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# License to Kill: An Analysis of the Legality of Fully Autonomous Drones in the Context of International Use of Force Law

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# LICENSE TO KILL: AN ANALYSIS OF THE LEGALITY OF FULLY AUTONOMOUS DRONES IN THE CONTEXT OF INTERNATIONAL USE OF FORCE LAW

Andrew Figueroa\*

## ABSTRACT

*We live in a world of constant technological change; and with this change, comes unknown effects and consequences. This is even truer with weapons and warfare. Indeed, as the means and methods of warfare rapidly modify and transform, the effects and consequences on the laws of war are unknown. This Article addresses one such development in weapon and warfare technology—Fully Autonomous Weapons or “Killer Robots”—and discusses the inevitable use of these weapons within the current international law framework. Recognizing the current, inadequate legal framework, this Article proposes a regulation policy to mitigate the risks associated with Fully Autonomous Weapons. But the debate should not end here; States and the U.N. must work together to adopt a legal framework that coincides with the advancement of technology. This Article starts that discussion.*

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*[W]ar is still, somehow, a rule-governed activity, a world of permissions and prohibitions—a moral world, therefore, in the midst of hell.*

—Michael Walzer<sup>1</sup>

*Are we going to let the fact that these [new technologies] look like science fiction, sound like science fiction, and feel like science fiction, keep us in denial that these are battlefield reality? Are we going to be like a previous generation that looked at another science fiction-like technology, the atomic bomb? The name “atomic bomb” and the concept come from an H.G. Wells short story. Indeed, the very concept of the nuclear chain reaction also came from that same sci-fi short story. Are we going to be like that past generation that looked at this stuff and said, “We don’t have to wrestle with all the moral, social, and ethical issues that come out of it until after Pandora’s box is open?”*

—Peter Singer<sup>2</sup>

## I. INTRODUCTION

Since the beginning of human existence to the present date, war has certainly been part of the human condition.<sup>3</sup> As warfare continues to evolve, the means and methods of warfare follow the same course.<sup>4</sup> Indeed, military technology is driven by constant change—each actor in pursuit of being better, faster, and stronger.<sup>5</sup> This constant development of technology raises difficult legal questions concerning the laws of war. Specifically, “[n]ew

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<sup>1</sup> MICHAEL WALZER, *JUST AND UNJUST WARS: A MORAL ARGUMENT WITH HISTORICAL ILLUSTRATIONS* 36 (5th ed. 2015).

<sup>2</sup> P.W. Singer, *Ethical Implications of Military Robotics*, The 2009 William C. Stunt Ethics Lecture 19 (Mar. 25, 2009) (transcript available at [http://www.au.af.mil/au/awc/awcgate/navy/usna\\_singer\\_robot\\_ethics.pdf](http://www.au.af.mil/au/awc/awcgate/navy/usna_singer_robot_ethics.pdf)).

<sup>3</sup> Kurt Larson & Zachary Malamud, *The United States, Pakistan, the Law of War and the Legality of the Drone Attacks*, 10 J. INT’L BUS. & L. 1, 1 (2011).

<sup>4</sup> *Id.*

<sup>5</sup> Gary E. Marchant et al., *International Governance of Autonomous Military Robots*, 12 COLUM. SCI. & TECH. L. REV. 272, 274 (2011).

technology has often moved faster than the laws of war.”<sup>6</sup> One of the most recent developments in warfare, and highly controversial, is the legality of employing drones to target enemies. The discussion, however, does not end there.

In the past decade, technological developments have dramatically increased the number and variety of drones.<sup>7</sup> With the improving technologies and capabilities, the drone debate shifts to the impact and legality of computer-automated drones, or “killer robots”—fully autonomous killing machines that select and engage targets without human input—as a means of employing justified use of force.<sup>8</sup> Indeed, the modernization of military robotics, with autonomous decision-making capability, is a recent development that has largely escaped public debate, leaving a host of unanswered international use of force questions.<sup>9</sup> Does the use of these types of drones change the implications of the laws of war? Can autonomous decision-making drones be a justifiable use of force under the current international law framework? Who will be accountable for the unjustified use of these drones? These never-before anticipated and complex legal questions will be at the forefront of an extensive and intense debate once fully autonomous weapons are fully employed in the battlefield.<sup>10</sup>

The hesitation of employing fully autonomous weapons (“FAWs”) is due to fear that these weapons will reduce costs and allow warfare to become too easy, which will result in swelled kill lists and ultimately, a short-circuit in the decision-making process.<sup>11</sup>

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<sup>6</sup> P. W. SINGER, *WIRED FOR WAR: THE ROBOTICS REVOLUTION AND CONFLICT IN THE 21ST CENTURY* 387 (2009).

<sup>7</sup> Laurie R. Blank, *After “Top Gun”: How Drone Strikes Impact the Law of War*, 33 U. PA. J. INT’L L. 675, 678 (2012).

<sup>8</sup> BONNIE DOCHERTY, HUMAN RIGHTS WATCH, *LOSING HUMANITY: THE CASE AGAINST KILLER ROBOTS* (Nov. 19, 2012), <https://www.hrw.org/report/2012/11/19/losing-humanity/case-against-killer-robots>.

<sup>9</sup> See generally Marchant et al., *supra* note 5 (discussing various questions raised).

<sup>10</sup> See generally Blank, *supra* note 7, at 679 (discussing the questions raised by the use of drones in war and as a means of targeted killings).

<sup>11</sup> Peter W. Singer, *Do Drones Undermine Democracy?*, N.Y. TIMES (Jan. 21, 2012), <https://www.nytimes.com/2012/01/22/opinion/sunday/drones-undermine-democracy.html>.

In particular, a State's decision to use force "used to be the most important choice a democracy could make," but now, FAWs can be employed with minimal human intervention and swiftly, without "any actual political debate."<sup>12</sup> The unexpected consequences, however, are difficult to analyze since these autonomous weapons have yet to be employed in their full capacity.<sup>13</sup> But the fear of robotic warfare, machine takeover, and *Terminator* innuendos,<sup>14</sup> must not be the sole basis for prohibiting the development and use of FAWs. This Article discusses the inevitable use of these weapons and proposes that all States work together to adopt a framework to regulate these new technologies. Indeed, FAWs are not the problem, it is the *de minimis* threshold that allows States to deploy force without any legal ramifications or accountability. Ultimately, this Article, after applying the use of FAWs to the current legal justifications for force, proposes a regulation policy to mitigate the risks associated with FAWs.

This Article will not solely concentrate on U.S. based-development or U.S. perspectives, but instead, will focus on the international spectrum of autonomous weapons and the implications on international use of force law. In four sections, this Article will discuss: (I) a brief discussion of the history of drones and FAWs, with a discussion of policy perspectives and current legal challenges; (II) a review of current and different viewpoints on the issue; (III) an individualized explanation on the legality of employing FAWs with respect to established international use of force justifications; and (IV) a policy proposal concerning the future use of these weapons in regard to international use of force.

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<sup>12</sup> *Id.*

<sup>13</sup> See Jay Logan Rogers, Note, *Legal Judgment Day for the Rise of the Machines: A National Approach to Regulating Fully Autonomous Weapons*, 56 ARIZ. L. REV. 1257, 1269–70 (2014) (noting that some militaries may currently be using automated robots, but that these militaries still operate these robots with human monitoring and oversight).

<sup>14</sup> SINGER, *supra* note 6, at 416.

## II. DRONES AND FULLY AUTONOMOUS WEAPON SYSTEMS: HISTORY, POLICY, AND CHALLENGES

### A. *Background on Drones and Fully Autonomous Weapon Systems*

In response to the terrorist attacks on September 11, 2001, President George W. Bush authorized the use of drones against leaders of al-Qaeda forces pursuant to Congress' Authorization for Use of Military Force.<sup>15</sup> In addition, the U.N. Security Council unanimously passed a resolution that recognized the U.S.' right to self-defense and gave direct authorization for it to enter Afghanistan and use force against the suspected terrorists.<sup>16</sup> The implication of the 2001 terrorist attacks is that the use of drones, as a weapon of war, was unleashed.<sup>17</sup> Thereafter, drone strikes drastically increased as a result of al-Qaeda and its affiliated terror groups reconstituting in the Pakistani tribal areas.<sup>18</sup> Prior to the Bush Administration's employment of drones as a weapon of war, drones were utilized exclusively for intelligence gathering and surveillance.<sup>19</sup> Drones have, however, become the weapon of choice to target and kill terrorists.<sup>20</sup> Specifically, President Obama, in his first-year of office

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<sup>15</sup> Milena Sterio, *The United States' Use of Drones in the War on Terror: The (Il)legality of Targeted Killings Under International Law*, 45 CASE W. RES. J. INT'L L. 197, 198 (2012); see also Gregory S. McNeal, *Responses to the Ten Questions*, 36 WM. MITCHELL L. REV. 5113, 5114 (2010) (noting that pursuant to the Authorization for the Use of Military Force, President George W. Bush had authority to "use all necessary and appropriate force against those nations, organizations, or persons he determine[d] planned, authorized, committed, or aided the terrorist attacks").

<sup>16</sup> Eveylyon Corrie Westbrook Mack, *Remotely Piloted Aircrafts (RPAS) in Targeted Killing Operations: The United States is No Lone Wolf*, 26 FLA. J. INT'L L. 447, 466 (2014).

<sup>17</sup> See Sterio, *supra* note 15, at 198; see also National Defense Authorization Act for Fiscal Year 2001, Pub. L. No. 106-398, § 220(a)(2), 114 Stat. 1654, 1654A-38 (2000) (mandating that by 2015 one-third of operational ground combat vehicles and aircraft be unmanned).

<sup>18</sup> Larson & Malamud, *supra* note 3, at 9.

<sup>19</sup> Susan Breau & Marie Aronsson, *Drone Attacks, International Law, and the Recording of Civilian Casualties of Armed Conflict*, 35 SUFFOLK TRANSNAT'L L. REV. 255, 255 (2012).

<sup>20</sup> *Id.*

alone, reportedly carried out more drone strikes than the previous eight years combined under President Bush.<sup>21</sup> Indeed, drones were the poster child of President Obama's fight against terrorism.<sup>22</sup>

Although the U.S.' drone program is the most expansive, the U.S. is not the only country to possess this technology.<sup>23</sup> State and non-State actors reportedly possess drones, including the United Kingdom, France, Russia, Turkey, India, China, Hezbollah, Israel, and Iran.<sup>24</sup> This continued technological development will make it unavoidable and certain that more States and non-State actors will also soon possess drone weapon technology.<sup>25</sup> With the proliferation of technological developments in the military context, States will certainly shift to acquiring and developing FAWs and ultimately, deploying these weapons in the battlefield.<sup>26</sup>

Militaries around the world, including the U.S., have devoted many resources and efforts in acquiring FAWs, and are currently in the process of producing such weapons.<sup>27</sup> Peter Singer, a known expert on the proliferation of robotic weapons, indicates that "besides the U.S., there are 43 other nations that are also building, buying and using military robotics today."<sup>28</sup> In fact, to date, several military robotic-automation systems are capable of

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<sup>21</sup> Ryan J. Vogel, *Drone Warfare and the Law of Armed Conflict*, 39 DENV. J. INT'L L. & POL'Y 101, 105 (2010); see also David W. Opderbeck, *Drone Courts*, 44 RUTGERS L.J. 413, 421 (2014) (discussing President Obama's criteria for drone strikes).

<sup>22</sup> Oren Gross, *The New Way of War: Is There a Duty to Use Drones?*, 67 FLA. L. REV. 1, 1 (2015).

<sup>23</sup> See Mary Ellen O'Connell, *Remarks: The Resort to Drones Under International Law*, 39 DENV. J. INT'L L. & POL'Y 585, 586 (2011).

<sup>24</sup> *Id.* (noting a United Press International report that indicated Israel has sold drones to over 42 States).

<sup>25</sup> See Westbrook Mack, *supra* note 16, at 460 (reporting the number of countries that have obtained unmanned aerial vehicle technology is approximately seventy-six).

<sup>26</sup> SINGER, *supra* note 6, at 128 ("[A]utonomous robots on the battlefield will be the norm within twenty years.").

<sup>27</sup> Rogers, *supra* note 13, at 1258.

<sup>28</sup> Steve Kanigher, *Author talks about military robotics and the changing face of war*, LAS VEGAS SUN (Mar. 17, 2011, 2:01 AM) <https://lasvegassun.com/news/2011/mar/17/military-robotics-and-changing-face-war/> (question and answer interview format with Peter Singer).

sensing their environment and actuating; however, human involvement is still present as humans are the last line of decision making and ultimately responsible for deploying lethal force.<sup>29</sup> Based on these trends, many experts believe that FAWs are inevitable and imminent as the future weapons of war.<sup>30</sup>

The U.S. Department of Defense defines an autonomous weapon system as a “system that, once activated, can select and engage targets without further intervention by a human operator.”<sup>31</sup> The key difference between an autonomous weapon system and a remotely-controlled drone is that human input activation is required in the latter.<sup>32</sup> A hypothetical example of a FAW is a drone that can identify and carry out a strike without human intervention (*i.e.*, without a remote pilot or crew), but based on cues from the surroundings, quantitative algorithms, and threat level determinations.<sup>33</sup> Indeed, these weapon systems, once activated, would be capable of making their own decisions without human intervention.<sup>34</sup> The core of full autonomy is “the capability to identify, target, and attack a person or object without human interface.”<sup>35</sup>

### B. Policy

From a policy perspective, FAWs are extremely appealing to the State attempting to engage and target enemies.<sup>36</sup> Specifically, armed drones permit targeted killings with little to no risk to a State’s military personnel, they limit military personnel’s exposure

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<sup>29</sup> See Marchant et al., *supra* note 5, at 276.

<sup>30</sup> *Id.*

<sup>31</sup> Daniel N. Hammond, *Autonomous Weapons and the Problem of State Accountability*, 15 CHI. J. INT’L L. 652, 658–59 (2015) (quoting U.S. DEP’T OF DEF., DIRECTIVE 3000.09: AUTONOMY IN WEAPON SYSTEMS 13 (Nov. 21, 2012)).

<sup>32</sup> *Id.* at 659.

<sup>33</sup> *Id.*

<sup>34</sup> See *id.*

<sup>35</sup> Michael N. Schmitt & Jeffrey S. Thurnher, “*Out of the Loop*”: *Autonomous Weapon Systems and the Law of Armed Conflict*, 4 HARV. NAT’L SEC. J. 231, 235 (2013).

<sup>36</sup> Philip Alston (Report of the Special Rapporteur on extrajudicial, summary or arbitrary executions), *Study on targeted killings*, ¶ 27, U.N. Doc. A/HRC/14/24/Add.6 (May 28, 2010).

to hostile terrain, and can be remotely operated in the home State—granted that this perk will be eliminated with FAWs.<sup>37</sup> In addition, the use of FAWs allows a home-State to focus its operations by targeting and engaging specified targets, with the intention of forcing the enemy to abandon key access points and preventing future terrorist attacks, as opposed to amassing ground forces for a physical invasion.<sup>38</sup> The ways of war are evolving, with the strategy turning to engaging in military power quickly, decisively, and with minimal casualties.<sup>39</sup> Additional policy benefits include “flexibility for expanded missions, complete safety for human operators, fewer manning and training costs, and vast new attack capabilities.”<sup>40</sup>

### C. *Challenges Posed by the Issue*

Many of the dangers and challenges associated with FAWs currently exist in today’s deployed weapon systems.<sup>41</sup> Although a State can exercise force whenever it chooses, and by whatever means, there still remains questions of whether its actions are legal and justifiable. Additional challenges arise when the level of human intervention becomes more diminished and uncertain, which in effect, increases the role of computers and machines.<sup>42</sup> The debate then shifts from the question of whether it is lawful to use drones in targeted killings, to whether it is lawful to use FAWs to select and target enemies without human intervention.<sup>43</sup> There are two ends of the spectrum when analyzing the legality of FAWs: the advocates of their use and the critics, each side raising strong arguments.<sup>44</sup> However, in the middle of all this debate there is one absolute—the

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<sup>37</sup> *Id.*

<sup>38</sup> See Gross, *supra* note 22, at 24–25.

<sup>39</sup> See *id.* at 24 (comparing United States’ old strategy of war to its new strategy).

<sup>40</sup> Jack M. Beard, *Autonomous Weapons and Human Responsibilities*, 45 GEO. J. INT’L L. 617, 624 (2014).

<sup>41</sup> *Id.* at 620.

<sup>42</sup> See *id.*

<sup>43</sup> See Tetyana Krupiy, *Of Souls, Spirits and Ghosts: Transposing the Application of the Rules of Targeting to Lethal Autonomous Robots*, 16 MELB. J. INT’L L. 145, 146 (2015).

<sup>44</sup> See Rogers, *supra* note 13, at 1259.

law of conflict has lagged far behind the current, and future, methods of warfare.<sup>45</sup> Indeed, the main challenge is the certainty that the advancement of technology will outpace international legal developments.<sup>46</sup>

In today's international realm, no laws or treaties exist that specifically pertain to the prohibition or governance of FAWs,<sup>47</sup> which undoubtedly is the biggest challenge posed by the technological development of FAWs.<sup>48</sup> Specifically, "[t]his new technology creates new pressure points for international law . . . [States] will be trying to apply international law written for the Second War to *Star Trek* technology."<sup>49</sup> A 2013 U.N. Report concluded that autonomous weapons should be approached with "great caution,"<sup>50</sup> and recommended establishing an international body to "monitor the situation and articulate the options for the longer term."<sup>51</sup> There still remains conflict in different jurisdictions in determining whether these weapons should be developed, regulated, or completely prohibited.<sup>52</sup> For example, States such as Costa Rica and Pakistan have decided to completely prohibit the development of FAWs;<sup>53</sup> South Korea, Israel, and Russia reportedly deploy FAWs to assist in border and military base patrol,<sup>54</sup> while the U.S. persists in further development of these weapons and will inevitably employ this technology in the battlefield.<sup>55</sup>

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<sup>45</sup> Eric Talbot Jensen, *The Future of the Law of Armed Conflict: Ostriches, Butterflies, and Nanobots*, 35 MICH. J. INT'L L. 253, 254–57 (2014) (discussing the difficulty analyzing the law of armed conflict and the future development of methods of warfare).

<sup>46</sup> See Bradan T. Thomas, *Autonomous Weapons Systems: The Anatomy of Autonomy and the Legality of Lethality*, 37 HOUS. J. INT'L L. 235, 246 (2015).

<sup>47</sup> Marchant et al., *supra* note 5, at 289.

<sup>48</sup> SINGER, *supra* note 6, at 387.

<sup>49</sup> *Id.* (emphasis in original).

<sup>50</sup> Christof Heyns (Special Rapporteur on extrajudicial, summary or arbitrary executions, *Lethal autonomous robotics (LARs)*, ¶ 109, U.N. Doc. A/HRC/23/47 (Apr. 9, 2013).

<sup>51</sup> *Id.* ¶ 112.

<sup>52</sup> See Rebecca Crootof, *The Killer Robots Are Here: Legal and Policy Implications*, 36 CARDOZO L. REV. 1837, 1839–40 (2015).

<sup>53</sup> Krupiy, *supra* note 43, at 146.

<sup>54</sup> See Crootof, *supra* note 52, at 1839–40.

<sup>55</sup> Krupiy, *supra* note 43, at 146.

To address these challenges, international law must develop an effective legal doctrine concerning the future use of this force.<sup>56</sup> Indeed, there are minimal doctrines concerning FAWs today; instead, aspects of FAWs are covered only by piecemeal legislation pertaining to the projection and prospects of future use of this force under international law.<sup>57</sup> There must be a guiding principle or vision.<sup>58</sup> As military technology develops, there have been multiple conventions in international law purporting to address new weapons and practices. These include agreements about “biological weapons, chemical weapons, certain types of ammunition, the hostile use of environmental modification, land mines, incendiary weapons, blinding laser weapons and numerous others.”<sup>59</sup> Now, is the time to fully to address the best practices to govern FAWs, and to determine whether this type of force will “maintain international peace and security” among nations or whether it will contradict the underlying principles of the U.N. Charter.<sup>60</sup>

### III. CONTEMPORARY VIEWS ON THE ISSUE

#### A. *Advocates of Fully Autonomous Weapons*

Advocates of FAWs assert that there is one clear trend in international affairs: “warfare will continue and autonomous weapons will ultimately be deployed in its conduct.”<sup>61</sup> The reality that war is unavoidable fuels a desire to make warfare less horrific, minimize civilian casualties, and allow for better enforcement of international law principles.<sup>62</sup> Advocates do not focus on the

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<sup>56</sup> SINGER, *supra* note 6, at 210.

<sup>57</sup> See Marchant et al., *supra* note 5, at 289.

<sup>58</sup> SINGER, *supra* note 6, at 210.

<sup>59</sup> Marchant et al., *supra* note 5, at 289–90; *see also id.* (noting the United States is not a party to any of these conventions).

<sup>60</sup> U.N. Charter art. 1, ¶ 1.

<sup>61</sup> RONALD C. ARKIN, GEOR. INST. OF TECH., GOVERNING LETHAL BEHAVIOR: EMBEDDING ETHICS IN A HYBRID DELIBERATIVE/REACTIVE ROBOT ARCHITECTURE 6, <https://www.cc.gatech.edu/ai/robot-lab/online-publications/formalizationv35.pdf>.

<sup>62</sup> Christopher P. Toscano, “*Friend of Humans*”: *An Argument for Developing Autonomous Weapons Systems*, 8 J. NAT’L SEC. L. & POL’Y 189, 244–45 (2015).

“science fiction” characterization that these weapons will create an environment of all out robotic warfare.<sup>63</sup> Instead, advocates focus on the benefits of human soldiers coexisting with autonomous weapons<sup>64</sup>—a team, with autonomous robots having the “potential capability of independently and objectively monitoring ethical behavior.”<sup>65</sup>

The crux of the advocates’ claims is this notion of “riskless war” and “wars without casualties.”<sup>66</sup> By deploying FAWs, humans will no longer be at the forefront of the battlefield; therefore, there will be a significant reduction in the number of military personnel killed or wounded when engaging identified targets.<sup>67</sup> In addition, these weapons will be better equipped to comply with international laws because FAWs’ sensors will be able to identify enemies with more precision.<sup>68</sup> By engaging targets with higher accuracy, it is more likely that innocent civilians will be safe from an authorized attack.<sup>69</sup> Marc Garlasco, a senior military analyst at Human Rights Watch, pointed out that precision guided technologies can help save lives because these “[weapons] allow far greater discrimination in targeting and save civilian lives as a result.”<sup>70</sup>

### B. Critics of Fully Autonomous Weapons

Critics of FAWs focus on the uncertainty and unpredictability of these weapons, and their prospective uses in the battlefield. It is well-established that “[c]omplex systems are prone to component failures and malfunctions, and to intermodule inconsistencies and misunderstandings.”<sup>71</sup> Critics of FAWs emphasize the unpredictability of the software and the lack of

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<sup>63</sup> ARKIN, *supra* note 61, at 5.

<sup>64</sup> *Id.*

<sup>65</sup> *Id.* at 6–7.

<sup>66</sup> Heyns, *supra* note 50, ¶ 86.

<sup>67</sup> Rogers, *supra* note 13, at 1259.

<sup>68</sup> *Id.* at 1259–60.

<sup>69</sup> *Id.*

<sup>70</sup> SINGER, *supra* note 6, at 388.

<sup>71</sup> Marchant et al., *supra* note 5, at 283–84 (quoting Roger Clarke, *Asimov's Laws of Robotics Implications for Information Technology-Part II*, 27 COMPUTER 57, 65 (1994)).

awareness of the risks associated with employing FAWs.<sup>72</sup> Some critics argue that FAWs will never comply with the lawful use of force and, therefore, are inherently unlawful.<sup>73</sup> Other critics raise hypothetical concerns like: (1) FAWs being vulnerable to hacking, which may lead to non-State actors intercepting FAWs; (2) FAWs' possible inability to select and engage targets, which may result in catastrophic errors; (3) the continued technological developments may increase the military utility of a weapon; and (4) the prospect of targeted killings by FAWs may lead to animosity and future terrorist attacks.<sup>74</sup>

Additionally, critics also warn that the full-scale development of FAWs “risk[s] setting off a global arms race.”<sup>75</sup> This arms race would lead to FAWs being available at a cheap price, which would allow FAWs to be readily available to rogue States and violent extremists.<sup>76</sup> In fact, “this reduced cost may, in turn, reduce the rigor with which non-violent alternatives are pursued and thus encourage unnecessary—and therefore unjust—wars.”<sup>77</sup> Ultimately, the critics either call for a complete prohibition or, in the alternative, impose stringent regulations on FAWs.

#### IV. THE LAWS OF WAR: USING FAWs IN THE CONTEXT OF USE OF FORCE IN INTERNATIONAL LAW

The laws of war establish principles and parameters that allow a State to legally and justifiably employ use of force.<sup>78</sup> Although the laws of war are separated into two distinct categories, “*Jus ad Bellum*,” Latin for the “right to wage war,” is only discussed herein.<sup>79</sup> *Jus ad Bellum* is characterized as the set of rules that

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<sup>72</sup> *Id.* at 284.

<sup>73</sup> See Crootof, *supra* note 52, at 1872–73.

<sup>74</sup> Heyns, *supra* note 50, ¶ 98.

<sup>75</sup> Matthew Rosenberg & John Markoff, *The Pentagon's 'Terminator Conundrum': Robots That Could Kill on Their Own*, N.Y. TIMES (Oct. 25, 2016), <https://www.nytimes.com/2016/10/26/us/pentagon-artificial-intelligence-terminator.html>.

<sup>76</sup> *Id.*

<sup>77</sup> Marchant et al., *supra* note 5, at 285.

<sup>78</sup> Larson & Malamud, *supra* note 3, at 2–3.

<sup>79</sup> *Id.*

govern a State's legal right to use military force and engage in warfare.<sup>80</sup> Today, the U.N. Charter, which prescribes the governing laws of the initiation of war,<sup>81</sup> is the modern codification of the principles of *Jus ad Bellum*.<sup>82</sup>

The U.N. Charter emphatically begins with its principle purposes: "To maintain international peace and security"<sup>83</sup> and "[t]o develop friendly relations among nations."<sup>84</sup> In order to maintain peace and security, the U.N. Charter prescribes general principles and a structured framework for governing the laws of war. Specifically, the U.N. Charter codifies a general prohibition on the use of force and declares that "[a]ll Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations."<sup>85</sup> However, this is not an absolute prohibition. There are narrow exceptions that do not constitute a breach of a State's sovereignty or an unjustified use of force.<sup>86</sup> First, a State is authorized to use force upon the Security Council's authorization to maintain security and peace.<sup>87</sup> Second, a State has an inherent right of self-defense to respond to an "armed attack," which raises the question of expanding this right to preemptive or anticipatory self-defense.<sup>88</sup> There remains other possible legally, cognizable

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<sup>80</sup> Justin Desautels-Stein, *The Judge and the Drone*, 56 ARIZ. L. REV. 117, 167 (2014).

<sup>81</sup> See James A.R. Nafziger, *Going to War and Going Ahead with the Law*, 50 WILLAMETTE L. REV. 321, 346 (2014).

<sup>82</sup> Larson & Malamud, *supra* note 3, at 4.

<sup>83</sup> U.N. Charter art. 1, ¶ 1.

<sup>84</sup> *Id.* ¶ 2.

<sup>85</sup> *Id.* art. 2, ¶ 4.

<sup>86</sup> Michael N. Schmitt, *Narrowing the International Law Divide: The Drone Debate Matures*, 39 YALE J. INT'L L. ONLINE 1, 3 (2014); see also Larson & Malamud, *supra* note 3, at 16–19 (discussing the United States' anticipatory self-defense justification for drone strikes in Pakistan following the U.S. invasion of Afghanistan).

<sup>87</sup> Schmitt, *supra* note 86, at 3.

<sup>88</sup> Molly McNab & Megan Matthews, *Clarifying the Law Relating to Unmanned Drones and the Use of Force: The Relationships Between Human Rights, Self-Defense, Armed Conflict, and International Humanitarian Law*, 39 DENV. J. INT'L L. & POL'Y 661, 664 (2011).

arguments for when a State may justifiably use force, including consent of territorially invaded States, ungoverned territory, and hot pursuit.<sup>89</sup>

The non-existent legal framework surrounding FAWs is a prime example of technology outpacing the laws of war. In the absence of any treaty or the United Nation's prohibitions on FAWs, this Article shifts focus to current justifications for using international force to evaluate the lawfulness of the future use of these weapons, including: U.N. Security Council resolutions; self-defense—including preemptive or anticipatory self-defense; consent of territorially invaded States; ungoverned territory; and hot pursuit. Specifically, focusing on the application of these legal justifications to FAWs and, ultimately, proposing a legal and policy approach to regulate and govern this fast-paced development of technology, which will impact international use of force laws.

#### A. U.N. Security Council Resolutions

A State is authorized to use force when the U.N. Security Council invokes its authority under the U.N. Charter.<sup>90</sup> Specifically, the Security Council is authorized to take “such action as it deems necessary in order to maintain or restore international peace and security.”<sup>91</sup> With respect to its permitted authority, the Security Council has authorized the deployment of military personnel to resist acts of aggression and restore peace.<sup>92</sup> Additionally, a U.N. Security Council's resolution increases transparency and legitimacy of the right of a State to use force.<sup>93</sup>

The U.N. Security Council has authorized a State's use of force in different circumstances, depending on the existing threat or breach of peace.<sup>94</sup> This can drastically increase, however, with States deploying FAWs. Specifically, under what circumstances

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<sup>89</sup> See generally Larson & Malamud, *supra* note 3, at 11–21.

<sup>90</sup> William H. Taft, IV, *International Law and the Use of Force*, 36 GEO. J. INT'L L. 659, 661 (2005).

<sup>91</sup> U.N. Charter art. 51.

<sup>92</sup> Taft, IV, *supra* note 90, at 661.

<sup>93</sup> Hitomi Takemura, *Unmanned Aerial Vehicles: Humanization from International Humanitarian Law*, 32 WIS. INT'L L.J. 521, 530 (2014).

<sup>94</sup> U.N. Charter arts. 39, 41.

would another States' deployment of FAWs into another States' territory constitute a threat or breach of peace. This is what transpires when we are the target. Instead of opening the floodgates of States seeking authorization for attacking or deploying FAWs, the U.N. Security Council must pass resolutions setting forth guidelines that specifically address the use of FAWs.<sup>95</sup> These resolutions must reaffirm the principles of the laws of war in the international arena. With the potential of the current legal framework lagging behind the use of FAWs, there is a quandary when States deploy FAWs with no intention of using force or breaching the peace, which then leads a host State, reluctant to extend the invitation, portraying this invasion of territory as an act of aggression. Ultimately, FAWs will inevitably pose a threat to a host State, which may lead to States constantly seeking an authorization to use force against the FAWs because of the non-existent guidelines or principles.

*B. Self-Defense—Including Preemptive or Anticipatory Self-Defense*

Although the U.N. Charter codifies a general prohibition on the use of force, it also recognizes that a State has an inherent and collective right to self-defense in response to an armed attack.<sup>96</sup> Article 51 of the U.N. Charter stipulates, “[n]othing in the present Charter shall impair the inherent right of individual or collective self-defence if an armed attack occurs against a Member of the U.N., until the Security Council has taken measures necessary to maintain international peace and security.”<sup>97</sup> There is much leeway granted to a State to defend themselves preemptively and without having suffered the first blow.<sup>98</sup> The deployment of FAWs would make the “armed attack” requirement of Article 51 obsolete because these weapons will be capable of identifying an attack before it happens—

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<sup>95</sup> See Edieth Y. Wu, *Drones in the Fight Against Terrorism—Should the Global Community Stringently Regulate Their Use?*, 65 SYRACUSE L. REV. 273, 295 (2015).

<sup>96</sup> Larson & Malamud, *supra* note 3, at 4.

<sup>97</sup> U.N. Charter art. 51.

<sup>98</sup> Matthew C. Waxman, *The Use of Force Against States That Might Have Weapons of Mass Destruction*, 31 MICH. J. INT'L L. 1, 5–6 (2009).

*i.e.*, a preemptive or an anticipatory measure to safeguard a State from an “imminent attack.”<sup>99</sup>

Although FAWs may be capable of preventing an imminent attack, States must not expand the self-defense doctrine to allow for unauthorized cross-border incursions or unauthorized killings.<sup>100</sup> Instead, the focus should be on the FAWs ability to prevent catastrophic destruction and the loss of life. For example, FAWs will be capable of identifying explosive devices in the battlefield or in terrorist prone areas and, therefore, will be able to eliminate these devices and threats without the killing or maiming of civilians.<sup>101</sup> The problem with a preemptive or an anticipatory attack is the notion that States will unjustifiably attack targets without there being an actual, imminent threat. FAWs will allow for a different application of this doctrine because FAWs will focus on the means and methods that kill, instead of the targeting of an alleged terrorist. Ultimately, justifying force on the basis of preemptive or anticipatory self-defense must be limited in all circumstances; however, FAWs will change the application of this doctrine because FAWs will be capable of intercepting an attack, as opposed to anticipating an armed attack.<sup>102</sup>

### C. *Consent of the Territorially Invaded State*

Another viable use of force justification for using FAWs in another State’s territory is to obtain consent from the host State.<sup>103</sup> Once a State obtains consent, its conduct becomes lawful, even though its conduct would be unlawful if conducted without permission.<sup>104</sup> “[I]nternational law today does not clearly prohibit states from using consent as a partial or complete rationale for their forcible actions in another state’s territory, even where that consent purports to authorize an activity that the host state legally could not

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<sup>99</sup> Takemura, *supra* note 93, at 528–29.

<sup>100</sup> Larson & Malamud, *supra* note 3, at 4.

<sup>101</sup> Marchant et al., *supra* note 5, at 289.

<sup>102</sup> McNab & Matthews, *supra* note 88, at 682–83.

<sup>103</sup> Zora Ahmed, *Strengthening Standards for Consent: The Case of U.S. Drone Strikes in Pakistan*, 23 MICH. ST. INT’L L. REV. 459, 482 (2015).

<sup>104</sup> *Id.*

undertake.”<sup>105</sup> Consent, however, raises difficult questions concerning the nuances of an agreement and what exactly was consented to—*i.e.*, the terms of the contract.<sup>106</sup> Specifically, consent to use force in a host State operates as an agreement where parties intend to be legally bound and governed by international law.<sup>107</sup>

With respect to FAWs and consent, States who do not possess the technological capabilities to develop these weapons are provided with an extra sense of security by consenting to another State’s use of these weapons in their territory. States can now agree to the specific computer algorithms for deploying these weapons. They can have a direct input on the territory for which these weapons will monitor, and can agree to a threat level determination that deploys force. In fact, FAWs will eliminate the human determination that is a cause of conflict between the States using force and the host State. Instead, both parties will have a direct involvement and can be held accountable if FAWs result in unjustified killings—since both were at the drawing board and together made the determination on when and how to target enemies. In contrast, one of the concerns with invoking consent as a means to use force, is that it expands the U.N. Charter’s justified uses of force because these provisions, as drafted, are quite limited in scope.<sup>108</sup> But this concern focuses on the general prohibition on the use of force and self-defense, rather than focusing on the U.N. Charter’s principal purposes of “maintain[ing] international peace and security”<sup>109</sup> and “develop[ing] friendly relations among nations.”<sup>110</sup> Ultimately, by allowing parties to agree to FAWs, with the elimination of the human aspect from either State, States may be capable of developing better relations and security within the host State.

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<sup>105</sup> Ashley S. Deeks, *Consent to the Use of Force and International Law Supremacy*, 54 HARV. INT’L L.J. 1, 26–27 (2013).

<sup>106</sup> Larson & Malamud, *supra* note 3, at 20.

<sup>107</sup> Deeks, *supra* note 105, at 18.

<sup>108</sup> Justin M. Ndichu, “*Plugging a Leak*”: *A Preliminary Step in Establishing a Nuanced Approach to Govern Intervention in the New Age*, 49 CORNELL INT’L L.J. 201, 222 (2016).

<sup>109</sup> U.N. Charter art. 1, ¶ 1.

<sup>110</sup> *Id.* ¶ 2.

#### D. *Hot Pursuit*

Hot pursuit, evolving from customary international law and later codified,<sup>111</sup> is a doctrine that grants the “constructive extension of jurisdiction against suspect foreign *vessels* that flee from law enforcement action within a jurisdictional zone.”<sup>112</sup> The application of this doctrine primarily focuses on allowing governmental law enforcement assets to pursue vessels that have violated maritime law within the jurisdictional waters of a coastal State.<sup>113</sup> The crux of this doctrine is that the pursuit “must be hot and continuous.”<sup>114</sup> The term “hot” provides for an immediacy requirement regarding the commencement of pursuit and requires that the pursuit must quickly follow the committed infringement.<sup>115</sup> Although more idiosyncrasies exists, a brief definition is necessary to allow for a discussion on the application of hot pursuit to FAWs.

States can justify using FAWs to pursue terrorists that cross-borders into other States by applying the doctrine of hot pursuit (if the doctrine is expanded and adapted to sovereign land).<sup>116</sup> Specifically, to employ FAWs under the justification of hot pursuit, a target must have been physically present in a State, committed an act that violated the laws or regulations of that State, and the FAW adapted to the situation based on its own intelligence, without human intervention, and targeted or pursued the perpetrators into another State.<sup>117</sup> The question remains: will FAWs be capable of identifying this scenario and then thereafter, targeting and chasing the correct perpetrator? Although concerns remain for invading

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<sup>111</sup> Vasilios Tasikas, *Unmanned Aerial Vehicles and the Doctrine of Hot Pursuit: A New Era of Coast Guard Maritime Law Enforcement Operations*, 29 TUL. MAR. L.J. 59, 68–69 (2004) (noting that the customary international law doctrine of “hot pursuit” was codified in Article 111 of the 1982 U.N. Convention on the Law of the Sea).

<sup>112</sup> *Id.* at 68 (emphasis added).

<sup>113</sup> *Id.* at 71.

<sup>114</sup> *Id.* at 78 (quoting R.R. CHURCHILL & A.V. LOWE, *THE LAW OF THE SEA* 151 (1983)).

<sup>115</sup> *Id.*

<sup>116</sup> Larson & Malamud, *supra* note 3, at 18–19.

<sup>117</sup> *See id.* (discussing this application of hot pursuit to the facts of the United States pursuit of terrorists crossing the border of Afghanistan into Pakistan).

sovereign land based on this doctrine, FAWs will be capable of swift action, satisfying the “immediacy requirement,” and, therefore, limiting the threat to sovereignty of the invaded State. Indeed, FAWs may be capable of eliminating the chain of command, human delay, and other limitations, that will allow for quick and decisive action to eliminate the pursued threats.

In contrast, there are two constraints that limit FAWs as a viable justification for international use of force when applying the hot pursuit doctrine.<sup>118</sup> These include: (1) static targets, such as camps and operation centers; and (2) expanding the hot pursuit doctrine to sovereign land.<sup>119</sup> These two constraints, however, do not outweigh the benefits of employing FAWs under the narrow legal justification of hot pursuit. First, to counter the static target argument, FAWs will not have a legal basis for solely invading a sovereign to attack enemies where no unlawful act occurred. In fact, the immediate pursuit requirement will always be an element under this doctrine. Second, applying this doctrine to sovereign land raises the concerns of threatening a State’s sovereignty by invading its territory; however, FAWs will be capable of swift and decisive actions and, therefore, can be justifiable because there would be no threat to “the territorial integrity or political independence of any state.”<sup>120</sup>

### *E. Ungoverned Territory*

The use of FAWs in ungoverned territory is problematic and complicated because of the difficulty in classifying an area as “ungoverned territory.”<sup>121</sup> Although numerous interpretations exist for ungoverned territory, one interpretation concludes that a territory is ungoverned where “[a] State is absent, unable, or unwilling to perform its functions.”<sup>122</sup> States, other than the actual host State for

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<sup>118</sup> *Id.* at 19.

<sup>119</sup> *Id.*

<sup>120</sup> See U.N. Charter art. 2, ¶ 4.

<sup>121</sup> Larson & Malamud, *supra* note 3, at 20.

<sup>122</sup> *Id.* (quoting Angel Rabasa, et al., *Summary, in Ungoverned Territories: Understanding and Reducing Terrorism Risks* (2007)).

which the territory exists, seek to deploy force and control over ungoverned territory.<sup>123</sup> This is because these areas provide a recruiting ground and base of operations for terrorists, and additionally, allow criminal organizations to flourish—which possibly lead to arms trades and human trafficking.<sup>124</sup> Ultimately, defining an area as ungoverned, especially in territories with established tribal traditions, poses serious challenges to a State’s sovereignty and, therefore, State’s must be mindful of the repercussions within the international community.<sup>125</sup>

Although the use of force is not prohibited if a territory is truly “ungoverned,” this legal justification should be used as a last resort for employing FAWs to target and engage enemies.<sup>126</sup> Indeed, the question of whether a territory is ungoverned can increase the potential of conflict and deviate from the U.N. Charter’s principle purposes. FAWs may have a viable legal basis in the previously mentioned doctrines, but to employ FAWs on this notion that a territory is ungoverned raises serious international political concerns. For example, some of the international community question the U.S.’ determination of the Federally Administered Tribal Region (FATA) region as ungoverned territory and attribute its determination as “western arrogance.”<sup>127</sup> Ultimately, a State must not base the legality of using force on the justification that a territory is ungoverned because of the potential of infringing on a State’s sovereignty and the concerns of re-characterizing territories for the sole purpose of justifying the use of force in another State.<sup>128</sup>

## V. PROPOSAL FOR FULLY AUTONOMOUS WEAPONS

“Any law’s strength depends on its relevance . . . if the new technologies are creating a ‘revolution in military affairs,’ we may well need a ‘revolution in military legal affairs.’”<sup>129</sup> Although much remains unknown about the full-scale deployment of FAWs, the

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<sup>123</sup> *Id.* at 20.

<sup>124</sup> *Id.* at 20–21.

<sup>125</sup> *Id.*

<sup>126</sup> *Id.*

<sup>127</sup> *Id.* at 21.

<sup>128</sup> *Id.* at 21–22.

<sup>129</sup> SINGER, *supra* note 6, at 407.

possibility that FAWs may improve the U.N. Charter's goal of maintaining peace and security should be carefully analyzed before a blanket prohibition is imposed on the entire class of weapons.<sup>130</sup> This does not mean that the twentieth-century laws have to be jettisoned completely to adapt to today's conflicts and means of war.<sup>131</sup> Simply because the laws of war have been outdated, does not mean they should be abolished, as these "old laws" codified some of the most important international law principles.<sup>132</sup> Instead, this Article proposes for an open discussion within the U.N. to address the benefits and concerns, prior to the full-scale use or prohibition of this technology. As referenced earlier, the laws of war lag behind the means of war. FAWs are different because enough information currently exists to develop the appropriate governance modules in a timely and proactive manner.<sup>133</sup>

An initial policy proposal is to realize the inevitability of the proliferation of FAWs, address the benefits, and then establish a formal international binding agreement to regulate the uses of these weapons. A State using force against another State or non-State actors will always be present because conflict is certainly unavoidable. Thus, States must recognize that FAWs will minimize civilian casualties; FAWs will also be more accurate and precise, and will save military personnel.<sup>134</sup> These benefits must be part of the discussion as opposed to focusing on the lack of human intervention. In contrast, in all out deployment is not the solution because fears exist regarding the hacking of FAWs when deployed,

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<sup>130</sup> See U.N. Charter art. 2, ¶ 3.

<sup>131</sup> SINGER, *supra* note 6, at 407.

<sup>132</sup> *Id.*

<sup>133</sup> Marchant et al., *supra* note 5, at 314.

<sup>134</sup> See Schmitt & Thurnher, *supra* note 35, at 281 (concluding it would be irresponsible to prohibit autonomous weapons because "such weapons may offer the possibility of attacking the enemy with little risk to the attacker" and noting an outright ban would "have the effect of denying commanders a valuable tool for minimizing the risk to civilians and civilian objects in certain attack scenarios"); see also William C. Marra & Sonia K. McNeil, *Understanding "The Loop": Regulating the Next Generation of War Machines*, 36 HARV. J. L. & PUB. POL'Y 1139, 1166 (2013) (noting that "[d]iminished political tolerance for military casualties has . . . made [today's] drones more politically palatable, because they keep soldiers farther from the battlefield and preserve the lives of American servicemen").

the lack of State accountability, and the unpredictability of the wide scale use of these weapons. With these benefits and fears, this Article recognizes that there is always an obligation for States to develop technologies in fear that another State will be ahead. But that obligation must be countered by a successful system of good governance.<sup>135</sup>

A system of good governance involves “*clearly defined and articulated expectations.*”<sup>136</sup> The first proposed regulation focuses on a limitation of FAWs by establishing clearly defined rules on what activities FAWs can observe, what locations they can observe, and the duration of such observation.<sup>137</sup> Specifically, these regulations would create an “observational stage” where FAWs would be restricted to certain hotspot locations and be required to comply with a defined observational period before carrying out a “kill mission.”<sup>138</sup> By defining the location and requiring an observational period, these regulations would directly affect how “the machine’s capacity [] orient[s] itself, the number and type of actions weighed when the machine decides, and the eventual act carried out.”<sup>139</sup> For example, a State could be authorized, either by a U.N. resolution or any applicable justification, to deploy FAWs in certain locations to *observe* terrorist activities for a permitted time frame, which would allow FAWs to collect a large amount of data and detail, and then based on the data collected, decide to carry out the targeted killing. This process of a lengthier and detailed observation would allow the FAWs’ final decision to be more discriminating and accurate.<sup>140</sup>

The next proposed regulation focuses on the FAWs’ “kill” determination.<sup>141</sup> Regulations are necessary to establish program

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<sup>135</sup> Marchant et al., *supra* note 5, at 314.

<sup>136</sup> *Id.* (emphasis in original).

<sup>137</sup> Marra & McNeil, *supra* note 134, at 1180–81.

<sup>138</sup> *Id.*

<sup>139</sup> *Id.* (emphasis omitted).

<sup>140</sup> *Id.*

<sup>141</sup> See Hammond, *supra* note 31, at 662 (noting that “[t]he ability of [autonomous weapon systems] to operate without human oversight gives rise to [an] accountability problem” in international law); Thompson Chengeta, *Accountability Gap: Autonomous Weapon Systems and Modes of Responsibility in International Law*, 45 DENV. J. INT’L L. & POL’Y 1, 49 (2016) (recognizing that

constraints for FAWs that will restrict the weapon from deploying unauthorized and illegal lethal force.<sup>142</sup> Specifically, States must agree on detailed threshold determinations (*e.g.*, proportionality and distinction thresholds), which are programmed into FAWs, requiring the weapon to process and evaluate the information assuring that the attack is proper under the programmed operational orders.<sup>143</sup> This means that FAWs, prior to being fully employed in the battlefield, must have programmed algorithms with agreed upon thresholds, and then determine if their use of force actions are lawful under the preprogrammed constraints.<sup>144</sup> By allowing threshold determinations, the FAWs become more restrictive and accountable when deploying lethal force.<sup>145</sup>

The two proposed regulations are merely a starting point for regulating these new technologies. There must be a binding agreement between States and the U.N.'s involvement. Specifically, domestic checklists and balances are not enough to combat the proliferation of FAWs. Indeed, global collaboration is a necessity. When States have open discussions, however, it is unrealistic to expect major world contributors to sign off on a complete weapon prohibition.<sup>146</sup>

In fact, the superior approach to proliferation of FAWs is establishing limitations on technological development and agreeing to specific rules governing their use, rather than attempting a complete prohibition.<sup>147</sup> For example, the Oslo Convention of 2008,

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“[t]he challenges that are posed by [autonomous weapon systems] as far as accountability of violations [of International Law] is concerned must be taken seriously”).

<sup>142</sup> Christopher P. Toscano, *supra* note 62, at 218.

<sup>143</sup> *Id.*

<sup>144</sup> *Id.*

<sup>145</sup> *Id.*

<sup>146</sup> See John Lewis, *The Case for Regulating Fully Autonomous Weapons*, 124 YALE L.J. 1309, 1317–18 (2015); see also *UN meeting targets 'killer roots'*, UN NEWS (May 14, 2014), <https://news.un.org/en/story/2014/05/468302-un-meeting-targets-killer-robots>.

In May of 2014, U.N. officials met to discuss a full prohibition on FAWs, with the top U.N. official of the meeting declaring: “You have the opportunity to take pre-emptive action and ensure that the ultimate decision to end life remains firmly under human control.” *Id.*

<sup>147</sup> Lewis, *supra* note 146, at 1317.

which sought to ban cluster munitions, illustrates the World's reluctance to sign off on a complete ban of these weapons.<sup>148</sup> In this convention, several States, including China, Russia, and the U.S., failed to sign the agreement; the reasons for their denial: military necessity.<sup>149</sup> This example, among other failed weapon ban agreements, illustrates that States are unlikely to agree on a complete ban on weapons they currently intend to use or develop.<sup>150</sup>

The superior approach when recognizing the previous failures associated with attempting a complete weapon prohibition, is to consider the components and framework of an effective regulatory scheme.<sup>151</sup> For example, landmines, which are already regulated under international law, share important similarities with FAWs.<sup>152</sup> With respect to the regulation of landmines, the Amended Protocol provided the following framework: (1) policies to safeguard the proliferation of landmines; (2) a geographical and spatial criteria for where these weapons could be deployed; (3) a definition of indiscriminate use; (4) specific military objective requirements; and (5) additional protections on the governance of landmines.<sup>153</sup> Landmines are a highly technical weapon system and therefore, the Amended Protocol establishes guiding precedent regarding the future regulations of FAWs.<sup>154</sup> With the guidance of the Amended Protocol, an ideal regulatory scheme would build from the effectiveness of this regulation, and to the extent ambiguities remain, States must encourage open discussion to evolve comprehensive ideas directed towards the emergence of new, relevant international law for FAWs.<sup>155</sup>

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<sup>148</sup> *Id.* at 1317–18.

<sup>149</sup> *Id.* at 1318 n.50.

<sup>150</sup> *Id.* at 1317–18.

<sup>151</sup> *Id.* at 1318–19.

<sup>152</sup> *Id.* at 1319.

<sup>153</sup> *Id.* at 1319–20; see Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices, May 3, 1996, 2048 U.N.T.S. 93.

<sup>154</sup> Lewis, *supra* note 146, at 1322.

<sup>155</sup> See Crotoft, *supra* note 52, at 1895 (“In the absence of intentional regulation, the unchecked development of autonomous weapon systems may well pose a significant threat to fundamental humanitarian principles and protections—and, by extension, to human lives.”).

In the absence of international regulation, FAWs will remain unchecked and raise significant threats to the current international use of force legal framework.<sup>156</sup> This Article, however, emphasizes the importance of opening discussion to legitimize the need for international attention and regulation for FAWs.<sup>157</sup> Entities—including States, the U.N., developers, and manufacturers—must begin working toward a regulation that focuses on “*clearly defined and articulated* expectations.”<sup>158</sup> This can be accomplished by considering the proposals of this Article: (1) establish clearly defined rules for FAWs’ observation periods and permitted locations; (2) establish agreed upon thresholds for FAWs’ operational orders; and (3) reframe previously effective regulations to create a workable regulation for FAWs. Ultimately, States and the U.N. must not squander this opportunity to finally allow the laws of war to dictate new technology in the battlefield instead of new technology dictating the laws of war.<sup>159</sup>

## VI. CONCLUSION

FAWs will, indeed, revolutionize warfare and the application of international use of force laws. Now, is the time for the debate to shift to developing a legal framework to adapt to this technology. As technology continues to advance, political, legal, and cultural considerations will act as a safeguard for the full-scale deployment of FAWs.<sup>160</sup> This, however, must not be the only safeguard in our international legal system. This Article proposes for a full-fledged discussion within States and the U.N. to finally adopt a legal framework that coincides with the advancement of technology. Warfare is part of the human condition, but we, together, can pursue better principles to better shape and regulate the

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<sup>156</sup> *See id.* at 1896 (“It is still possible to proactively employ legal means to channel how this new technology develops and is used, but the window of opportunity is closing. The time to act is now.”)

<sup>157</sup> *See id.* at 1897 (“States and other parties interested in the governance of this new weaponry can begin working toward it now.”).

<sup>158</sup> Marchant et al., *supra* note 5, at 290.

<sup>159</sup> *See* SINGER, *supra* note 6, at 387 (“New technology has often moved faster than the laws of war.”).

<sup>160</sup> Marra & McNeil, *supra* note 134, at 1185.

practice of war. Indeed, “[o]ur robotic creations are creating new dimensions and dynamics for our human wars and politics that we are only now just beginning to fathom.”<sup>161</sup> With this insight, we can begin to create a legal framework that works to limit the resort to using force, or in the alternative, works to improve accountability for when there is unlawful use of force. We as humans, “fear what [we] don’t know,” and change is coming in warfare, but it is time to take preventive measures and finally allow the laws of war to dictate the development and use of FAWs.<sup>162</sup>

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<sup>161</sup> SINGER, *supra* note 6, at 431.

<sup>162</sup> *Id.* at 436.