say about this brave new world?

### *A Brave New—or the Same Old—World?*

To answer the question about the current relevance of an ethical tradition born some 1,600 years ago (dating its Christian formulation to Augustine), it would be helpful to reflect on whether the current situation is really as new as it seems. Advances in weapons technology in every age tend to throw the ethics of war into confusion for a time. There is often a feeling that a

10. Ibid., 227.

11. Ibid., 234. iRobot is the company that created the PakBot. DARPA is the Defense Advanced Research Projects Agency, a company that creates robots for the US military.

12. Singer, *Wired for War,* 236.

new weapon is too destructive, too efficient, too far reaching, or too secret to be controlled by just war principles. For some ethical theorists, the newness entails that the weapon must be flatly rejected. For others, the newness entails that the just war criteria are no longer relevant.

An interesting example is the medieval attempt to prohibit crossbows. The medieval crossbow was a considerable technical advance on earlier bows, because its arrows could be propelled over three hundred yards and pierce chainmail armor. "This weapon was frightening because its lethal force could be projected over unprecedented distances, wholly disrupting the contemporary chivalric conventions of armed conflict."[13] In 1139, the Catholic Church's Second Lateran Council forbade the use of crossbows. But the prohibition effort was so unsuccessful that Gratian, compiling canon law just a decade after this council, made no reference to the ban. As I concluded with my coauthor David Clough in *Faith and Force,* "Here is an example of important social conventions supported by powerful vested interests being overturned by the raw military effectiveness of a new weapons technology. Not even Christian combatants could resist using crossbows, which meant that everyone ended up adopting them."[14] In light of this and other failed attempts to forbid the use of certain weapons, those of a realist bent often claim that such attempts are naïve.

Yet just war thinkers believe that we must keep trying to control the means of war, difficult though the task is. A measure of control is better than no control at all. What's more, just war principles can shape public discussions about weapons, sometimes creating enough of a public consensus that prohibitions work. For example, there is broad—and, in my opinion, largely effective—international consensus that no nation should possess biological and chemical weapons. There is also an international consensus that no nation should use nuclear weapons; but because the international discussion took place in earnest only after several nations possessed nuclear weapons, it was politically feasible to draw the line only at the initial nuclear club of five countries.[15] The limitations on all three types of weapons are enforced in treaties, using standards drawn from the JWT, as mediated

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13. David L. Clough and Brian Stiltner, *Faith and Force: A Christian Debate about War* (Washington, DC: Georgetown University Press, 2007), 111.

14. Ibid., 112.

15. This line did not hold, but only four other countries have become nuclear states since, three of them being the only countries not to ratify the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (North Korea's status as withdrawn from the treaty is complex and contested). The Non-Proliferation Treaty has been ratified by more countries than any other arms-control treaty. See the UN Office on Disarmament Affairs, http://www.un.org.

through international law. These limitations are among the successes of just war theory: not ending all wars, unfortunately, but preventing some wars and bringing judgment and constraint to other wars.[16]

Whether the tradition can also underwrite a consensus on the use of drones and robots remains to be seen. It will be helpful to take stock of how unmanned military systems are like and unlike past weapons. Weaponized drones and robots appear to be *similar* to many weapons of the past in several ways:

- They kill.
- They are used because they advance war aims. Nations, armies, and combatants adopt them either to gain a competitive advantage or to try to even up the playing field.
- Too much faith can be placed in them. Hyperbolic rhetoric surrounds new weapons. Political and military leaders often excitedly claimed that a new weapon is going to make a decisive difference or end a war. Almost always, they overpromise.[17]
- The user—whether a nation or a soldier—can give over too much power to the weapon. This happens when the use of the weapon influences strategy and policy rather than the reverse. In other words, the weapon is used because it can be, without sufficient consideration given to long-term consequences. This dynamic happens to some degree with just about every breakthrough in weapons technology.
- Many new weapons encourage a myth of precision. The weapons get more deadly and precise, but never precise enough to remove all moral concerns. The crossbow was more precise and allowed the shooter to fight from a safe distance, but no safer once the other side got crossbows, too. Precision-guided munitions (PGMs), which broke into the public's attention during the 1991 Persian Gulf War, still killed civilians. Drones and PGMs are limited by what a camera can see and by what a human operator thinks the camera is showing.
- Unmanned systems, like any weapon developed for traditional warfare against other countries, can be used domestically. This is true of guns,

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16. See Clough and Stiltner, *Faith and Force*, 222.

17. Certainly there are times that a new weapon made a decisive change in a war, but the change is never as wonderful as the rhetoric states. The extreme example is the United States dropping two atomic bombs on Japan to precipitate the end of World War II. Their use caused enduring moral controversy, while historians continue to debate whether World War II would have ended soon enough without the bombings. See the discussion in Clough and Stiltner, *Faith and Force*, 122-24 and 132-35, and the resources listed in 262 n. 40.

body armor, helicopters, and so on—and, as noted above, it is already true of drones.[18]

- These weapons can spread to other nations and even nonstate actors. The black-market trade in small arms has been a huge problem for the international community. Not infrequently, arms that the United States gives to its allies end up in the hands of its enemies and are directed back against US soldiers.[19] There is no reason the same thing won't happen with drones and robots. In fact, it happens already, as when Iraqi militants repurposed an IED-detonation robot and outfitted it with an IED to send back at American soldiers.[20]

- Weapons of any sort very often breed resentment among the civilian populations on which they are used. In guerilla wars throughout history, large nations have been drawn into fights in which they appear as behemoths strewing indiscriminate destruction. Fairly or not, the large nation with the superior technology is placed in the role of Goliath against David, giving local civilians more reason to sympathize with insurgents. Theologian Paul F. M. Zahl says that the same happens with drones: "This method of fighting reduces people on the ground to a condition of absolute helplessness, because they cannot fight back against unmanned drones. . . . It creates resentment in the people we are fighting. . . . People cannot be expected to take this one-sided warfare 'lying down.'"[21] Placing too much faith in a weapon can blind leaders to such consequences.

Alongside these similarities, there are three ways that the unmanned systems are markedly *different* from all previous weapons. The first is that the operator can be extremely distant from the fighting. The only previous weapons that have something of this feature are long-range missiles such as cruise missiles launched from land, ship, airplane, or submarine, and intercontinental ballistic missiles (ICBMs) armed with nuclear warheads. But these are blunt weapons that do major damage. The drone is new in being a

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18. In protest of the lack of laws and policies controlling the use of drones within the United States, Kentucky Senator Rand Paul famously conducted a traditional filibuster for 13 hours on March 6-7, 2013. The *New York Times* editorialized on the types of domestic policies that Congress should enact in "Putting Drones to the Test" (January 5, 2014). So far there has been little action from Congress.

19. For one recent example, see Rowan Scarborough, "Fast & Furious, Part II: No Way to Keep U.S. Weapons out of Enemy Hands in Syria," *Washington Times*, September 23, 2013, http://www.washingtontimes.com.

20. Singer, *Wired for War*, 219.

21. Paul F. M. Zahl, "It's an Unfair Fight," *Christianity Today*, August 1, 2011, 64.

rather precise weapon that enables an operator to take a great deal of time to think about whether, when, how, and whom he will shoot, and then to do so—from thousands of miles away. Many American drone operators go to an office of sorts, figuratively working "from 9 to 5" while they fight in a war. Then they return to their families and personal life. While some are not troubled by the incongruity, others have found the situation psychologically stressful, even to the point of suffering post-traumatic stress disorder.[22]

The second difference is that the drone is a weapon that fits perfectly with a new style of open-ended, nontraditional war. The "war on terror" is the term that American leaders, especially during the administration of President George W. Bush, have used to describe the pursuit and elimination of terrorist groups anywhere in the world. There are many novel features of this military campaign, including that the groups do not fit the traditional status of combatants, which has served as a justification by the Bush and Obama administrations to conduct military actions outside the rules of international treaties and just war standards.[23] In the case of drones, the questionable actions have included: (a) the military use of drones by agencies other than the military, namely, by the Central Intelligence Agency (CIA); (b) sending drones into the airspace of other countries with whom we are not at war, particularly Pakistan and Yemen, in the pursuit of terrorists; and (c) killing persons when they are not carrying weapons and not currently engaging in any act of aggression.

The third difference has been alluded to in the above discussion of the mothership and swarm doctrines: unmanned systems are designed to think for themselves, at least to a degree. This is one of the three components of anything that counts as a robot. A robot has *sensors* that read the environment; *processors*, or artificial intelligence, that decide how to respond; and *effectors* "that act upon the environment in a manner that reflects the decisions, creating some sort of change in the world around a robot."[24] While current robotic weapons systems depend on a human operator to do anything deadly, there is no reason the machines will not become increasingly smart and autonomous. The swarm doctrine is premised on the idea that

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22. Elisabeth Bumiller, "Air Force Drone Operators Report High Levels of Stress," *New York Times*, December 19, 2011, A8. This report is cited by Abizaid and Brooks, *Recommendations*, 25.

23. Kaag and Kreps suggest that both the Bush and the Obama administrations have failed to support the legality of most of their drone strikes. "The more restrictive interpretations of *jus ad bellum* conclude that the only place where drone attacks are plausibly legal is in Afghanistan, where the United States initiated a war of self-defense after the 9/11 attacks. Consequently, drone attacks are not legal in countries with which the United States is not in a declared conflict, such as Pakistan, Yemen, and Somalia" (*Drone Warfare*, 86).

24. Singer, *Wired for War*, 67.

thousands of "dumb" drones or robots will work together in a sophisticated network that will continually adapt to the fighting environment in real time. The swarm will think for itself and decide how to respond.

### Can War with Drones and Robots Be Justly Conducted?

Should one be more impressed with the similarities or the differences between old and new weapons? A reasonable approach is to take account of both. The political, economic, cultural, and military conditions that prompt the creation of new weapons are as old as humanity: people are motivated by power and fear, and they are prone to engage in wishful thinking. Just war principles can address drones and robots along the same lines as crossbows, chemical weapons, and nuclear weapons, because behind the use of all of them are very similar motivations. But each weapon type requires its own particularized response, based on the nature of the weapon and the context of its use. So how do the long-standing just war criteria apply to drones and robots? This section will briefly summarize the application of the just-conduct *(jus in bello)* and just-decision *(jus ad bellum)* criteria and then raise questions of accountability.

The two *jus in bello* criteria govern how weapons are used. The apparent innovation with drones and other PGMs are that they make it much easier to respect the criterion of *discrimination,* which requires that weapons and acts of fighting must distinguish between combatants and noncombatants, never intentionally targeting the latter. Drones respect this criterion in their design. Their precision can potentially make a campaign waged with them morally better than the same campaign waged with larger, "dumber" bombs. But their technical precision does not automatically make them free of moral problems. First, the technical precision of drones can mislead their operators. Christian just war theorist Daniel M. Bell, Jr., notes, "The 'soda straw' optics of drones may inhibit the ability to discriminate appropriately because they exclude the surrounding context. For example, I was once told of a drone being used to take out a bridge. The narrow field of view of its optics did not include a passenger train that was approaching the bridge and did not have time to stop."[25] Second, the distance at which drones are used might make it psychologically easier to fire them, increasing the chances of abuse. Finally, it is not easy to decide who is a proper target in asymmetrical

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25. Daniel M. Bell, Jr., "The Drone Wars and Just War," *Journal of Lutheran Ethics* 14, no. 6 (June 2014), http://www.elca.org/JLE/Articles/71, paragraph 6.

counterterrorist warfare. The legal and ethical issues are very murky.[26] A drone can set its sights on a house where cameras saw a man enter—an American citizen who is active in al-Qaeda. This situation is nothing like a solider on a battlefield with a gun in his hand, so is this man a legitimate target? Many ethicists and international lawyers say "no," but American drone policy has permitted such people to be killed.

The second *in bello* criterion, *proportionality,* holds that the use of a particular weapon must reasonably promise to produce more overall good than harm. The reason for this stipulation is that the ongoing use of weapons even in a discriminating manner can add up to a morally problematic result. The classic principle of double effect, which guides the application of discrimination, allows some low level of collateral damage—of civilians who are accidentally or unintentionally killed in the prosecution of a justified war. The principle even allows some such civilian deaths to be "foreseen" as long as they were not the intended result. But what is a low level and how scrupulous does an army have to be? Double effect can operate as a fig leaf if it is reduced to the claim that one did not intend to kill civilians. In addition, the concept of proportionality can also be abused, because the standards of what is too much violence in light of the hoped-for result is difficult to establish. Because of these problems, the just war theorist Michael Walzer has famously articulated the tradition's concept of "due care," which is a positive commitment to save civilian lives even when that means soldiers put themselves at risk.[27]

It is not clear whether the United States has been scrupulous enough. At least early on in the drone wars, it very arguably was not. The New America Foundation conducts an ongoing analysis of deaths in the US drone campaign in Pakistan. It estimates that in 48 strikes conducted by the Bush administration, up to 557 people were killed, with the civilian death rate falling between 20 and 37 percent of the total. While the Obama administration has conducted many more strikes (328) that have caused many more deaths (up to 2,932), the Foundation estimates the civilian death toll in these strikes as 5 to 10 percent of the total.[28] Perhaps even 5 to 10 percent reflects a lack of due care, but the significant decline also suggests that the United States *can* better control drones *if it wants to.*

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26. Kaag and Kreps, *Drone Warfare,* 82-86.

27. Michael Walzer, *Just and Unjust Wars,* 3rd ed. (New York, Basic Books, 2000), 152-57.

28. New America Foundation, "Drone Wars Pakistan: Analysis," http://securitydata. newamerica.net. I calculated the casualty rate based on the data this site reported as of August 20, 2014.

With such trends in view, a June 2014 report of a bipartisan committee with several former senior military and intelligence officials argued that drones do not cause disproportionately high civilian causalities. This report, issued by the Stimson Center, states, "The frequency and number of civilian casualties resulting from US drone strikes also appear to have dropped sharply in recent years, as UAV technologies have improved and targeting rules have been tightened."[29] The data has been hotly contested by supporters and critics of drones, but all acknowledge that it is difficult to get a precise picture because of the secrecy with which American administrations conduct drone attacks. The Stimson panel is by no means a champion of drones, but it believes that the greatest ethical and legal concerns are found under the other part of just war theory.

America's use of drones in counterterrorist warfare raises a number of questions under the *jus ad bellum* criteria. Is the possibility of future terrorism from a certain group a *just cause* for sending military strikes against that group? Does the United States have the *legitimate authority* under international law to conduct drone attacks in countries with whom it is not at war? Have other strategies been exhausted, making bombings a *last resort*? Is the strategy of drone strikes *proportionate*, in that it is likely to do more good than harm in the long run, bringing a *reasonable hope of peace*? And have the strikes been carried out with *morally right intentions*? Bell raises important challenges to current drone practice on the last two points. An assessment of proportionality has to consider how the whole policy affects America's standing in the eyes of other countries. Bell comments,

> The best insights of counter-insurgency theory argue for a shift from an "enemy-centric" approach that focuses primarily on destroying an elusive enemy to a "population-centric" approach that focuses on protecting civilians and communities from harm. The drone wars of recent years are oddly out of step with this insight and to the extent that they make a just conclusion of the war more difficult, they run afoul of the just war tradition.[30]

As for right intention, Bell states, "No matter how precise the weaponry or how close the trigger to its effects, if the one pulling the trigger is not a person formed in the virtues that characterize a just war people, then that technology will only amplify vice."[31] Similarly, the Stimson report "is especially critical of the secrecy that continues to envelop drone operations and

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29. Abizaid and Brooks, *Recommendations*, 25.

30. Bell, "Drone Wars," paragraph 15.

31. Daniel M. Bell, Jr., "Let Character Prevail," *Christianity Today*, August 1, 2011, 65.

questions whether they might be creating terrorists even as they are killing them."[32]

Considered from both directions—*in bello* and *ad bellum*—just war theory clearly mandates rigorous reflection, control, and accountability. Such qualities have been lacking in American drone policy, yet they are urgently needed as unmanned war threatens to expand. Several ethical recommendations emerge from the just war theorists and nonprofit organizations that have studied unmanned systems:

- The Stimson panel leads its list of eight recommendations with the need for the United States to "conduct a rigorous strategic review and cost-benefit analysis of the role of lethal UAVs in targeted counterterrorism strikes." It also urges increased transparency in US policy and more robust oversight and accountability mechanisms.[33]
- Weaponized drones and robots should be acknowledged as the tools of war that they are and used solely by military agencies, not in clandestine departments of the government. They ought to be used only in military campaigns under the standards of military ethics and international law. The White House indicated its interest in moving in this direction in May 2013, but has not yet done so.[34]
- Human beings should always retain responsibility for decisions to kill. In its report *Losing Humanity: The Case against Killer Robots*, Human Rights Watch argues that "robots with complete autonomy would be incapable of meeting international humanitarian law standards. The rules of distinction, proportionality, and military necessity are especially important tools for protecting civilians from the effects of war, and fully autonomous weapons would not be able to abide by those rules." This report calls for international laws and national policies to prevent the development, production, and use of fully autonomous weapons, and for roboticists to develop a professional code prohibiting the same.[35]
- The international community needs to develop mechanisms of accountability. The temptation is especially keen for small nations

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32. Mark Mazzetti, "Use of Drones for Killings Risk a War without End, Panel Concludes in Report," *New York Times*, June 26, 2014, A11.

33. Abizaid and Brooks, *Recommendations*, 14-15 and 41-49.

34. I made this recommendation in my op-ed, "Follow Just War Rules," *Christianity Today*, August 1, 2011, 65, and the Stimson panel recommends it as well (Abizaid and Brooks, *Recommendations*, 14-15 and 43).

35. Human Rights Watch, *Losing Humanity: The Case against Killer Robots*, November 2012, http://www.hrw.org, 3-5 and 46-48.

wishing to exert their influence (hence the smaller nations joining and trying to join the nuclear club) and for superpowers who have resources and technology that no one else has. Currently, the United States is in this position with drones and robots. It won't be for long, though. It should learn a lesson from the late 1940s when it was the only nation with atomic weapons. By holding itself to a different standard than other nations and by actually using these weapons, even if for ostensibly good purposes, the United States harmed its moral standing in the eyes of the world. Its bombings of Hiroshima and Nagasaki are still mentioned by rogue leaders as evidence of America's hypocrisy. The Stimson report foresees a similar problem emerging with drones: other nations will appeal to America's use to justify their own.[36] The United States has a chance to lead on establishing standards for drones, robots, and similar technologies, but the window is closing.

### Back to the Future

Based on just war criteria, we must raise serious questions about the wisdom of warring with drones and robots. While drone systems are not inherently indiscriminate or disproportionate, they have been too heavily relied on by American leaders in an age where the public is understandably reluctant to see American soldiers deployed in hot combat but eager to be assured that terrorist leaders are being killed. Unmanned systems create moral hazards when we conduct war from a far remove, and they will create more hazards if we start turning over decisions about targeting and killing to machines.[37]

How much control are we willing to cede? One science fiction dystopia is that the robots take over, as in the *Terminator* movies. We would seem to be far away from that future, but not so far that we should not be planning for it. The principle should be that *a human being* always decides on a deadly action. Sure, persons are flawed in many ways, but they are morally and legally accountable, and they understand the human stakes of war, even when they try to ignore them.

Another science fiction dystopia is the one that began this chapter: that technological war becomes so seemingly pristine that we slide into endless war. The *Star Trek* episode sheds light not just on computerized war in general but on the US "war on terror" in particular. America's pursuit of

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36. Abizaid and Brooks, *Recommendations*, 37.
37. Kaag and Kreps use the concept of moral hazard extensively in chap. 5 of *Drone Warfare*.

terrorists through drones is like the simulated war in the episode, but in only one direction: computer-aided attacks are ordered up, with one side experiencing the deaths and the other side hardly ever seeing the results.

While Christianity has only been mentioned briefly in this chapter, here is certainly a place where the churches and faithful citizens can bring a distinctive perspective to the just-war discussion. As Bell rhetorically asks, "What kinds of moral communities are necessary to resist the politics of expediency that renders drones so tempting to our political leaders? Perhaps churches that embrace just war need to speak up and remind those leaders that, as Walzer said, we are willing to bear the risk, the cost, the sacrifice necessary to avoid killing civilians and shattering communities . . . in short we are willing to bear the costs of waging war justly."[38] Drones and robot armies will test us, the people, as to whether we are up the challenge. Are we willing to say "no" to something that is being done just because it *can* be done? The JWT gives us the resources; we must be willing to use them. The first step is moral perception: having the courage to look into what acts are being done in our name and remembering that actual war is a very, very messy business.

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38. Bell, "Drone Wars," paragraph 29.