

Why Robotic War Will Challenge Current Morality in War Thinking

by John Brock and Dan G. Cox

The post-Cold War era has been marked by the twin desires of U. S. presidents to limit casualties and reduce the risk of exposing U. S. and coalition Soldiers to direct conflict on the ground. The first aspiration to limit casualties, especially civilian casualties, comes from modern Just War Theory developed in western countries' academic institutions. Frederik Rosen sums up this desire perfectly, "Never before in history have military powers expressed so much concern for the fate of civilians in war."¹ The second comes from political expediency and a perceived intolerance for combatant casualties on the part of American citizens. These foreign policy aspirations have led to U. S. presidents relying on air power and precision-guided munitions and, to some degree, remotely piloted aircraft. It has also led to the increasing use of Unmanned Aerial Vehicles (UAV). However, the United States and other industrialized countries in Europe have chafed at the prospect of deploying fully autonomous lethal weapons systems. Lethal Autonomous Weapons Systems (LAWS) used in Russia help safeguard mobile nuclear missile launch sites, and East Asian countries have shown no compunction against developing LAWS for use in military endeavors.² As Russia, China, and other eastern countries develop LAWS, it will become increasingly difficult for the United States to refrain from developing and deploying LAWS in large numbers. The post-Cold War tenets of limiting casualties, adhering to the laws of war, and limiting troops to on-the-ground exposure may cause the United States to lag dangerously behind in the development and employment of LAWS. If Artificial Intelligence (AI) continues to proceed at its current pace, the country who falls behind in the development and employment of AI enhanced LAWS may never catch up. For these reasons, we feel that LAWS are beginning to challenge western nations previously held conceptions of morality and war.

The next section of this article deals with the growing overreliance on air power, specifically the proliferation of UAV. This portion precedes a brief overview of current western conceptions of just war. We then encapsulate the difference between western and eastern cultural interpretations of AI and autonomous robots. Finally, we anticipate the future of warfare given the proliferation of LAWS and how this proliferation will challenge notions of dispersion on the battlefield and just war theory.

Air Power Saves Boots on the Ground

A growing belief that military engagements can be decided from a standoff position began in earnest with President Bill Clinton and his foreign policy advisors in the Kosovo conflict, but it has roots in Operation Desert Storm under President George H. W. Bush. Several scholars argued after Desert Storm that U.S. airpower was not only decisive but heralded in a new era of warfare where airpower would neutralize much of the threat on the ground. Proponents assumed from this single case that when ground troops were introduced, they would not only have an easier time accomplishing objectives but they would also be at far less risk.³ This lightning success in Operation Desert Storm, along with the emerging scholarly consensus, laid the foundation for much of the thinking that followed under the Clinton Administration.

Some foreign policy leaders hailed NATO bombings under Operation Allied Force in Kosovo as a success, while others saw it as a future way of war. Defense Secretary William Cohen was correct in noting that this

was one of the most precise applications of air power.⁴ The implication was more forceful. Precision warfare was not only possible; it was preferable, perhaps even the only moral way to conduct war.

President Clinton expanded on the belief that precision guided air power could win conflicts for the United States relatively risk-free during the Kosovo campaign. In a speech given by President Clinton on the eve of U. S. intervention in Kosovo, President Clinton related that the United States would lead a NATO air campaign against Serbian forces who were perpetrating human rights abuses against ethnic Albanians. President Clinton emphasized that he did “not intend to put our [U.S.] troops in Kosovo to fight the war.”⁵ Despite tens of thousands of U. S. and NATO troops later deployed to Kosovo, and hundreds of U. S. troops still stationed there as part of Kosovo Force (KFOR), the myth of an effortless air victory has persisted.

This fallacy has only gained momentum with initial successes in Libya under President Obama. President Obama was quick to note that the United States and our allies had successfully established a no-fly zone and ended the human rights abuses of the Qaddafi regime. President Obama, like President Clinton before him, emphasized that the U.S. military would use no troops in the endeavor.⁶ Again, likely due to initial success and the eventual overthrow of the Qaddafi regime, the fallacy of precision air power grew in the west. The fact that Libya is in a near constant state of civil war and that portions of the Libyan populace are supporting ISIS have done little to dent this mythology.

Limiting casualties is also politically expedient. Colin Powell’s famous argument in the first Gulf War that President George H. W. Bush had to cease hostilities against the Saddam Hussein regime, for if the “highway of death” ever became public there would be a domestic backlash, is but one example of the perceived political constraints against producing even enemy combatant casualties. Powell’s assessment is steeped in his personal experience in Vietnam, but casualties are something modern presidents have sought to avoid. The notion of a risk-free or low-risk war is steeped in an overemphasis on air power and precision guided warfare. Airpower as a humane answer to military challenges is also at the heart of political expediency, and the emphasis on precision dovetails nicely with the development and increasing adherence in the western industrial countries to modern just war theory.

Western just war theory has gained increasing influence over western nations military operations since Michael Walzer published his book on the topic after the Vietnam War. Western just war theory can be broken into two broad categories: *Jus ad Bellum* and *Jus in Bello*. *Jus ad Bellum* deals with whether the war is justly declared, by a competent authority, as a last resort, with the right intention, has a high probability of success, and is proportional to the wrong or potential threat the country declaring war is facing.⁷ These tenets deal mainly with the country, and specifically the competent authority or government declaring war and are, therefore, not as germane to our argument. Still, we should note that “proportionality” is a consideration for the country going to war. Consequently, policymakers start from a predisposition of limited damage in a war, which helps to feed into a preference for precision guided munitions and little collateral damage.

Jus in Bello deals with Western notions of justice during a war. The main components of justice during warfare are discrimination and proportionality. Discrimination refers to the duty of a Soldier to distinguish between combatant and civilian and only use force against legitimate combatants.⁸ Obviously, discrimination would be easier in a conventional conflict where combatants are wearing uniforms and using nationally marked military vehicles. In contrast, it would be much harder to discriminate in an insurgency where enemy combatants dress and blend in with civilian populations. Even Hugo Grotius notes that those who supply direct military support for combatants could rightly be declared combatants themselves.⁹ Walzer believes that munitions manufacturers and their civilian employees, can, under certain circumstances, also be designated enemy combatants.¹⁰ Despite Grotius’ and Walzer’s expansion of enemy combatant, difficulty in discrimination is not an acceptable excuse for the use of indiscriminate violence. This point becomes more important later in our argument.

Proportionality under *Jus in Bello* refers to the degree of force used. Military force should be proportional to the threat while also considering the harm engendered. Even when justified at the time, proportionality considers whether the military action precludes the building of a lasting peace in the future.¹¹ To some authors, this would mean that “battle plans to cross a certain river directly and immediately are condemned if they lead to a victory but do so with high costs to both sides that could have been avoided had some other reasonable plan been adopted.”¹² This is obviously a ridiculous assertion given that the military commander would have to be nearly omniscient to consider all plans equally in a complex environment over multiple time-horizons. Still, this example is used here to illustrate how forcefully western just war proponents argue their case and how constraining the strictures of international law on just war can become. Finally, collateral damage is called out by at least one scholar as a form of ill in a war that we should no longer tolerate in its current legal form. Frederik Rosen argues, “We should have serious concerns about the killing of civilians in war as collateral damage,”¹³ lamenting throughout his book that collateral damage victims never receive just treatment under the current international law.

Taken as a whole, Western societies growing casualty aversion, adherence to western notions of just war, overconfidence in airpower, and reliance precision-guided munitions has led Western policymakers to deride the possibility of using LAWS or AI in warfare. Given what we have described above, the moral and political risks are too high. However, this is only the beginning of the western constraints against the use of LAWS. We now briefly outline the cultural constraints in the West and the cultural embracing of robots, LAWS, and AI in the east.

The East-West Cultural Divide

Modern western culture is replete with examples of robots and artificial intelligence went awry creating a dystopian or apocalyptic future, and the destruction of humanity. The movies *Terminator*, *I Robot*, *Westworld*, and *2001: A Space Odyssey* are a few prime examples. Famous western scientists and entrepreneurs have begun to sound the bell of alarm regarding artificial intelligence as well. Elon Musk, Steven Hawking, and many other notable scientists signed an open letter warning against the dangers of artificial intelligence, which they likened to the dangers posed by nuclear weapons.¹⁴ Besides potential physical dangers posed by AI, westerners also fear to become irrelevant in the face of increasingly advanced robotic counterparts.¹⁵ Much of the western apprehensiveness with robots and AI is rooted in the western world’s view heavily influenced by Judeo-Christian beliefs. Under this belief system, only God can give life, and anyone who attempts to create artificial life is considered a blasphemer.¹⁶ These beliefs likely inspired early warnings in fiction such as the Jewish story of Golem or Mary Shelly’s *Frankenstein*. All of this has led to self-imposed restrictions even to research LAWS. The fear of autonomous robots deciding to take human lives is so pervasive that Secretary of Defense Ashton Carter stated that the United States would never use fully autonomous lethal robots or machines.¹⁷

Further, Western international law constrains only industrialized western powers, mainly the United States, the European Union, Australia, and Canada. Genocides and ethnicides have occurred with regular frequency in African countries and Eastern Europe. Very few trials have ever been held for mass atrocity perpetrators and, with the exceptions of Slobodan Milosevic and the atrocities committed in the former Yugoslavia, almost no one has been convicted or punished for any crimes resulting from human rights abuses. China operates unconstrained by the strictures of just war theory and recently Russia was named by *Human Rights Watch* as a mass atrocity perpetrator in Syria. *Human Rights Watch* alleges that Russia engaged in widespread indiscriminate bombing of civilians in support of the Assad regime.¹⁸ No one in Russia is ever held accountable for these acts, and the public condemnation will not force Putin to stop such abuses. Non-western nations simply view warfare differently than their western counterparts.

Eastern culture and religious worldview lay in stark contrast to western ideas and perceptions regarding

robots and AI. There is a belief in eastern culture that the best attributes of humanity can be programmed into robots and AI. Asians tend to view robots and AI as a potential benefit rather than a scourge to be avoided.¹⁹ Eastern culture is already gearing up for a far more pervasive introduction of robots into society. In South Korea, for example, engineers are already designing robots to replace elementary school teachers.²⁰ Robots are often positively portrayed in popular culture. This view reaches its apogee in the 1951 Japanese cartoon *Tetsuwan Atomu* where a robot named Astro Boy has many innocent adventures while being powered by an atomic heart. It is particularly surprising that the Japanese were simultaneously accepting a robot boy and, in some respect, taking the atomic bomb which had so recently caused so much pain in Japan and turning into a force for good.²¹ The ability of Easterners to view robots in such a positive light likely stems from Animistic beliefs that permeate Shintoism, Buddhism, and Hinduism. One of the core beliefs of is that all things, animate and inanimate, have a spirit. This view means that robots, cars, tables, animals, and humans all have a spirit and that spirit can be influenced and appealed to.²² Unlike western culture, creating sentience in not taboo since all things have a spirit, to begin with anyway.

This stark difference in cultural outlook between the east and the west has created an opportunity for eastern cultures to forge ahead of the west in the development and use of LAWS in warfare. One of the main concerns comes from western just war theory and its aversion to casualties, but western politicians also desire to refrain from sending Soldiers overseas. The second problem is the predominant fallacy that airpower will win the day will create a tension point in Western thought regarding LAWS. As LAWS continue to develop and appear on the battlefield, a crisis in Western thought will emerge. The next section of this article deals with the increasing dispersion of military forces on the battlefield LAWS will engender and how this begins to place western policymakers and military practitioners into an ever-deeper morality conundrum.

LAWS and Dispersion on the Battlefield

James Schneider argued in 1992 that linear thinking regarding warfare and a slavish devotion to the Napoleonic concept of massing troops and firepower on the enemy had become outdated with the emergence of “the empty battlefield and the rise of distributed free maneuver.”²³ Schneider argues that beginning with the rifled musket, greater ranged lethality caused looser formations resulting in a battlefield that he claims was mostly empty.²⁴ Schneider argues further that the dispersion of troops on the battlefield led to dispersion in firing.²⁵ This theory is an especially important point, as LAWS may disperse the battlefield even further burying strategic, operational, and tactical assets into the sovereign nations embroiled in conflict and, as we will argue later, into civilian cities. Ultimately, Schneider notes that casualty rates fell on the battlefield as increased lethality caused military leaders to develop operational art and emphasize maneuver rather than linear control over lines of musketeers. Unfortunately, if LAWS, standoff weaponry, UAVs, etc. continue to proliferate, then dispersion of troops and military vehicles will continue as well.

The battlefield will continue to devolve to the point where the distinction between enemy combatant and civilian becomes hard, if not impossible, to distinguish. Every asset within a country could become a viable target, including large concentrations of civilians in the major cities. The United States already runs a majority of its UAV from an air base in Las Vegas, Nevada, which arguably extends the legitimate battlefield deep into the continental United States. ISIS has identified U.S. city populations as aspirational targets for their developing UAV force.²⁶ ISIS may soon have the ability to accomplish a few lower-level UAV attacks on the major urban centers of the United States. What is more worrisome is imagining a conventional war between two or more major powers. A peer-competitor will have far greater capacity for destruction. If that peer-competitor is using AI, enhances LAWS, and the United States clings to its insistence on using only human controlled UAVs, the results could be disastrous for the United States. In the next section, we examine a little more carefully some of the arguments we have postulated here.

The Rise and Implications of Artificial Intelligence

In 1996 and 1997, Deep Blue, an IBM algorithm, beat the reigning world champion at chess. In 2016, Google's DeepMind algorithm beat the South Korean Go champion four out five times. Go was previously thought to be a game almost impossible for a machine to win because it requires human intuition to play. Early in 2017, Libratus, another AI algorithm, out bluffed three of the world's best Texas Hold 'Em poker champions. The AI played so exceptionally that poker champion Dong Kim started to feel the machine could see his cards. He stated, "I am not accusing it of cheating. It was just that good."²⁷

There are two reasons why AI is beginning to develop so quickly. The first is computing technology is almost improving exponentially. By 2020, a computer will surpass the human brain's processing power. By 2030, personal computers will be equivalent to over 1,000 brains. By 2055, a single computer will exceed all of Earth's human brains processing power.²⁸ The second reason AI is developing so quickly is due to machine learning concept. Machine learning uses the techniques of 'deep learning' and 'reinforcement learning.' Deep learning develops computer neural networks similar to those found in the human brain. These neural networks improve AI's ability to analyze massive amounts of information, making the system more intelligent. Reinforcement learning then virtually repeats tasks or games continually, allowing the AI algorithm to learn from its successes and mistakes. The improvements in computing power and machine learning concepts have made AI science fiction now science fact. Nations are now using this technology to develop LAWS capable of beating the world's best human Soldiers.

The implications are potentially staggering. If one nation falls behind another in the development of AI and the use of LAWS, they may never be able to catch up. Since sentient AI will have the capacity to clone and improve itself (as well as develop better and faster computer platforms from which to operate), being behind a mere six months may mean the country that is behind will never be able to catch up. Current just war, cultural, and political aspects preventing the West from developing and using these technologies may put the entire existence of western nations at risk.

The Challenge for Western Just War Theory and Western Cultural Preconceptions of LAWS and AI

Current western just war theory means to constrain warfare and make it a more humane endeavor. Just war theory and international law emphasize protecting non-combatants and civilian infrastructure and housing. In the United States, there is a political preference for a standoff military. This is resulting in an increasing reliance on UAVs which are remotely operated from Las Vegas, Nevada. As operators of military technology increasingly operate from within their home country, more viable targets will be found there. The increasing emphasis on lowering non-combatant casualties and limiting collateral damage begins to seem untenable.

For example, are UAV pilots only viable targets while on the air base? Can they be targeted on the highway to and from work? Can they be targeted in their homes? In a scenario where the battlefield continues to empty from the stage that James Schneider observed, there are no discernible front lines and strategic assets, like population centers, begin to look like viable targets. Since drones are increasingly easier and easier to make, multiple manufacturing facilities become viable targets as well. Is the economy of the nation itself integral to the development of UAVs, LAWS, and AI? If the answer is yes, then current western notions of just war fall apart almost entirely.

There is already a reticence to in the west to develop, let alone deploy LAWS. Such reticence does not exist in the East and Russia has already deployed LAWS in defense of its mobile nuclear force. There is an incredible fear of sentient AI in the west, which does not exist in the east. Given what we have outlined above, Western scholars and policymakers may become even more reticent to develop LAWS and AI for warfare.

Unfortunately, this may be an untenable position for the long term as the first to market advantage may be permanent in the case of AI development. In terms of LAWS, the advantage may be so great that the country caught off guard may not be able to catch up in time to win the conflict. Western culture and just war theory/law continue to constrain Western thinking on warfare and the use of LAWS and AI. The time has come to address the moral conundrum we currently find ourselves in and discuss it with an open mind no matter how distasteful the alternatives seem initially, for to fail to do so could mean the end of some western countries.

Endnotes

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