Chicago Journal of International Law

Volume 15 | Number 2 Article 8

2-1-2015

Autonomous Weapons and the Problem of State Accountability

Daniel N. Hammond

Autonomous Weapons and the Problem of State Accountability

Daniel N. Hammond*

Abstract

Currently in development and expected to become functional in the near future, fully autonomous weapons will have the capacity to operate entirely on their own, selecting targets and completing missions without human involvement. The prospective development of these weapons has raised concerns among some scholars who fear that the weapons would be unable to meet international legal standards. One criticism consistently raised is that in the event one of these weapons commits a war crime or human rights violation, it is not clear who should be held accountable. In this context, critics have focused primarily on whether military officers, designers, or manufacturers could (or should) be held individually liable. Few, however, have explored whether state liability is a viable option. This Comment takes up this inquiry, arguing that state liability would be preferable to individual liability because the state is in the best position to minimize its weapons' potential violations of international law and seems to be the most culpable actor in a moral sense. Nevertheless, although state liability is possible in the abstract, legal and practical barriers make the international legal regime as it stands ill-equipped to ensure that states would actually be held responsible for their weapons' crimes. If state liability is to resolve the accountability problem, the international community will need to make adjustments to this regime.

Table of Contents

---

* J.D. Candidate, 2015, The University of Chicago Law School. The author would like to thank the *Chicago Journal of International Law* staff for their guidance and support during the research and writing process and particularly Christopher Eby for his contributions to the manufacturer liability section of this Comment.

I. INTRODUCTION

On October 24, 2012, a U.S. drone strike killed an elderly woman in front of her grandchildren as she tended her crops in northern Pakistan.[1] Absent some legitimate justification,[2] the drone strike almost certainly violates international law,[3] and the pilots could potentially be held criminally liable.[4] In fact, if the pilot deployed the drone's missiles with some illicit motive (to avenge his fallen comrades, for example), he would definitely be guilty of a war crime.[5]

But what happens when the pilot is removed from the equation? What if the drone operated completely on its own (that is, without human oversight) by virtue of highly sophisticated artificial intelligence? If this fully autonomous weapon had killed the Pakistani grandmother without lawful justification, who should be held responsible for the crime?

This scenario may seem far-fetched, given that no country currently fields any drones that can operate with this level of autonomy.[6] The technology that would enable the deployment of such fully autonomous weapon systems (AWSs), however, may emerge in the near future.[7] As these systems will have the

---

1 *See* AMNESTY INTERNATIONAL, "WILL I BE NEXT?" U.S. DRONE STRIKES IN PAKISTAN 18–20 (2013), *available at* http://www.amnestyusa.org/sites/default/files/asa330132013en.pdf.

2 The U.S. government has not offered an explanation for these attacks. *See* Naureen Shah, *Time For the Truth About 'Targeted' Killings and US Drones' Civilian Victims*, THE GUARDIAN, Oct. 22, 2013, http://www.theguardian.com/commentisfree/2013/oct/22/illegal-deaths-drones-obama-administration.

3 *See, for example*, International Covenant on Civil and Political Rights, art. 6, Dec. 19, 1966, 999 U.N.T.S. 171 [hereinafter ICCPR] ("No one shall be arbitrarily deprived of his life."); AMNESTY INTERNATIONAL, *supra* note 1, at 43 ("Killing a civilian who has taken no direct part in hostilities is an arbitrary deprivation of life.").

4 *See* Michael W. Lewis, *Responses to the Ten Questions*, 37 WM. MITCHELL L. REV. 5021, 5030 (2011) (noting that to be free from liability, an attacker must comply with the international laws of armed conflict); Nathan Hodge & Noah Shachman, *Drone Pilots Could Be Tried for "War Crimes," Law Prof Says*, WIRED MAG. (Apr. 28, 2010), http://www.wired.com/dangerroom/2010/04/drone-pilots-could-be-tried-for-war-crimes-law-prof-says/ (last visited Nov. 18, 2014) (citing former Navy officer David Glazier's statement in Congressional hearings that drone pilots could be prosecuted).

5 *See* Robert Sparrow, *Killer Robots*, 24 J. APPLIED PHIL. 62, 66 (2007) (explaining that, when someone kills "a column of enemy soldiers who have clearly indicated their desire to surrender" while "seeking to revenge the 'deaths' of [his] comrades . . . they would immediately be charged with a war crime"); *see also infra* Section IV.A (explaining why the failure to distinguish between combatants and civilians and why excessive killing without a valid military objective both violate International Humanitarian Law (IHL)).

6 *See* HUMAN RIGHTS WATCH, LOSING HUMANITY: THE CASE AGAINST KILLER ROBOTS 3 (2012), *available at* http://www.hrw.org/sites/default/files/reports/arms1112ForUpload_0_0.pdf [hereinafter LOSING HUMANITY] ("Fully autonomous weapons . . . do not yet exist.").

7 *See id.* at 8 ("[S]ome military experts argue that the technology for fully autonomous weapons could be achieved within decades.").

capacity to engage targets without human intervention, many scholars believe they could replace drones in future conflicts.[8]

Furthermore, while the technology may seem a bit remote, the issue is already beginning to take center stage among international law scholars and actors. Major human rights organizations and prominent scholars have spoken out against AWSs,[9] and the U.N. has begun to consider a preemptive ban on them.[10] Indeed, some think that the international community will reach an agreement on these weapons in the next few years.[11]

As the potential ban demonstrates, the prospect of removing humans from the combat loop has produced discomfort among some human rights groups.[12] One major concern they have raised is the accountability problem outlined above.[13] The weapons' artificial intelligence will enable them to analyze information, determine courses of action, and execute responses to differing

---

8 *See, for example*, Kenneth Anderson & Matthew Waxman, *Law and Ethics for Autonomous Weapon Systems: Why a Ban Won't Work and How the Laws of War Can*, HOOVER INSTITUTE (2013), 27, *available at* http://www.hoover.org/research/law-and-ethics-autonomous-weapon-systems-why-ban-wont-work-and-how-laws-war-can ("The incremental development and deployment of autonomous weapon systems is inevitable."); Benjamin Kastan, *Autonomous Weapons Systems: A Coming Legal "Singularity"?*, 2013 U. ILL. J.L. TECH. & POL'Y 45, 52 (2013) ("Autonomy is seen as inevitable.") (citing P.W. SINGER, WIRED FOR WAR 127 (2009)); 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, 236–37 (2013) (noting that the active development of autonomous weapons "can be expected").

9 *See, for example*, LOSING HUMANITY, *supra* note 6 (Human Rights Watch); Stephen Hawking et al., *Stephen Hawking: "Transcendence Looks at the Implications of Artificial Intelligence - But Are We Taking AI Seriously Enough?"*, THE INDEPENDENT, May 1, 2014, http://www.independent.co.uk/news/science/stephen-hawking-transcendence-looks-at-the-implications-of-artificial-intelligence--but-are-we-taking-ai-seriously-enough-9313474.html; *Autonomous Weapons: States Must Address Major Humanitarian, Ethical Concerns*, INTERNATIONAL COMMITTEE OF THE RED CROSS (Feb. 9, 2013), http://www.icrc.org/eng/resources/documents/faq/q-and-a-autonomous-weapons.htm (last visited Nov. 18, 2014).

10 *See* Brid-Aine Parnell, *Killer Robots Could Be Banned by the UN Before 2016*, FORBES (Nov. 18, 2013), http://www.forbes.com/sites/bridaineparnell/2013/11/18/killer-robots-could-be-banned-by-the-un-before-2016/; *see also* Julie Deisher, *UN Concludes First Multilateral Meeting on Lethal Autonomous Weapons Systems*, JURIST (May 18, 2014), http://jurist.org/paperchase/2014/05/un-concludes-first-multilateral-meeting-on-lethal-autonomous-weapons-systems.php (last visited Nov. 18, 2014).

11 *See, for example*, Parnell, *supra* note 10.

12 *See generally* Christof Heyns, *Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions*, U.N. Doc. A/HRC/23/47 (Apr. 9, 2013), *available at* http://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session23/A-HRC-23-47_en.pdf; LOSING HUMANITY, *supra* note 6; Campaign to Stop Killer Robots: The Problem, STOPKILLERROBOTS.ORG (2014), http://www.stopkillerrobots.org/the-problem/ (last visited Nov. 18, 2014); International Committee for Robot Arms Control, ICRAC.NET, http://icrac.net/ (last visited Nov. 18, 2014).

13 *See* LOSING HUMANITY, *supra* note 6, at 42.

situations without human involvement.[14] Unlike the activities of human-operated drones, an AWS's actions are not easily attributable to a particular person.[15] This, in combination with other factors, has led some scholars to question whether the mere use of AWSs inherently violates international law.[16] Furthermore, even if such use by itself does not violate international law,[17] an individual weapon could certainly produce a violation in a given instance.[18] In these situations, it is unclear who should bear the blame for an AWS's crime.

AWS defenders have suggested that those sufficiently involved with the weapon—military commanders, designers, or manufacturers—could be held accountable for its illegal actions,[19] but opponents have identified several flaws with each of these potential candidates for responsibility.[20] Few, however, have considered the viability of holding the state itself accountable for crimes that its AWSs commit. Indeed, hardly any scholars have asked whether this option is desirable in theory or feasible in practice.[21]

This Comment takes up these inquiries by offering a conceptual defense of state accountability for AWS crimes and analyzing the primary mechanisms through which a state could be held liable. Normatively, it would be preferable to hold the state accountable for AWS crimes rather than commanding officers,

---

14 *See* Darren M. Stewart, *New Technology and the Law of Armed Conflict*, 87 INT'L L. STUD. SER. US NAVAL WAR COL. 271, 290 (2011).

15 *See id.*

16 *See, for example*, LOSING HUMANITY, *supra* note 6, at 46; Campaign to Stop Killer Robots: The Problem, *supra* note 12; International Committee for Robot Arms Control, *supra* note 12; Heyns, *supra* note 12, ¶ 31.

17 *See generally* Schmitt & Thurnher, *supra* note 8, at 279 (arguing that the mere use of AWSs is not per se unlawful); *see also* Stephen E. White, *Brave New World: Neurowarfare and the Limits of International Humanitarian Law*, 41 CORNELL INT'L L.J. 177, 190 (2008) ("[I]nternational law most likely does not prohibit [AWSs].").

18 *See* LOSING HUMANITY, *supra* note 6, at 42; Kastan, *supra* note 8, at 65; Schmitt & Thurnher, *supra* note 8, at 279.

19 *See, for example*, Gary E. Marchant et al., *International Governance of Autonomous Military Robots*, 12 COLUM. SCI. & TECH. L. REV. 272, 280 (2011); ARMIN KRISHNAN, KILLER ROBOTS: LEGALITY AND ETHICALITY OF AUTONOMOUS WEAPONS 103–05 (2009); Kastan, *supra* note 8, at 65–81; Schmitt & Thurnher, *supra* note 8, at 276–79.

20 For more detailed accounts of the problems with each of these options, see *infra* Section II.

21 It appears that Professor Jack M. Beard is the only author who has thoroughly addressed either of these questions. *See generally* Jack M. Beard, *Autonomous Weapons and Human Responsibilities*, 45 GEO. J. INT'L L. 617 (2014) (arguing that state liability is infeasible because the primary legal requirement needed for establishing accountability is human judgment). Other scholars have also touched on state accountability, but neither addressed the issues on which this Comment focuses in much depth. *See, for example*, Kastan, *supra* note 8, at 69–76 (exploring the feasibility of state liability under U.S. domestic law but not international law); Stewart, *supra* note 14, at 291 (arguing that state liability will turn on the "character of the conflict concerned" and the "respective State obligations under international human rights law").

designers, and manufacturers because the state would be in the best position to ensure that these weapons consistently comply with international law. Moreover, as the primary purchasers and users of these weapons, governments would be the most culpable actors in the event of unforeseen AWS war crimes. Finally, most states that utilize this technology will likely have the resources necessary to compensate victims.

State accountability thus seems like a better option than individual accountability in the abstract, but it is unclear whether the two forums in which states could be held liable for AWS crimes would work in practice. The first option is to have states whose citizens suffered from the crime (victim states) file an action in the International Court of Justice (ICJ).[22] The ICJ has broad subject-matter jurisdiction and could therefore provide a forum for the victim state to seek redress on behalf of its citizens. Unfortunately, the sharp limitations on its personal jurisdiction will likely obstruct its power to hear AWS disputes. It also lacks an enforcement mechanism to provide remedies for those cases that might arise. These factors undermine the ICJ's effectiveness in terms of its ability to hold states liable for AWS crimes.

Alternatively, the individual victims could bring suit against the state in a domestic court.[23] As AWS crimes will likely result in types of harm common in tort (wrongful death, bodily injury, and property damage), many domestic courts will likely have causes of action applicable to victims of AWS crimes. The efficacy of this option would turn on whether oft-impoverished and poorly situated victims file suit. Such lawsuits are unlikely to materialize. Even if these actions were routinely filed, moreover, the doctrine of sovereign immunity could very well bar them from proceeding past the filing stage. As such, domestic courts also will likely prove insufficient as an accountability mechanism.

Thus, while state liability may sound appealing in theory, the legal and practical problems associated with each of these options undermine the capacity of the current international regime to hold states responsible for AWS crimes.[24]

---

22 *See infra* Section IV.A.

23 *See infra* Section IV.B.

24 A third potential option would be for victim states or individuals to seek redress in a regional tribunal such as the European Court of Human Rights (ECHR), the Inter-American Court of Human Rights (IACHR), or the African Court of Human Rights (ACHR). If modern-day drones are any indication of how states will employ AWSs in the future, however, it is likely that they will use them largely across regions. In these instances, regional courts would prove inadequate simply because they would by definition only have jurisdiction over one of the parties. For instance, if a U.S. AWS committed a human rights violation in Russia, neither Russia nor its affected citizens could bring the dispute to the ECHR because the U.S. is not subject to its jurisdiction.

Furthermore, for intra-regional AWS disputes, only the ECHR might prove effective, as it has jurisdiction over the forty-seven member states of the Council of Europe. *See* Ricardo Gosalbo-Bono, *The Significance of the Rule of Law and Its Implications for the European Union and the United States*,

Holding states liable for future AWS crimes in domestic court or the ICJ, therefore, seems largely infeasible and likely will not suffice to solve the accountability problem.

Ultimately, then, state accountability is not currently practical, but it is still normatively and theoretically superior to individual accountability. Given the impracticality of state liability, the failure of scholars to examine this option is understandable, but their disproportionate concentration on individual responsibility has obscured the need for a drastic solution to the new accountability problems AWSs will present: creating entirely new international legal accountability mechanisms that will attach liability for AWS crimes to the state employing them.

This Comment proceeds as follows. Section II provides background information on AWSs, distinguishing them from less autonomous systems and discussing their prospective development. Section III elaborates on the accountability problem by evaluating each of the proposed options for individual liability in more detail. It also offers a normative defense of state liability for these crimes. Section IV describes existing bodies of international law that would apply to the use of AWSs to show potential legal foundations for state liability. Section V evaluates the different mechanisms by which a state might be held liable for the crimes of its AWSs. It first examines the ICJ as a forum in which one state might sue another over an AWS crime and then addresses the ability of individual victims to sue in domestic courts. Section VI concludes by summarizing the problems with each potential accountability mechanism, discussing the implications of these problems, and proposing a possible way to overcome them.

II. BACKGROUND ON AUTONOMOUS WEAPONS SYSTEMS

An autonomous weapons system (AWS) is a "system that, once activated, can select and engage targets without further intervention by a human

72 U. PITT. L. REV. 229, 269–70 (2010). It thus has authority over countries that are likely to develop AWSs, such as the United Kingdom and Russia, though it still lacks an enforcement mechanism. *See* Eric A. Posner & John C. Yoo, *Judicial Independence in International Tribunals*, 93 CAL. L. REV. 1, 65 (2005). By contrast, the IACHR and ACHR do not have jurisdiction over countries that are likely to utilize these weapons. The U.S. and Canada in particular have not submitted to the IACHR's jurisdiction, *see id.* at 42, and no country subject to the ACHR's jurisdiction is likely to be a major player in the AWS market. Asia and the Middle East, moreover, lack regional courts entirely. Given these problems, this Comment does not further address the capacity of regional courts to resolve AWS disputes. It simply notes that they *might* provide an option for resolving disputes in which countries subject to their jurisdiction develop AWSs and use (or, more precisely, commit war crimes with) them intra-regionally.

operator."[25] A hypothetical example is a drone that could take cues from its surroundings and operate without the involvement of a remotely located pilot or crew. Human Rights Watch (HRW) has classified these types of systems as "human-out-of-the-loop weapons" because they are capable of making decisions without further human input after activation.[26]

Fully autonomous systems mark a significant departure from prevailing automated weapons systems, such as remotely controlled drones and automated defense systems.[27] Remotely controlled systems, for example, require human input after activation to select a target or deliver force. Individuals operate these systems at a distance, which could be thousands of miles away.[28] Remotely controlled systems make up the majority of currently deployed military robots, with the Predator and Reaper drones employed in Afghanistan and Pakistan serving as prominent examples.[29] HRW calls these systems "human-in-the-loop weapons" because the machines cannot make a decision without a human command.[30]

A "semi-autonomous" or "automated" system, meanwhile, is a system that, "once activated, is intended to only engage individual targets or specific target groups that have been selected by a human operator."[31] It carries out these functions "within preprogrammed parameters without the requirement for a command from a human."[32] Such systems are often used as defense sentries that

---

25 U.S. DEP'T OF DEF., DIRECTIVE 3000.09: AUTONOMY IN WEAPON SYSTEMS 13 (Nov. 21, 2012), *available at* http://www.fas.org/irp/doddir/dod/d3000_09.pdf [hereinafter DOD DIRECTIVE 3000.09]. Consistent with the literature, this Comment defines a "weapons system" to include both the weapon itself and any items associated with its deployment. *See* Schmitt & Thurnher, *supra* note 8, at 234. "AWS" is used as shorthand for both an individual weapon and a complete system. *See id.* at 234 n.11.

26 LOSING HUMANITY, *supra* note 6, at 2.

27 "Autonomy" refers to the "ability of a machine to operate without human supervision." *Id.* at 6.

28 *See* Stewart, *supra* note 14, at 276.

29 *See* Kastan, *supra* note 8, at 49. Both systems consist of several unmanned aircrafts controlled by a pilot from a ground station and equipped with sensors and weapons, which crew members operate from the same station. *See* U.S. AIR FORCE, *MQ-9 Reaper Factsheet* (Aug. 18, 2010), http://www.af.mil/AboutUs/FactSheets/Display/tabid/224/Article/104470/mq-9-reaper.aspx; U.S. AIR FORCE, *MQ-1B Predator Factsheet* (July 20, 2010), http://www.af.mil/AboutUs/FactSheets/Display/tabid/224/Article/104469/mq-1b-predator.aspx.

30 LOSING HUMANITY, *supra* note 6, at 2.

31 DOD DIRECTIVE 3000.09, *supra* note 25, at 14; *see also* LOSING HUMANITY, *supra* note 6, at 9 (referring to these systems as "automated").

32 Stewart, *supra* note 14, at 276.

respond automatically if they detect an incoming threat.[33] States have also employed them for intelligence and surveillance purposes as well.[34] HRW refers to these as "human-on-the-loop weapons" because the machines can independently make decisions, but a human operator sets limits on those decisions.[35]

The key distinction between AWSs, on the one hand, and remotely operated or semi-autonomous systems, on the other, is that AWSs will operate with "full" autonomy. That is, an AWS decides completely on its own what actions it will take while the other systems exhibit lesser degrees of autonomy that are subject to varying levels of human oversight.[36] It is true that AWSs will require a human to program and deploy them initially, but these human actions are much less substantial than those required for the less autonomous systems.[37]

AWSs offer at least five advantages over these other systems. First, their computing capabilities are expected to surpass those of other systems in terms of speed and strength,[38] enabling them to make tough decisions in a variety of complex scenarios through adaptation and learning.[39] Their enhanced computing capacities will also allow them to complete the targeting process much more quickly than remotely piloted aircrafts, facilitating more rapid air support for ground personnel.[40] Second, AWSs will impose lower personnel costs than drone systems, which require pilots, sensor operators, weapons technicians, intelligence analysts, and other crew members to function properly.[41] Third, they will avoid the dangers of cyber-attack from which remotely operated systems

---

33 *See* Schmitt & Thurnher, *supra* note 8, at 236. The U.S. Navy's Phalanx Close-In Weapon System (CIWS), for instance, provides naval warships with defense capabilities against aerial threats by automatically detecting and engaging them. *See* U.S. NAVY, *MK-15 Phalanx Close-In Weapons System (CIWS) Fact Sheet* (Nov. 15, 2013), http://www.navy.mil/navydata/fact_display.asp?cid=2100&tid=487&ct=2 (last visited Nov. 18, 2014).

34 The U.S. Global Hawk, for instance, engages in these types of activities. *See* U.S. AIR FORCE, *RQ-4 Global Hawk Fact Sheet* (Oct. 16, 2008), http://www.af.mil/AboutUs/FactSheets/Display/tabid/224/Article/104516/rq-4-global-hawk.aspx (last visited Nov. 18, 2014). Its "flight commands are controlled by onboard systems without recourse to a human operator," but humans still set the parameters of its operations. Stewart, *supra* note 14, at 276.

35 LOSING HUMANITY, *supra* note 6, at 2.

36 *See* Stewart, *supra* note 14, at 276 (explaining that remotely controlled systems require an operator who operates the unmanned vehicle at a distance "by some form of direct radio signal," whereas automated systems operate strictly within "preprogrammed parameters"); *see also* Schmitt & Thurnher, *supra* note 8, at 235–36 (explaining the differences between the various systems).

37 *See* Schmitt & Thurnher, *supra* note 8, at 235.

38 *See id.* at 239–40.

39 *See id.*

40 *See* Kastan, *supra* note 8, at 54.

41 *See* Schmitt & Thurnher, *supra* note 8, at 237.

suffer. Specifically, remotely operated systems run the risk that an enemy will cut the communications link between the remote pilot and the unmanned aircraft.[42] Without a need to communicate with a ground station, AWSs avoid this pitfall. Fourth, AWSs will be able to both stay on assignment for longer periods than manned machines and perform tasks that humans would prefer to avoid.[43] Finally, AWSs promise to reduce human casualties and mental health problems for soldiers by removing them from the battlefield.[44] In sum, these systems will provide for "faster, cheaper, better mission accomplishment; longer range, greater persistence, longer endurance, higher precision; [and] faster target engagement," making them superior to other technologies.[45]

Despite these benefits, no country has developed an AWS yet,[46] but military policy documents demonstrate that states are moving in that direction.[47] The U.S. Department of Defense, for instance, has set out protocols for designing, testing, fielding, and employing AWSs.[48] Likewise, the U.K. has expressed a desire to develop this technology,[49] and several other countries—displaying an enthusiasm for increased weapon autonomy—have rapidly developed the precursors to AWSs.[50]

Given this increasing interest in AWSs, some experts have predicted that the technology necessary to make them work could be developed within a few

---

42 *See id.* at 238.

43 *See* Kastan, *supra* note 8, at 54.

44 *See* Tyler D. Evans, *At War with the Robots: Autonomous Weapon Systems and the Martens Clause*, 41 HOFSTRA L. REV. 697, 708–09 (2013).

45 RONALD ARKIN, GOVERNING LETHAL BEHAVIOR IN AUTONOMOUS ROBOTS 30 (2009).

46 *See* LOSING HUMANITY, *supra* note 6, at 3.

47 *See id.*; Stewart, *supra* note 14, at 277–80; Schmitt & Thurnher, *supra* note 8, at 236–37. *See, for example*, OFFICE OF THE SEC'Y OF DEF., U.S. DEP'T OF DEF., THE UNMANNED SYSTEMS INTEGRATED ROADMAP FY2011–2036 5, 45–51 (2011), *available at* https://info.publicintelligence.net/DoD-UAS-2011-2036.pdf; OFFICE OF THE SEC'Y OF DEF., U.S. DEP'T OF DEF., UNMANNED SYSTEMS ROADMAP 2007–2032 49, 54 (2007), *available at* https://www.fas.org/irp/program/collect/usroadmap2007.pdf; OFFICE OF THE SEC'Y OF DEF., U.S. DEP'T OF DEF., UNMANNED AIRCRAFT SYSTEMS ROADMAP 2005–2030 52 (2005), *available at* http://www.fas.org/irp/program/collect/uav_roadmap2005.pdf; U.S. AIR FORCE, UNMANNED AIRCRAFT SYSTEMS FLIGHT PLAN 2009–2047 50–51 (2009), *available at* http://www.fas.org/irp/program/collect/uas_2009.pdf.

48 *See* DOD DIRECTIVE 3000.09, *supra* note 25, at 1.

49 *See* U.K. MINISTRY OF DEFENCE, THE U.K. APPROACH TO UNMANNED AIRCRAFT SYSTEMS 6–7 (Mar. 30, 2011), *available at* https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/33711/ 20110505JDN_211_UAS_v2U.pdf.

50 *See* Stewart, *supra* note 14, at 280–81 (observing, for instance, that Israel, South Korea, and China have developed remotely controlled or semi-autonomous weapons); *see also* Schmitt & Thurnher, *supra* note 8, at 238 n.26 (noting that even terrorist organizations have shown the potential to obtain and possibly develop autonomous technologies).

decades.[51] The chief scientist for the U.S. Air Force estimated that "by 2030 machine capabilities will have increased to the point that humans will have become the weakest component in a wide array of systems."[52] The U.K. Ministry of Defence even more optimistically predicted that AWSs could actually be available by 2025.[53] Regardless of the specific timeline, the development of these weapons, although likely to proceed gradually,[54] is widely regarded both by scholars and the defense industry as inevitable.[55]

III. THE ACCOUNTABILITY PROBLEM

The ability of AWSs to operate without human oversight gives rise to the accountability problem. Specifically, if states begin to employ these weapons routinely, some of them will inevitably violate international law.[56] When this happens, "people [will] want to see someone held accountable."[57] Accountability is essential in international law to deter and prevent violations and thus to protect potential victims of human rights abuses, war crimes, and the like.[58] In the context of war in particular, a fundamental condition of engaging in a just war is the ability to attribute moral and legal responsibility to someone who commits a war crime.[59] Most just war principles assume that any violators will be subject to liability, for the absence of liability would render these principles

---

51 *See, for example*, LOSING HUMANITY, *supra* note 6, at 8.

52 U.S. AIR FORCE CHIEF SCIENTIST, TECHNOLOGY HORIZONS: A VISION FOR AIR FORCE SCIENCE & TECHNOLOGY DURING 2010–2030 131 (May 15, 2010), *available at* http://www.defenseinnovationmarketplace.mil/resources/AF_TechnologyHorizons2010-2030.pdf.

53 *See* U.K. MINISTRY OF DEFENCE, *supra* note 49, at 4–13, 6–8.

54 *See* Marchant et al., *supra* note 19, at 276.

55 *See, for example*, Schmitt & Thurnher, *supra* note 8, at 231; Kastan, *supra* note 8, at 52; LOSING HUMANITY, *supra* note 6, at 6; Stewart, *supra* note 14, at 281; Sparrow, *supra* note 5, at 63.

56 *See* LOSING HUMANITY, *supra* note 6, at 42 ("Given the challenges [AWSs] present to adherence to international humanitarian law . . . it is inevitable that they will at some point kill or injure civilians."); Schmitt & Thurnher, *supra* note 8, at 279 ("[T]he use of [AWSs] in certain circumstances would be lawful under the law of armed conflict, whereas in others it would not."); Stewart, *supra* note 14, at 290 ("[E]ven the most ardent supporters of [AWSs] do not argue that breaches can be completely removed."); Kastan, *supra* note 8, at 59 ("As with many complex systems, an AWS will likely fail [to follow international law] at one point or another.").

57 LOSING HUMANITY, *supra* note 6, at 42.

58 *See* Heyns, *supra* note 12, ¶ 75.

59 *See* Sparrow, *supra* note 5, at 67 (arguing that the ability to attribute moral and legal responsibility to someone is a fundamental requirement of a just war); *see also* LOSING HUMANITY, *supra* note 6, at 42 n.169 ("Individual responsibility also stems from foundational notions of just war theory. Indeed, just war principles are formulated to govern individual decision-makers, who must accept responsibility for the deaths they cause in war.").

ineffective,[60] creating "disastrous consequences for the ways in which wars are likely to be fought."[61] Indeed, some scholars have argued that the inability to hold someone responsible for war crimes caused by certain weapons is one reason why those weapons have been banned.[62]

With less autonomous systems, the accountability problem does not arise. Remotely-controlled systems require a human pilot to take a direct role in determining the actions of a device.[63] Likewise, programmers of automated weapons have much more control over the types of threats to which the system will respond.[64] These individuals can thus be held directly liable for crimes committed by their weapons.[65] With AWSs, by contrast, humans will only program the artificial intelligence and input general command data, but neither of these actions will necessarily lead to a given outcome.[66] This makes it difficult to assign blame for an AWS's conduct to a specific person.[67]

---

60 *See* Sparrow, *supra* note 5, at 67 ("The assumption and/or allocation of responsibility is also vital in order for the principles of *jus in bello* to take hold at all."); *see also* Lieutenant Colonel Joseph P. Bialke, *Al-Qaeda & Taliban Unlawful Combatant Detainees, Unlawful Belligerency, and the International Laws of Armed Conflict*, 55 A.F. L. REV. 1, 9 (2004) (explaining that the law of war "protect[s] noncombatants by providing all combatants an unambiguous positive incentive to constrain their behavior as well as the potential of future punishment for failing to do so").

61 Sparrow, *supra* note 5, at 67.

62 *See, for example, id.* ("If the nature of a weapon, or other means of war fighting, is such that it is *typically* impossible to identify or hold individuals responsible for the casualties that it causes[,] then it is contrary to this important requirement of *jus in bello*.") (emphasis in original); *see also* Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction, Sept. 18, 1997, 2056 U.N.T.S 211 (banning the use of land mines).

63 *See* sources cited *supra* notes 28–30 and accompanying text (describing how remotely controlled systems operate).

64 *See* sources cited *supra* notes 31–35 and accompanying text (describing how automated systems operate).

65 *See* Stewart, *supra* note 14, at 290 ("The tele-operator of remotely controlled vehicles or even the command programmer for automated equipment can both be seen as having direct roles in determining the actions of the devices they control. They are capable of direct responsibility, even if that control is exercised at distance.").

66 *See id.* ("Neither the programming nor the command data inputted to these vehicles prior to their deployment on a particular operation will necessarily result in a specific outcome in response to any given set of circumstances.").

67 *See id.* ("Absent the aberrant behavior of either the data or command programmers . . . it would be almost impossible to attribute the autonomous system's behavior *directly* to a particular human.") (emphasis in original); *see also* LOSING HUMANITY, *supra* note 6, at 42 ("[T]here is no fair and effective way to assign legal responsibility for unlawful acts committed by fully autonomous weapons."); Sparrow, *supra* note 5 at 73 ("[A]s machines become more autonomous a point will be reached where those who order their deployment can no longer be properly held responsible for their actions.").

A. Proposed Options for Individual Accountability

To get around this problem, scholars have chiefly identified two individuals who might be held accountable for AWS violations: the commanding officer and the designer or manufacturer.[68] As will be seen, however, critics have rightly identified a number of flaws with each of these options.

1. Commanding-officer liability.

The first option is the commanding officer who authorizes the deployment of an AWS. Under the principle of "command responsibility," a commander is responsible for a subordinate's crimes if there is: "(1) a senior-subordinate relationship; (2) actual or constructive notice of the impending crime; [and] (3) failure to take measures to prevent it."[69] The point of this doctrine is to encourage superiors to more effectively control and monitor the conduct of subordinates and thereby deter harmful behavior.[70] AWS defenders argue that this logic could apply to AWS violations as well. Indeed, the U.S. Department of Defense has already provided that "[p]ersons who authorize the use of, direct the use of, or operate autonomous . . . weapon systems must do so with appropriate care and in accordance with the law of war, applicable treaties, weapon system safety rules, and applicable rules of engagement."[71] This implies that if a commander knows or should have known that a deployed AWS will

---

68 *See, for example*, Sparrow, *supra* note 5, at 69–71 (evaluating the viability of commander and programmer liability); LOSING HUMANITY, *supra* note 6, at 42–44; Schmitt & Thurnher, *supra* note 8, at 277–78 (arguing for commander liability). A final option advanced in the literature is to hold the machine itself liable for its crimes. *See, for example*, Krishnan, *supra* note 19, at 105. While the concept of holding inanimate objects liable for injuries they cause has both historical roots and modern formulations, *see* Kastan, *supra* note 8, at 68–69, this option would probably not produce a deterrent effect unless the AWS could be programmed to "feel" the consequences of its actions. *See* LOSING HUMANITY, *supra* note 6, at 45. Even if it could be so programmed, victims would probably not view the punishment of a machine as adequate to satiate their need for justice. *See id.*

69 Kastan, *supra* note 8, at 67 (citing Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts, June 8, 1977, 1125 U.N.T.S. 3 (addition in original) [hereinafter Additional Protocol I).

70 *See* Kastan, *supra* note 8, at 68 ("The purpose of . . . punishing a group, or a superior, for the actions of another . . . goes to the heart of one of the purposes of punishment: deterrence. It is thought that by enacting these sanctions, even if you cannot directly target the wrongdoer, you can control it through those better situated to monitor the erring entity."); Sherrie L. Russell-Brown, *The Last Line of Defense: The Doctrine of Command Responsibility and Gender Crimes in Armed Conflict*, 22 WIS. INT'L L.J. 125, 128–29 (2004) ("A purpose of the [command responsibility] doctrine is the deterrence of violations of international humanitarian law.") (collecting sources); Matthew Lippman, *Humanitarian Law: The Uncertain Contours of Command Responsibility*, 9 TULSA J. COMP. & INT'L L. 1, 90 (2001) ("Command culpability is designed to encourage military commanders . . . to control the conduct of combatants.").

71 DOD DIRECTIVE 3000.09, *supra* note 25, at 3. *See* Schmitt & Thurnher, *supra* note 8, at 277–78 (advocating commander liability).

violate international law, he will be held accountable for the crime.[72] Such liability would encourage the commander to exert more control over the AWS, deploying it only in ways that minimize risks.

This doctrine applies well for commanders who deploy a weapon knowing that such deployment creates a grave risk of an international crime. If an officer deploys a weapon knowing that a malfunction has disrupted its ability to distinguish between citizens and combatants, for example, it would make sense to hold him liable under a theory of command responsibility. It is not clear, however, that commanders will consistently know of these types of risks, especially because they themselves will presumably not have programmed or designed the weapon.[73] Where they do not recognize until after deployment that an AWS poses a risk, moreover, they would not be able to reprogram it to prevent the violation.[74] As systems become more autonomous, their actions in the field and the risks they create will grow even more difficult to predict,[75] limiting the applicability of traditional command responsibility.

To hold a commander responsible for an AWS action that he could neither control nor foresee would thus go beyond the traditional scope of command responsibility.[76] It would also cut against ethical notions about criminal liability. If commanders are not held strictly liable for their subordinates' actions, it seems "unfair to impose liability on commanders for their fully autonomous weapons," as these weapons will exercise a similar degree of autonomy.[77]

2. Designer or manufacturer liability.

Another option is to hold the designer or manufacturer strictly liable when its AWS violates international law.[78] This option would treat any AWS crime as a legal accident, and manufacturers would be required to pay for any damages caused and to compensate victims or their families.[79] This, the argument goes,

---

72 *See* Schmitt & Thurnher, *supra* note 8, at 277.

73 *See* LOSING HUMANITY, *supra* note 6, at 43.

74 *See id.*

75 *See* Sparrow, *supra* note 5, at 70–71.

76 *See* Additional Protocol I, *supra* note 69, art. 86(2) (limiting command responsibility to cases where the commander "knew, or had information which should have enabled [her] to conclude in the circumstances at the time, that [her subordinate] was committing or was going to commit such a breach [of international law] and if [she] did not take all feasible measures within [her] power to prevent or repress the breach").

77 LOSING HUMANITY, *supra* note 6, at 42.

78 *See id.* at 43–44 (exploring this option).

79 *See* Krishnan, *supra* note 19, at 103–04 (describing how manufacturer liability would operate in theory).

would encourage manufacturers to make AWSs as safe as possible.[80] As the weapon is presumably not meant to commit such violations, placing the blame on the entity that designed or manufactured it has some intuitive appeal,[81] but AWS opponents have identified a couple of problems with a strict liability approach. First, in the defense context, weapons manufacturers are rarely held accountable for design defects,[82] especially when they notify the purchasers that the AWS may attack the wrong target.[83] Second, this option would require the individual victims to initiate lawsuits against corporate manufacturers of AWSs.[84] Victims who are often impoverished and geographically displaced are unlikely to sue these companies, which are likely to possess much greater resources.[85]

In addition to these problems, strict liability for AWS producers suffers from yet another, more problematic flaw that critics have overlooked. Specifically, holding these companies strictly liable would not necessarily incentivize them to produce weapons that are more likely to comply with international law. Instead, producers could simply charge higher prices for AWSs to offset the liability risks, thus passing their increased liability costs on to the state consumers. After all, it is likely that only those states with large defense budgets will be able to afford these weapons in the first place, rendering the demand for AWSs fairly inelastic. Relatively slight increases in price to compensate for the liability risks are therefore not likely to deter purchases.[86] It follows that, once producers have created a weapon that states are willing to buy,

---

80 *See id.*

81 *See* Sparrow, *supra* note 5, at 69 ("Given that the weapon is presumably not supposed to behave in this way, it is tempting to insist that the fault lies with the person(s) who designed and/or programmed the weapon, and that they should be held responsible for its destructive result.").

82 *See* Krishnan, *supra* note 19, at 104. ("It rarely happens that the manufacturers of weapons are held responsible for any accidents caused by poor design, which has many reasons.").

83 *See* Sparrow, *supra* note 5, at 69 (observing that, when AWS manufacturers inform state buyers that the weapon may attack the wrong target, the manufacturers "can no longer be held responsible, [sic] should this occur"); Beard, *supra* note 21, at 647 ("[P]rivate weapons manufacturers are not generally punished for how individuals or governments use their weapons, particularly if the manufacturers are careful in disclosing (up front) to military purchasers any risks of malfunctions.").

84 *See* LOSING HUMANITY, *supra* note 6, at 44 ("[P]roduct liability requires a civil suit, which puts the onus on victims.").

85 *See id.* ("It is unrealistic to expect civilian victims of war, who are often poverty stricken and geographically displaced by conflict, to sue for relief against a manufacturer in a foreign court."); Heyns, *supra* note 12, ¶ 79. This problem also exists for individual suits against states. *See infra* Section IV.B.

86 Due to the relatively inelastic demand for AWSs, it is unlikely that AWS manufacturers would exit the market when faced with strict liability, and placing liability on states would cause those countries in the market for AWSs to internalize the full cost of decision-making, thus potentially leading to fewer risky or populated-area AWS deployments.

the prospect of liability would not necessarily incentivize them to make their product safer. The state buyers, meanwhile, would never internalize the cost of those war crimes committed by their own AWSs because the increased price of the weapons would spread that cost among all buyers. Consequently, no single buyer would have an incentive to minimize the risk of AWS crimes. Because of this cost-spreading effect, states that use their AWSs rarely or carefully to minimize the risk of war crimes would subsidize states that use them with less regard for that risk—thus discouraging risk minimization by states.[87]

A negligence approach to designer or manufacturer liability also has its flaws. While individual designers "lay the foundation" for an AWS's actions, "the weapon would still be autonomous," so even the most careful designer "could not predict with complete certainty the decisions [an AWS] might eventually make in a complex battlefield scenario."[88] Indeed, the entire concept of autonomy presupposes that AWSs will take actions other than those that its designers predicted or intended.[89] As AWSs learn from their experiences and surroundings, their decisions would depend on much more than the original programming.[90] Thus, because AWSs will be designed precisely for independent decision-making, finding the manufacturer negligent in any given case may prove impossible in practice (for lack of control or proximate causation).

There are thus significant legal, ethical, and practical problems with each of the proposed options for individual accountability in the event of an AWS crime. As each of these options seems to be either "inappropriate or impractical," a "responsibility vacuum" is likely to emerge, which would grant "impunity for all [AWS] use."[91]

---

87 AWS critics have advanced a different argument, claiming that strict manufacturer liability for international law violations might deter companies from producing these weapons in the first place, depriving states of a potentially valuable military resource. *See* LOSING HUMANITY, *supra* note 6, at 44 ("It is highly unlikely that any company would produce and sell weapons, which are inherently dangerous, knowing the firm could be held strictly liable for any use that violates international humanitarian law."). This argument fails, however, to account for the possibility identified here—that AWS suppliers could simply raise the price of their weapons to offset the risk of liability.

88 LOSING HUMANITY, *supra* note 6, at 43.

89 *See* Sparrow, *supra* note 5, at 70 ("[T]he possibility that an autonomous system will make choices other than those predicted and encouraged by its programmers is inherent in the claim that it is autonomous.").

90 *See id.* ("If it has sufficient autonomy that it learns from its experience and surroundings then it may make decisions which reflect these as much, or more than, its initial programming.").

91 Heyns, *supra* note 12, ¶ 80.

B. The Superiority of State Liability

At least in theory, state accountability has the potential to correct this problem. As an initial matter, the concept of state responsibility is well established in international law.[92] The International Law Commission[93] (ILC) articulated the rule behind this concept in its Articles on the Responsibility of States for Internationally Wrongful Acts (Responsibility Articles),[94] which provide that "[e]very internationally wrongful act of a State entails the international responsibility of that State."[95] A state engages in an "internationally wrongful action" when an act or omission "(a) is attributable to the State under international law; and (b) constitutes a breach of an international obligation of the State."[96] An action is attributable to a state when it is conducted by an "organ" of the state,[97] which almost certainly includes the military as well as intelligence agencies.[98] Therefore, assuming that AWSs operate under the

---

92 *See* Catherine Tinker, *Responsibility for Biological Diversity Conservation Under International Law*, 28 VAND. J. TRANSNAT'L L. 777, 784 (1995) ("It is well established in international law that breach of a rule of international law entails state responsibility for an internationally wrongful act.") (citing Chorzow Factory Case, 1928 P.C.I.J. (ser. A) No. 17, at 27–28 (Sept. 13)).

93 The U.N. General Assembly created this commission in 1947 "to help the progressive development and codification of international law." Lakshman Guruswamy, *State Responsibility in Promoting Environmental Corporate Accountability*, 21 FORDHAM ENVTL. L. REV. 209, 209–10 (2010) (internal citation omitted).

94 Responsibility of States for Internationally Wrongful Acts, [2001] 2 Y.B. Int'l L. Comm'n 26, U.N. Doc. A/CN.4/SER.A/2001/Add.1 [hereinafter Responsibility Articles]. The U.N. General Assembly has commended the Responsibility Articles on a number of occasions and decided in 2013 to consider the question of a convention on the basis of the Articles at its seventy-first session in 2016. *See* G.A. Res. 68/104, U.N. Doc. A/RES/68/104 (Dec. 16, 2013). The ICJ has also declared that at least some parts of the Articles reflect customary international law on this issue. *See* Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Bosn. & Herz. v. Serb. and Montenegro), 2007 I.C.J. 43, ¶¶ 385, 407 (Feb. 26).

95 Responsibility Articles, *supra* note 94, art. I. For an in-depth analysis of the Responsibility Articles, see generally Daniel Bodansky & John R. Crook, *Symposium: The ILC's State Responsibility Articles*, 96 AM. J. INT'L L. 773 (2002).

96 Responsibility Articles, *supra* note 94, art. II.

97 *Id.* art. IV(1).

98 *See* Report of the International Law Commission, U.N. GAOR, 55th Sess., Supp. No. 10 P 34, at 84, U.N. Doc. A/56/10 (2001), *available at* http://legal.un.org/ilc/reports/english/a_56_10.pdf (observing that "a 'State organ covers all the individual or collective entities which make up the organization of the State and act on its behalf") [hereinafter Articles Commentary]; *see also* Responsibility Articles, *supra* note 94, art. IV(1) (rendering conduct attributable to the state "whether the organ exercises legislative, executive, judicial or any other functions, whatever position it holds in the organization of the State, and whatever its character as an organ of the central government or of a territorial unit of the State"). The Articles Commentary accompanied one of the earliest drafts of the Articles and is "probably of greater general significance and value than the draft Articles themselves." Dayna L. Kaufman, *Don't Do What I Say, Do What I Mean!:*

authority of these institutions, their actions would be attributable to the state. Furthermore, since conduct "constitutes a breach of an international obligation of [a] State" when it violates "a clearly-defined treaty obligation or an unequivocally recognized norm of customary law,"[99] a state could be culpable under the Responsibility Articles if its AWS violates established norms of International Humanitarian Law (IHL) or International Human Rights Law (IHRL).[100]

From a legal standpoint, then, state responsibility is a viable option, at least in the abstract. Normatively, moreover, it is preferable to commander, designer, or manufacturer liability. First, the primary purpose of the Responsibility Articles—to "increase[ ] compliance with international obligations"—applies in the context of AWS crimes.[101] If states realize that they will be held accountable for the war crimes of their AWSs, they have an incentive, first, to weigh the potential liability costs against the benefits of using AWSs at all and, second, to make sure the weapons they do use are consistently unlikely to violate international law. The prospect of liability would draw attention to the fact that the widespread, frequent use of AWSs would almost certainly result in at least some violations of international law.[102] Should states choose to use AWSs in spite of these risks, liability would give them a reason at the purchase and deployment stages to ensure that their AWSs will comply with international law, because the states themselves would internalize all the costs of crimes committed by their weapons rather than having the cost spread among all buyers via producer strict liability.[103] Specifically, the state could incentivize the manufacturers and designers to produce safe AWSs by setting standards for an

---

Assessing a State's Responsibility for the Exploits of Individuals Acting in Conformity with a Statement from a Head of State, 70 FORDHAM L. REV. 2603, 2610 (2002) (citation omitted).

99 Tinker, *supra* note 92, at 784–85. *See* Articles Commentary, *supra* note 98, at 128 ("State responsibility can arise from breaches of bilateral obligations or of obligations owed to some States or to the international community as a whole. It can involve relatively minor infringements as well as the most serious breaches of obligations under peremptory norms of general international law.").

100 For an explanation of how an AWS might violate IHL or IHRL, see *infra* Section IV.

101 Alan Nissel, *The ILC Articles on State Responsibility: Between Self-Help and Solidarity*, 38 N.Y.U. J. INT'L L. & POL. 355, 369 (2006).

102 *See* discussion *supra* note 56 and accompanying text.

103 Although the state would likely have no more control over an AWS once it is in the field than the commander, designer, or manufacturer, *see* LOSING HUMANITY, *supra* note 6, at 43 (observing that, once an AWS has been deployed, "the commander would be unable to reprogram it in real time to prevent the crime because it was designed to operate with complete autonomy"); Sparrow, *supra* note 5, at 70 ("[T]he possibility that an autonomous system will make choices other than those predicted and encouraged by its programmers is inherent in the claim that it is autonomous."), the other two options could each only ensure compliance at one of these stages (commander at deployment; manufacturer/designer before purchase).

acceptable purchase. At the same time, it could limit commanders' discretion in the deployment of these weapons through policy measures. Thus, because the state could both require better design and manufacture and limit commander discretion, it is in the best position to guard against international AWS crimes throughout the entire process. As such, it makes the most sense for the state to bear the liability risk.[104]

Morally speaking, moreover, the state is arguably the most culpable actor in the use of AWSs that unforeseeably violate international law (that is, absent wrongful intent or negligence on the part of an individual). After all, it would be the state that makes the overarching decision to utilize AWSs in the first place. Given the risks inherent in employing such weapons, this choice renders the state more culpable in a moral sense than the producers, who merely respond to a demand created by the state, and the commanders, who merely carry out the policy decision the state made. By exerting control over both the purchase and deployment phases of AWS use, the state becomes the actor best suited to internalize the costs of its decision-making and, therefore, the most blameworthy.

For related reasons, a strict liability regime would be preferable in practice to a negligence regime in assigning responsibility for AWS crimes to states. Commentators have argued that strict liability is often superior to negligence where a particular activity creates nonreciprocal risks and benefits.[105] Nonreciprocal risks exist if an injurer's action "imposes a risk unilaterally on the victim in situations where the victim's activity does not impose a similar risk on the injurer."[106] Similarly, nonreciprocal benefits exist where the injurer receives a

---

104 This argument is a variation on the "least-cost-avoider" theory in the field of law and economics, which states that "the party with the least cost available precaution should be given the incentive to avoid the risk by having liability imposed on him or her in the event the risk materializes." David W. Barnes & Rosemary McCool, *Reasonable Care in Tort Law: The Duty to Take Corrective Precautions*, 36 ARIZ. L. REV. 357, 365 (1994). *See generally* Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972); GUIDO CALABRESI, THE COSTS OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS (1970).

105 *See, for example*, Kenneth W. Simons, *The Restatement (Third) of Torts and Traditional Strict Liability: Robust Rationales, Slender Doctrines*, 44 WAKE FOREST L. REV. 1355, 1361–68 (2009).

106 *Id.* at 1361–62. *See also* RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL & EMOTIONAL HARM § 20 cmt. j (2010) (explaining that "principles of reciprocity" dictate that strict liability should not apply to activities in common usage because the risks such activities create "are imposed by the many on each other"), 22 cmt. d (2010) ("[O]wning wild animals is an unusual activity, engaged in by a few, which imposes on others significant risks that are themselves unusual and distinctive.") [hereinafter RESTATEMENT]. For the most prominent defense of the nonreciprocal risk rationale, see generally George P. Fletcher, *Fairness and Utility in Tort Theory*, 85 HARV. L. REV. 537 (1972).

benefit from his activity that the victim does not share in equal proportion.[107] A state's use of AWSs creates both nonreciprocal risks and benefits. In all likelihood, individuals in areas where the state deploys an AWS will bear virtually all of the risk that the weapon might commit a war crime, as they will be the ones who suffer if it does so, even though they do not impose a similar risk on the state. The state, meanwhile, is the primary beneficiary of the weapon's usage, enjoying the many tactical and resource advantages that AWSs generate—advantages that victims will not experience.[108] Shifting the losses created by a state's use of AWSs from the victims to the states "would improve the distribution of burden and benefit" because it would force the state to compensate victims of AWS crimes.[109] Strict liability is therefore suitable in this context.[110]

IV. AUTONOMOUS WEAPONS AND INTERNATIONAL LAW

There is currently no law or treaty that directly covers the regulation of AWSs or autonomous systems more generally.[111] As such, a state's use of AWSs would need only comply with the broader body of international law pertaining to armed conflict and human rights.[112] As different laws apply in different contexts,

---

107 *See* Gregory C. Keating, *Strict Liability and the Mitigation of Moral Luck*, 2 J. ETHICS & SOC. PHIL. 1, 17 (2006) ("It is presumptively reasonable—presumptively fair—for the burdens of a risky activity to be borne by those who benefit from it. Prima facie, burden and benefit should be proportional."); *see also* Gregory C. Keating, *The Theory of Enterprise Liability and Common Law Strict Liability*, 54 VAND. L. REV. 1285, 1287 (2001) ("[E]nterprise liability [a form of strict liability] expresses the maxim that those who profit from the imposition of risk should bear the costs of the accidents that are a price of their profits."); Simons, *supra* note 105, at 1363 (arguing that "[i]t is the private benefit to the actor that justifies the duty to compensate" in some strict liability regimes); RESTATEMENT, *supra* note 106, § 20 cmt. e (describing blasting as the paradigmatic example of an activity subject to strict liability partly because "the defendant chooses to engage in blasting for reasons of its own benefit").

108 *See* discussion *supra* notes 39–45 and accompanying text (outlining the benefits of AWS use).

109 Keating, *Strict Liability and the Mitigation of Moral Luck*, *supra* note 107, at 17.

110 In addition, strict liability is appropriate where there is an "inability to eliminate the risk of accident by the exercise of due care." Ind. Harbor Belt R.R. Co. v. Am. Cyanamid Co., 916 F.2d 1174, 1177 (7th Cir. 1990) (Posner, J.). This situation would likely exist when a state uses AWSs because crimes may occur even if the relevant weapon was produced and deployed in a reasonable manner, in which case the state would not be guilty of negligence. Strict liability would thus "give [the state] an incentive, missing in a negligence regime, to experiment with methods of preventing accidents that involve not greater exertions of care, assumed to be futile, but instead relocating, changing, or reducing (perhaps to the vanishing point) the activity giving rise to the accident." *Id.* This provides yet another reason to hold states strictly liable for the crimes of their AWSs.

111 *See* Marchant et al., *supra* note 19, at 289.

112 *See* Kastan, *supra* note 8, at 54.

the specific laws that would apply to a given AWS crime will depend on the overall circumstances of that AWS's use.

International law permits states to use force in three contexts.[113] First, states may use force to engage in either individual or collective self-defense.[114] Second, they may conduct military operations if the U.N. Security Council authorizes force to maintain peace and security.[115] Finally, they may use force to a lesser extent in the law enforcement context.[116] IHL, also known as the Law of Armed Conflict (LOAC), governs the first two categories, with IHRL filling in any gaps.[117] IHRL captures any use of force that falls outside the context of an armed conflict, including force employed in law enforcement operations.[118]

A. Autonomous Weapons and International Humanitarian Law

The main purpose of IHL is to limit the grievous effects of armed conflict.[119] It is derived largely from an expansive body of customary decisional law but is also embodied in the Hague Convention of 1907, the four post-World War II Geneva Conventions, and their two Additional Protocols of 1977,[120] all of which have achieved the status of customary international law.[121]

IHL applies to both international armed conflicts, which occur when two or more states are involved in an armed dispute, and non-international armed conflicts, which occur when a state responds with force to violence initiated by non-state actors.[122] IHL allows states to use lethal force against designated

---

113 *See* 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, 664–65 (2011) (laying out the framework of international law governing the use of force).

114 *See* U.N. Charter, art. 51; Military and Paramilitary Activities in and Against Nicaragua (Nicar. v. U.S.), 1986 I.C.J. 14 (June 27); McNab & Matthews, *supra* note 113, at 664.

115 *See* U.N. Charter, arts. 42, 51; McNab & Matthews, *supra* note 113, at 664.

116 *See* McNab & Matthews, *supra* note 113, at 669.

117 *See id.* at 683.

118 *See id.* at 668. There is a great deal of debate on which body of law, IHL or IHRL, governs counter-terrorism operations. This debate is beyond the scope of this Comment, which simply notes that an AWS crime resulting from counter-terrorism operations could potentially lead to liability under either body of law.

119 *See* Marchant et al., *supra* note 19, at 294–95 n.76.

120 *See* Thomas Michael McDonnell, *Sow What You Reap? Using Predator and Reaper Drones to Carry Out Assassinations or Targeted Killings of Suspected Islamic Terrorists*, 44 GEO. WASH. INT'L L. REV. 243, 270 (2012).

121 *See* Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. 226, ¶ 79 (July 8); *see also* Schmitt & Thurnher, *supra* note 8, at 244–45.

122 *See* McNab & Matthews, *supra* note 113, at 684–85.

combatants.[123] Some level of civilian casualties is also permissible so long as the underlying military acts comply with certain principles.[124]

Two IHL principles would likely serve as the primary foundations of state liability for AWS crimes. The first of these, "distinction," is designed to protect "the civilian population and civilian objects" and thus requires states to distinguish between combatants and non-combatants.[125] By extension, states may not target civilians or use weapons that are incapable of distinguishing between civilian and military targets.[126] This second prohibition is meant to bar attacks that are equally as likely to kill non-combatants as combatants.[127]

While simple in theory, this principle raises some practical difficulties. For instance, some targets, like a bridge, may have both civilian and military purposes, so it is unclear whether an attack on such a target would violate the principle of distinction.[128] Such difficulties make distinction the "the greatest hurdle to the legal deployment of AWSs,"[129] as currently no artificial intelligence system can distinguish between combatants and civilians.[130] Consequently, the distinction principle could easily legitimize holding a state strictly liable for the crimes of its AWSs. For example, if an AWS, with or without authorization, openly attacks a civilian population not directly participating in hostilities, a clear violation of IHL has occurred.[131] Likewise, the mere deployment of an AWS incapable of distinguishing between civilian and military targets would also violate the IHL principle of distinction, regardless of whether it results in an attack on civilians.

The second principle, "proportionality," bars attacks that "may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated."[132] Essential to this principle is the concept of "excessiveness," but there is no uniformly accepted definition

---

123 *See id.* at 683–84.

124 *See id.*

125 Nuclear Weapons Advisory Opinion, *supra* note 121, ¶ 78.

126 *See id.*; *see also* Additional Protocol I, *supra* note 69, art. 51(2).

127 *See* Schmitt & Thurnher, *supra* note 8, at 253; Kastan, *supra* note 8, at 55; Marchant et al., *supra* note 19, at 296.

128 *See* Kastan, *supra* note 8, at 55.

129 *Id.* at 59.

130 *See* Noel Sharkey, *Grounds for Discrimination: Autonomous Robot Weapons*, RUSI DEFENCE SYSTEMS 86, 88 (Oct. 2008).

131 *See* Schmitt & Thurnher, *supra* note 8, at 252.

132 Additional Protocol I, *supra* note 69, art. 51(5)(b).

of the term.[133] It is commonly accepted, however, that excessiveness determinations go beyond mere comparisons between the number of civilian and combatant casualties that result from an attack.[134] Instead, excessiveness is determined on a case-by-case basis, considering the reasonableness of the action in light of its objective and the anticipated collateral damage.[135] The greater the advantage expected to result from a given action, the more collateral damage IHL will tolerate.[136]

The ban on excessive collateral damage could supply a foundation for holding a state strictly liable in the AWS context. The deployment of an AWS lacking the capacity to make the relevant proportionality calculations, for instance, would result in liability if the weapon ultimately creates an excessive amount of civilian casualties. Another fairly easy case would be one in which a technical malfunction prevents a weapon from making the needed collateral damage calculation, and the resulting attack again produces excessive civilian casualties. Likewise, a malfunction that causes the AWS to grossly underestimate the expected collateral damage could result in liability, assuming the correct calculation would deem the damage excessive. Once again, the attack would still need to actually produce the expected damage. The hardest cases will be those that are "close calls." For example, if one accepted algorithm would label a given attack "excessive" but the algorithm employed by the AWS would not, it is not clear which would govern to determine the proper threshold for a violation. These borderline cases notwithstanding, proportionality could still serve as a basis for state liability.

B. Autonomous Weapons and International Human Rights Law

Few scholars have paid much attention to the IHRL implications of AWSs, probably because the most obvious use of these weapon systems will involve armed conflicts. As "[c]ombating terrorism is one of the primary purposes for the employment of armed drones,"[137] however, states will likely employ AWSs

---

133 *See* Schmitt & Thurnher, *supra* note 8, at 254.

134 *See id.* ("[E]xcessiveness is not a matter of counting civilian casualties and comparing them to the number of enemy combatants that have been put out of action.") (internal quotation and citation omitted).

135 *See id.* (observing that the excessiveness calculation "is the product of a case-by-case assessment that is evaluated in terms of its reasonableness given the attendant circumstances").

136 *See id.* ("[T]he greater the reasonably anticipated military advantage likely to accrue from an attack, the more the law of armed conflict will tolerate the expected collateral damage.").

137 McNab & Matthews, *supra* note 113, at 666.

beyond the traditional context of armed conflicts, which could very well implicate IHRL.[138]

IHRL governs any action by a state outside the context of an armed conflict.[139] It "is designed to operate primarily in normal peacetime conditions and . . . between a state and its citizens."[140] It thus applies at minimum within the territorial boundaries of states, requiring states that have signed the relevant treaties to respect their citizens' human rights.[141] The ICJ, moreover, has held that IHRL applies to states' extraterritorial actions,[142] so it could provide a basis for liability in the event of an extraterritorial AWS crime.

---

138 Some scholars have pointed out that counter-terrorism operations outside of a geographically recognized zone of conflict, like the use of drones to target terrorists in Pakistan, may still fall within the scope of IHL. Others have argued that IHRL applies to these situations. *Compare, for example*, McNab & Matthews, *supra* note 113, at 693 ("[I]t is debated whether terroristic activities can rise to the level of a non-international armed conflict. . . . Thus, the legality of the responses carried out by the U.S. and its allies against terrorists . . . remains controversial."), *with* Philip Alston, *Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Study on Targeted Killings*, ¶¶ 51–56, Human Rights Council, U.N. Doc. A/HRC/14/24/Add.6 (May 28, 2010) (arguing that many of the U.S.'s counter-terrorism operations, such as its use of drones in Pakistan, fall outside the scope of an armed conflict); 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, 203–05 (2013) (same); Mary Ellen O'Connell, *Unlawful Killing with Combat Drones: A Case Study of Pakistan, 2004–2009*, 13 (Notre Dame L. Sch., Legal Studies Research Paper No. 09–43, July 2010), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1501144) (same); Robert P. Barnidge, Jr., *A Qualified Defense of American Drone Attacks in Northwest Pakistan Under International Humanitarian Law*, 30 B.U. INT'L L.J. 409, 433–39 (2012) (arguing that these counter-terrorism operations fall within the scope of an armed conflict); Ryan J. Vogel, *Drone Warfare and the Law of Armed Conflict*, 39 DENV. J. INT'L L. & POL'Y 101, 107–13 (2011) (same); Andrew C. Orr, *Unmanned, Unprecedented, and Unresolved: The Status of American Drone Strikes in Pakistan Under International Law*, 44 CORNELL INT'L L.J. 729, 742–45 (2011) (same).

139 *See* McNab & Matthews, *supra* note 113, at 668.

140 Christopher Greenwood, *Historical Development and Legal Basis*, *in* THE HANDBOOK OF HUMANITARIAN LAW IN ARMED CONFLICTS 1, 12 (Dieter Fleck ed., 2d ed. 2008).

141 *See* Oona A. Hathaway et al., *Which Law Governs During Armed Conflict? The Relationship Between International Humanitarian Law and Human Rights Law*, 96 MINN. L. REV. 1883, 1892 (2012).

142 *See* Application of the International Convention on the Elimination of All Forms of Racial Discrimination (Geor. v. Russ. Fed'n), Summary 2008/4, 4 (Oct. 15) (holding that Articles 2 and 5 of the Convention on the Elimination of All Forms of Racial Discrimination, an IHRL treaty, "generally appear to apply, like other provisions of instruments of that nature, to the actions of a State party when it acts beyond its territory"). Overall, it is not clear whether IHRL applies extraterritorially in this way. The general consensus is that IHRL applies: (1) within a ratifying state's boundaries such that it must respect its own citizens' rights and (2) extraterritorially when a state exercises "effective control" over a territory or individual. *See* Hathaway et al., *supra* note 141, at 1892; Oona A. Hathaway et al., *Human Rights Abroad: When Do Human Rights Treaty Obligations Apply Extraterritorially?*, 43 ARIZ. ST. L.J. 389, 395 (2011). The ICJ's decision notwithstanding, it is unclear whether IHRL would apply to the use of AWSs outside the context of armed conflict, but it seems possible.

This body of law originates from a variety of sources.[143] The International Covenant on Civil and Political Rights (ICCPR) is considered the cornerstone of IHRL.[144] This treaty protects a wide range of rights, including the rights to life, privacy, "freedom of thought, conscience, and religion."[145] The Universal Declaration of Human Rights also reflects IHRL, and it is now arguably part of customary international law.[146]

The ICCPR guarantees everyone "the inherent right to life" and warrants that "[n]o one shall be arbitrarily deprived of his life."[147] It also guarantees that "[n]o one shall be deprived of his liberty except on such grounds and in accordance with such procedure as are established by law."[148] Together, these guarantees imply that the state may kill someone outside its custody only if necessary to prevent imminent harm to others.[149] Otherwise, suspected criminals are to be prosecuted.[150] This "law enforcement" model and "its accompanying due process rights" suggest that the use of AWS for targeted killings outside of

---

143 *See* Hathaway et al., *supra* note 141, at 1891–92.

144 *See* William A. Schabas, *Invalid Reservations to the International Covenant on Civil and Political Rights: Is the United States Still A Party?,* 21 BROOK. J. INT'L L. 277, 277 (1995).

145 David Sloss, *The Domestication of International Human Rights: Non-Self-Executing Declarations and Human Rights Treaties*, 24 YALE J. INT'L L. 129, 138 (1999) (citation omitted).

146 *See* Scott L. Porter, *The Universal Declaration of Human Rights: Does It Have Enough Force of Law to Hold "States" Party to the War in Bosnia-Herzegovina Legally Accountable in the International Court of Justice?*, 3 TULSA J. COMP. & INT'L L. 141, 152 (1995); *see also* Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) Notwithstanding Security Council Resolution 276, 1971 I.C.J. 16 (June 21).

147 ICCPR, *supra* note 3, art. 6. *Accord* The Universal Declaration of Human Rights, G.A. Res. 217A, U.N. Doc. A/810, art. 3 (1948) [hereinafter UDHR] ("Everyone has the right to life, liberty and security of person.").

148 ICCPR, *supra* note 3, art. 9. *See also* UDHR, *supra* note 147, art. 10 ("Everyone is entitled in full equality to a fair and public hearing by an independent and impartial tribunal, in the determination of his rights and obligations and of any criminal charge against him.").

149 *See* Richard Murphy & Afsheen John Radsan, *Due Process and Targeted Killing of Terrorists*, 31 CARDOZO L. REV. 405, 408 (2009) ("The human rights model controls law enforcement operations generally, and it permits the state to kill a person not in custody only if necessary to prevent him from posing a threat of death or serious injury to others."); *see also* McNab & Matthews, *supra* note 113, at 672; Carla Crandall, *Ready . . . Fire . . . Aim! A Case for Applying American Due Process Principles Before Engaging in Drone Strikes*, 24 FLA. J. INT'L L. 55, 66 (2012).

150 *See* David Kretzmer, *Targeted Killing of Suspected Terrorists: Extra-Judicial Executions or Legitimate Means of Defence?*, 16 EUR. J. INT'L L. 171, 178 (2005) ("If there is credible evidence that such persons were indeed involved in planning, promoting, aiding and abetting or carrying out terrorist acts they should be afforded a fair trial before a competent and independent court and, if convicted, sentenced by the court to a punishment provided by law."); *see also* Crandall, *supra* note 149, at 66.

armed conflicts would give rise to an action even if the target were a known terrorist.[151]

As such, the ICCPR may support state liability if an AWS is used to perform an extraterritorial killing outside the context of an armed conflict. Were the U.S. to deploy an AWS to assassinate a fugitive, for instance, that action would almost certainly violate IHRL. As with drones,[152] however, it is not clear that every extrajudicial killing by an AWS would necessarily violate international law. For this Comment's purposes, it suffices to recognize that in at least some instances IHRL could provide a basis for liability.

V. STATE ACCOUNTABILITY FOR AUTOMATED WEAPON SYSTEMS' CRIMES

For a state (the offending state or offender) to be held liable for violations of international law committed by its AWSs, there must be an entity, like a court, to which it answers. Additionally, an adversarial party, like the state whose citizens have suffered from the crime (the victim state) or the individual victims themselves, must actually challenge the behavior. Whether the ICJ could provide an effective forum for resolving interstate disputes arising from AWS use, and whether domestic courts could do so for victim-initiated lawsuits, constitute the focus of this section.

A. Accountability in the International Court of Justice

As individual victims will often be too poorly situated to legally confront an offending state,[153] victim states will generally be better suited to bring an action. The most appropriate forum in which they might bring suit is the ICJ.[154]

---

151 Crandall, *supra* note 149, at 66. *See also* McNab & Matthews, *supra* note 113, at 672–73 (arguing that the use of drones for targeted killings "implicate[s] human rights violations" even when no individual is under imminent threat).

152 *See* McNab & Matthews, *supra* note 113, at 693 ("[I]t remains extremely controversial as to whether terrorism triggers law enforcement methods governed by human rights or whether it activates the right to use force in self-defense."); Crandall, *supra* note 149, at 89 ("While various commentators have suggested that . . . [IHRL] can provide legitimacy to deprivations resulting from drone strikes . . . these bodies of law have failed to generate consensus as to the legitimacy of drone killings.").

153 *See* LOSING HUMANITY, *supra* note 6, at 44.

154 Other international bodies also exist for dispute settlement in specific areas, such as the World Trade Organization's Dispute Settlement Body for resolving trade disputes and several international arbitration institutions for settling commercial disagreements. None of these would provide a forum for resolving disputes over AWS crimes, as human rights violations and war crimes fall outside their jurisdiction. The International Criminal Court, meanwhile, only has jurisdiction over individuals, so it could not be used to hold state parties responsible for their AWS crimes. *See* Rome Statute of the International Criminal Court, U.N. Diplomatic Conf. of

As the principal judicial organ of the U.N., one of the ICJ's primary functions is to settle legal disputes between states.[155] Only states may submit contentious cases for ICJ adjudication,[156] and so the Court lacks jurisdiction to deal with applications from individuals, non-governmental organizations, corporations, or private parties. A state may still sue on behalf of its citizens based on a wrong they suffered at another state's hands, but the dispute is considered to be between the states.[157]

The ICJ hears all kinds of interstate legal disputes, with no formal restrictions on its subject-matter jurisdiction.[158] Despite this broad mandate, a few types of cases make up a large portion of the ICJ's docket, with over half of its cases involving boundary disputes.[159] By contrast, it has taken on relatively few human rights cases, and those it has "have been an intermittent and not especially important part of the Court's work."[160] Similarly, the ICJ has only rendered a few decisions that implicate IHL,[161] but a couple of those opinions have had significant implications for IHL.[162] The Court's lack of attention to

---

Plenipotentiaries on the Establishment of an ICC, art. 25, UN Doc. A/CONF. 183/9 (July 17, 1998), *available at* http://www.un.org/en/ga/search/view_doc.asp?symbol=A/CONF.183/9. For a brief explanation of why regional tribunals would likely prove insufficient, see discussion *supra* note 24.

155 *See* Statute of the International Court of Justice, 59 Stat. 1055 (1945), arts. 34–38 [hereinafter ICJ Statute]; *Practical Information: Frequently Asked Questions,* THE INTERNATIONAL COURT OF JUSTICE, http://www.icj-cij.org/information/index.php?p1=7&p2=2 (last visited Nov. 18, 2014) [hereinafter ICJ FAQ]. The Court also issues advisory opinions on legal matters submitted to it. *See* ICJ Statute, *supra*, arts. 65–68.

156 *See* ICJ Statute, *supra* note 155, art. 34.

157 *See generally* ICJ FAQ, *supra* note 155; *see, for example,* Ambatielos Case (Greece v. U.K.), 1953 I.C.J. 10 (May 19); Nottebohm Case (Liech. v. Guat.) (second phase), 1955 I.C.J. 4 (Apr. 6).

158 *See* John R. Crook, *The International Court of Justice and Human Rights*, 1 NW. U. J. INT'L HUM. RTS. 2, 3 (2003); *see also* ICJ Statute, *supra* note 155, art. 38.

159 *See* Crook, *supra* note 158, at 3.

160 *Id.* at 7. *See* Adam M. Smith, Recent Developments, *Good Fences Make Good Neighbors?: The "Wall Decision" and the Troubling Rise of the ICJ as a Human Rights Court*, 18 HARV. HUM. RTS. J. 251, 252 (2005) (noting that the ICJ "does not have such an activist, human rights oriented history"); *see, for example,* Ahmadou Sadio Diallo (Guinea v. Dem. Rep. Congo), 2010 I.C.J. 639 (Nov. 30) (holding that the Democratic Republic of the Congo violated the ICCPR and the African Charter on Human and Peoples' Rights when it unlawfully arrested and detained a Guinean businessman).

161 *See* Stephen M. Schwebel, *The Roles of the Security Council and the International Court of Justice in the Application of International Humanitarian Law*, 27 N.Y.U. J. INT'L. L & POL. 731, 733–46 (1995) (outlining cases that bore on IHL); *see, for example,* Military and Paramilitary Activities in and Against Nicaragua (Nicar. v. U.S.), 1986 I.C.J. 14 (June 27) (holding that the U.S. violated customary international law and various treaties when it trained, armed, and financed rebel forces in Nicaragua).

162 *See* Vincent Chetail, *The Contribution of the International Court of Justice to International Humanitarian Law*, 85 INT'L REV. RED CROSS 235, 235–36 (2003).

IHRL and IHL cases does not, however, affect its jurisdiction over cases brought under them, and so, at least in theory, it could provide a venue for adjudicating cases involving AWS crimes.

Nevertheless, state accountability via the ICJ faces several significant obstacles. The biggest of these is jurisdictional. Membership in the U.N. does not automatically give the Court jurisdiction over a given state. Instead, its jurisdiction is sharply limited to those cases in which both parties have consented to the Court's authority.[163] States can so consent in three different ways. First, both parties can sign an international agreement containing a provision that enables them to refer disputes under that agreement to the ICJ.[164] This mechanism for consent probably will not give the Court jurisdiction over most disputes arising from AWS crimes because the main treaties a state might use to assert an IHL or IHRL violation do not require dispute resolution in the ICJ.[165] As IHL and IHRL constitute the primary bodies of law that will apply to AWS crimes, the failure of these agreements to mandate referral of disputes to the ICJ means that victim and offending states will need to consent in some other way.

Another way a state can consent to ICJ adjudication is to formally accept the Court's jurisdiction as compulsory in the event of a dispute with another U.N. member state. It does this by filing a declaration of consent with the Secretary General.[166] If both the victim and offending state have made such filings, then the Court would have jurisdiction over the case. However, this option will likely prove as fruitless as the first for creating jurisdiction. Roughly two-thirds of the world's countries do not recognize the Court's compulsory jurisdiction,[167] including a few countries that are likely to be major players in the

---

163 *See* ICJ Statute, *supra* note 155, arts. 34–37.

164 *See id.* art. 37.

165 The Hague Convention was ratified in 1907, long before the ICJ's establishment. The Geneva Conventions, as well as Additional Protocol I, contain a recommendation that State parties resolve disputes at the ICJ but do not mandate it. *See* Resolutions of the Diplomatic Conference, Resolution 75 U.N.T.S. 21, 22 (Aug. 12, 1949); *see generally* Geneva Convention Relative to the Protection of Civilian Persons in Time of War, (Aug. 12, 1949), 75 U.N.T.S. 287 (failing to include a provision mandating referral of disputes to the ICJ); Additional Protocol I, *supra* note 69 (same); ICCPR, *supra* note 3 (same); UDHR, *supra* note 147 (same).

166 *See* ICJ Statute, *supra* note 155, art. 36.

167 *See* Andrew Strauss, *Cutting the Gordian Knot: How and Why the United Nations Should Vest the International Court of Justice with Referral Jurisdiction*, 44 CORNELL INT'L L.J. 603, 611 (2011). For the most recent list of states that have recognized the compulsory jurisdiction of the court, see The International Court of Justice, *Declarations Recognizing the Jurisdiction of the Court as Compulsory*, http://www.icj-cij.org/jurisdiction/?p1=5&p2=1&p3=3 (last visited Oct. 13, 2014).

AWS arena (for example, the U.S., China, and Russia).[168] Furthermore, several countries that have used drones (and thus may develop an interest in AWSs) have not filed declarations consenting to the court's authority.[169] Thus, the scope of the Court's compulsory jurisdiction under this option is significantly limited, at least in the AWS context.[170]

The final way to create ICJ jurisdiction is for states to enter a special agreement to submit an existing dispute to the Court,[171] but this mechanism is also unlikely to adequately create jurisdiction in AWS cases. Countries rarely submit their disputes to the ICJ in the first place.[172] In the context of an AWS crime, moreover, the offending state has little incentive to submit to the Court's jurisdiction, as the mere submission of the dispute would create significant adjudication costs, which would grow much more substantial if it loses. Success, meanwhile, would provide the offender with virtually no benefits.

On top of the jurisdictional problem, the ICJ also would not be able to adequately hold offending states responsible because it lacks an enforcement mechanism.[173] This has enabled states to refuse to comply with its orders with impunity.[174] While the U.N. Security Council technically may take action to enforce an ICJ judgment, it has never utilized this power in practice.[175] As such, if the ICJ were to hold an offending state liable, there is no guarantee that any remedy would be realized. In a sense, then, the liability would only be symbolic, which would probably not provide a sufficient incentive for the victim state to bring suit in the first place. Likewise, society's and the victim's need for retribution would likely go unsatisfied, as would the need for criminal law to deter (even if only at the margins).

---

168 *See* THE INTERNATIONAL COURT OF JUSTICE, THE INTERNATIONAL COURT OF JUSTICE HANDBOOK 46 (2004), *available at* http://www.icj-cij.org/information/en/ibleubook.pdf [hereinafter ICJ HANDBOOK].

169 Countries that use drones but have not accepted the court's compulsory jurisdiction include China, France, Iran, Israel, Italy, Russia, Turkey, and the U.S. *See* Simon Rogers, *Drones By Country: Who Has All the UAVs?,* THE GUARDIAN, Aug. 3, 2012, *available at* http://www.theguardian.com/news/datablog/2012/aug/03/drone-stocks-by-country; ICJ HANDBOOK, *supra* note 168, at 46.

170 Even if most states had formally accepted the ICJ's jurisdiction as compulsory, this formal acceptance likely would not do much for generating cases. The Court's compulsory jurisdiction, whether by declaration or treaty, has not done well in terms of compelling *actual* state acceptance of jurisdiction. Indeed, in several of the court's cases, the defendant state simply refused to show up. *See* Mark Weston Janis, *Somber Reflections on the Compulsory Jurisdiction of the International Court*, 81 AM. J. INT'L L. 144, 144 (1987).

171 *See* ICJ Statute, *supra* note 155, art. 36.

172 *See* Strauss, *supra* note 167, at 612.

173 *See* Janis, *supra* note 170, at 144–45.

174 *See id.*

175 *See id.*

Ultimately, the ICJ technically would have subject matter jurisdiction over cases arising out of AWS crimes and could theoretically exert personal jurisdiction over state parties as long as they consent. This possibility will likely remain theoretical, however, as most states have not accepted the Court's compulsory jurisdiction, and offending states have little reason to submit to the ICJ's authority for AWS disputes. In practice, this jurisdictional barrier, coupled with the absence of an enforcement mechanism, makes the ICJ a poor medium for state liability.

B. Accountability in Domestic Courts

While victim states will usually have more resources to bring suit against offending states, individual victims at least in theory might also be able to legally challenge the offending state in a domestic court. But for practical reasons, this option is less than ideal. The people who are likely to suffer from these types of crimes are usually impoverished and often geographically displaced.[176] This mode of accountability would place the burden on them to file an action against the government of the offending state, which likely will have virtually limitless resources at its disposal. In the face of such an opponent, individual victims probably would not take up this burden after already suffering from the initial crime, even assuming they were sophisticated enough to know of their rights. It is possible, however, that some victims would have the resources and resolve to bring a challenge, especially if a non-governmental organization supports them and the offending state is subject to strict liability for its AWS crimes. As such, this subsection addresses the legal viability of an individual action in a domestic court as a mechanism for state accountability.

A victim would first need access to a court in which she could bring suit. She would have a couple of options. First, she might try to bring an action in a foreign court, assuming the relevant court's domestic law allowed for such suits. Unfortunately, few states offer civil remedies for torts committed extraterritorially.[177] Thus, if an American AWS killed a victim in Pakistan in violation of international law, the victim would have trouble finding a foreign court in which to sue. Many states instead allow victims to attach a civil claim to

---

176 *See* LOSING HUMANITY, *supra* note 6, at 44.

177 *See* Beth Stephens, *Translating* Filártiga*: A Comparative and International Law Analysis of Domestic Remedies for International Human Rights Violations*, 27 YALE J. INT'L L. 1, 2–4, 17–18 (2002) (observing that the extraterritorial tort doctrine has largely been restricted to the U.S.). In the past, some U.S. federal courts permitted aliens to file suit for torts committed abroad under the Alien Tort Statute, but the Supreme Court put an end to that practice in 2013. *See generally* Kiobel v. Royal Dutch Petroleum Co., 133 S. Ct. 1659 (2013).

a criminal law prosecution of a crime that occurred abroad.[178] This attachment alternative would not prove adequate for holding *states* liable for AWS crimes, however, as the offending state would not be subject to another state's criminal laws. Overall, then, foreign courts probably do not offer a viable forum in which to hold offending states liable.

A second option would be for the victim to sue the offending state in her own state's courts. For an individual victim to pursue this option, her state's law would need to afford her a cause of action, like a tort, for example.[179] In many states, the mere occurrence of an international crime does not automatically trigger a domestic cause of action,[180] but the harms that will usually result from AWS crimes (death, bodily injury, and property damage) are of a type typically covered by tort law. Thus, in most cases victims will likely have a cause of action to support their claim.[181]

The individual victim pursuing this route faces a much more significant obstacle, however, in the form of sovereign immunity, a doctrine which normally shields states from liability in other states' courts. At first glance, this obstacle does not seem insurmountable. While sovereign immunity was traditionally absolute,[182] many states have created a wide array of exceptions to it,[183] most notably the territorial tort exception. This exception enables plaintiffs of the forum state to sue foreign governments for noncommercial torts that occur within the territory of the forum state.[184] It has grown significantly in

---

178 *See* Stephens, *supra* note 177, at 19 n.62 (noting that many civil law systems such as Austria, Egypt, France, Italy, Mexico, Poland, Romania, Spain, Sweden, and Venezuela follow this approach).

179 *See* Bahareh Mostajelean, Note, *Foreign Alternatives to the Alien Tort Claims Act: The Success (or Is It Failure?) of Bringing Civil Suits Against Multinational Corporations That Commit Human Rights Violations*, 40 GEO. WASH. INT'L L. REV. 497, 512 (2008) ("In both common-law and civil-law domestic systems, civil actions must be based on a claim that is recognized as a violation.").

180 *See* Stephens, *supra* note 177, at 31.

181 Some have expressed reservations about reducing an international crime down to a "garden-variety municipal tort," as doing so could undercompensate the victim or understate the extent of the harm they suffered. *See* Xuncax v. Gramajo, 886 F. Supp. 162, 183 (D. Mass. 1995). This suggests that a typical tort action might not be enough to adequately hold the state responsible for its AWS crimes.

182 *See* Adam C. Belsky, Mark Merva & Naomi Roht-Arriaza, *Implied Waiver Under the FSIA: A Proposed Exception to Immunity for Violations of Peremptory Norms of International Law*, 77 CAL. L. REV. 365, 377–79 (1989).

183 *See* M.P.A. Kindall, *Immunity of States for Noncommercial Torts: A Comparative Analysis of the International Law Commission's Draft*, 75 CAL. L. REV. 1849, 1850–51 (1987).

184 Put formally, this exception allows actions against states that relate to "death or injury to [a] person, or damage to or loss of tangible property, caused by an act or omission which is alleged to be attributable to the State, if the act occurred in whole or in part in the territory of that other State and if the author of the act or omission was present in that territory at the time of the act or

popularity in recent years[185] and could potentially allow for actions relating to AWS crimes, because these international crimes would also likely qualify as domestic torts.

It is not clear, however, that this exception would consistently bar sovereign immunity for AWS crimes on the victim state's soil. The exception has largely been confined to the state's "private" or "management" activities (*acta jure gestionis*), which are typically commercial in nature.[186] By contrast, it has excluded "sovereign" acts (*acta jure imperii*), which are typically public in nature and include military actions.[187] The U.K. and Singapore versions of the territorial tort exception, for example, explicitly exempt acts of foreign armed forces.[188] Likewise, a number of national courts have accorded immunity for public and military actions even when the exception was on the books.[189] In ratifying either the U.N. Convention on Immunities or the European Convention on State Immunity, moreover, several states unequivocally expressed that the territorial tort exception would not apply to the activities of their armed forces.[190]

These factors led the ICJ to conclude in *Jurisdictional Immunities of the State* that the territorial tort exception does not bar states from asserting sovereign immunity in another state's courts for their public acts, including the actions of their military in the course of an armed conflict.[191] On the contrary, it held that customary international law *requires* that "a State be accorded immunity in proceedings for torts allegedly committed on the territory of another State by its armed forces and other organs of State in the course of conducting an armed

---

omission." U.N. Convention on Jurisdictional Immunities of States and Their Property, art. 12, G.A. Res. 59/38, (Dec. 2, 2004) (not yet in force).

185 Many states have adopted their own version of the exception. *See, for example*, State Immunity Act, c. 33, § 6 (1978) (U.K.); State Immunity Act, R.S.C., c. S-18 (1985) (Can.); State Immunity Act of 1985, c. 313, § 7 (1985) (Sing.); Foreign Sovereign Immunity Act of 1981, art. 6 (1981) (S. Afr.). Moreover, twenty-eight states have ratified the U.N. Convention on Immunities, which also includes the exception. *See* U.N. Convention on Immunities, *supra* note 184, art. 12. The Council of Europe has also adopted a convention containing it. *See* European Convention on State Immunity, art. 11, Europ. T.S. 74 – State Immunity, 16 V.1972 (May 16, 1972).

186 Jurisdictional Immunities of the State (Ger. v. It.: Greece Intervening), Judgment, ¶ 64 (Feb. 3, 2012), *available at* http://www.icj-cij.org/docket/files/143/16883.pdf.

187 *Id.* ¶ 68. *See also* Sevrine Knuchel, *State Immunity and the Promise of Jus Cogens*, 9 NW. U. J. INT'L HUM. RTS. 149, 154 (2011).

188 *See* State Immunity Act, c. 33, § 6 (1978) (U.K.); State Immunity Act of 1985, c. 313, § 7 (1985) (Sing.).

189 *See* Jurisdictional Immunities, *supra* note 186, ¶¶ 72–75 (describing decisions of courts in Egypt, Belgium, the Netherlands, Italy, the U.K., Ireland, France, Slovenia, Poland, Brazil, and Germany).

190 *See id.* ¶¶ 67–69 (noting that Belgium, Ireland, Slovenia, Greece, Poland, Norway, and Sweden have declared the territorial tort exception inapplicable to the acts of foreign states' armed forces).

191 *See id.* ¶ 78.

conflict."[192] It further held that immunity applied even if a state's actions violate established international law, rejecting the claim that states lose their immunity when they are "accused of serious violations of international human rights law or the international law of armed conflict."[193]

This ruling suggests that, even if a state's domestic law permits its citizens to sue foreign nations for its public actions in armed conflicts, international law would still bar the action. This likely forecloses victim states' domestic courts as an avenue by which individuals could hold offending states liable for AWS crimes that occur during an armed conflict. The ICJ did, however, explicitly confine its decision to unlawful acts committed "*in the course of conducting an armed conflict.*"[194] This arguably implies that conduct by a state's armed forces outside of an armed conflict would not require a grant of immunity. By extension, domestic courts may still provide an effectual forum for adjudicating AWS crimes that occur outside an armed conflict.

The legal viability of victim states' courts as a mechanism for liability, then, will depend primarily on the context in which AWSs are used. States will undoubtedly use them in the course of recognized armed conflicts, in which case immunity will probably attach for any crimes an AWS commits. On the other hand, if a state uses them outside of a conflict,[195] the territorial tort exception would likely apply, enabling a suit in the victim state. If AWSs, like drones, are used, for instance, to target terrorists outside clear geographical zones of conflict, the applicability of immunity will turn on whether the relevant court characterizes counterterrorism operations as within the scope of an armed conflict. The legal characterization of the context in which an AWS is used will thus determine the efficacy to victims of national courts and private rights of action.

It thus may technically be possible under international law for individual victims to sue offending states in the victim state's domestic courts. This legal possibility, however, will probably not be enough to make victim states' courts an adequate or feasible mechanism for state liability. It is, after all, a sharply confined forum, as victims will only be able to sue when the crime occurs

---

192 *Id.*

193 *Id.* ¶ 91.

194 *Id.* ¶ 65 (emphasis added).

195 For example, if a state uses an AWS to assassinate a fugitive or a political leader in a state with which the offending state is not in a conflict, such use would fall outside the context of an armed conflict.

outside an armed conflict. As AWSs will probably be used most often during armed conflicts, sovereign immunity will probably apply to most cases.[196]

Furthermore, even absent this doctrinal limitation, significant practical obstacles would likely prevent materialization of these suits. In all likelihood, individual victims will seldom have the resources, sophistication, or resolve to bring an action in the first place.[197] For those that might arise, it could prove difficult to compel the offending state to appear in the victim state's court and even more difficult to enforce a judgment against them.[198] Thus, domestic courts probably would prove to be an ineffective accountability mechanism, even if individuals would commonly initiate actions against offending states in this forum. Coupled with the sovereign immunity limitations on such suits, these practical obstacles make domestic courts a poor instrument for holding states responsible for AWS violations.

VI. CONCLUSION

Ultimately, substantial doctrinal and practical obstacles impede the ability of the current international legal regime to hold states accountable for their AWS crimes. The ICJ's compulsory jurisdiction does not extend to many states that may employ AWSs, and most offending states have little incentive to consent to the Court's authority in AWS cases. Aside from this jurisdictional barrier, the ICJ also lacks an enforcement mechanism to ensure compliance with its decisions. Domestic courts, meanwhile, face a significant initial hurdle to the extent that they rely on poorly situated victims to bring suit. Assuming individuals could overcome this barrier, the offending state could still assert sovereign immunity to bar the action if the crime occurred during the course of an armed conflict. For those actions that involve crimes outside of an armed conflict, domestic courts also often lack the ability to enforce their decisions against other states.

---

196 *See* Jurisdictional Immunities, *supra* note 186, ¶ 65. It remains unclear, however, whether the West's campaign against terrorist groups qualifies as an "armed conflict." *See* discussion *supra* note 138 and accompanying text. How courts characterize this campaign will likely prove pivotal if the West seeks to use AWSs against terrorist groups. Should they deem it an "armed conflict," victims probably will not have much success holding offending states accountable for AWS war crimes in the victims' domestic courts. Conversely, if courts characterize the campaign as a law enforcement operation, the likelihood that the territorial tort exception applies increases, opening up domestic courts as a possible accountability forum.

197 *See* LOSING HUMANITY, *supra* note 6, at 44.

198 *See* Kindall, *supra* note 183, at 1862–72 (discussing the problems tort claimants would encounter in enforcing judgments under the ILC's draft proposal on sovereign immunity, which includes a territorial tort exception).

Given the problems with individual accountability, the impracticality of state liability suggests that a responsibility gap will indeed emerge once states begin to employ AWSs.[199] It is a near certainty that some AWSs will violate international law at some point in the future,[200] but "each of the possible candidates for responsibility," including the state, will likely be "inappropriate or impractical," thus "granting [states] impunity for all [AWS] use."[201] As such, there appears to be no mechanism for deterring AWS crimes or for providing "victims with meaningful retributive justice."[202]

These implications lend further support to the claim that AWSs should be preemptively banned,[203] but they do not automatically justify this assertion, especially given the prospective benefits of AWSs to the states that use them.[204] As these weapons will not be developed for several years, the international community has some time to craft an alternative solution to an outright prohibition. One alternative, for instance, might be an international agreement on AWSs. As such a measure could very well emerge in the future,[205] an opportunity could easily arise to develop a sufficient accountability mechanism. For instance, such an agreement could require any states that intend to use AWSs to submit any disputes involving them to the ICJ or some other international tribunal. This would, at least doctrinally, enable victim states to hold offending states responsible for AWS crimes.

Alternatively, states could carve out another exception to sovereign immunity for violations of international law committed by AWSs. Indeed, such an exception might fall within a broader exception some scholars have advocated. Specifically, many have argued that immunity should not apply when a state or its representatives violate a *jus cogens* norm, that is, a recognized international norm from which no derogation is allowed.[206] AWS crimes that

---

199 *See* Heyns, *supra* note 12, ¶ 80; LOSING HUMANITY, *supra* note 6, at 44–45; *see also* Sparrow, *supra* note 5, at 74–75.

200 *See* LOSING HUMANITY, *supra* note 6, at 42; Schmitt & Thurnher, *supra* note 8, at 279.

201 Heyns, *supra* note 12, ¶ 80.

202 LOSING HUMANITY, *supra* note 6, at 45.

203 *See id.* at 1–2, 45. *See generally* Campaign to Stop Killer Robots, *supra* note 12; International Committee for Robot Arms Control, *supra* note 12.

204 *See* discussion *supra* notes 38–45 and accompanying text.

205 *See* Marchant et al., *supra* note 19, at 289–90 (noting that there are already several international conventions that regulate specific forms of weapons technology and that a similar agreement could be formulated for AWSs); Parnell, *supra* note 10, at 1 (observing that the U.N. has agreed to consider a preemptive ban on AWSs during its 2014 term).

206 *See* Knuchel, *supra* note 187, at 175–99 (summarizing the arguments in support of this position); *see, for example*, Lee M. Caplan, *State Immunity, Human Rights, and* Jus Cogens*: A Critique of the Normative Hierarchy Theory*, 97 AM. J. INT'L L. 741, 744 (2003); Maria Ermolaeva, Casenote, *Crimes*

violate these norms would fall under such an exception, enabling individual lawsuits in domestic courts. While the ICJ has explicitly declined to endorse the exception for *jus cogens* violations,[207] that could very well change if states begin to embrace it in the same way they have embraced the territorial tort exception.[208]

While nations with large defense industries might hesitate to accept these solutions, they would be more likely to agree to such a solution than to an outright ban on AWSs, especially if they have concerns that non-state actors or rogue states might still employ these weapons against them. In any event, current international accountability mechanisms generally lack the capacity to effectively hold states responsible for AWS crimes. Some modification to the present system, therefore, needs to occur if we are to solve the accountability problem.

Without Punishment: Smith v. Socialist People's Libyan Arab Jamahiriya, *10 F.3d 279 (2d Cir. 1996)*, 23 S. Ill. U. L.J. 755, 756–57 (1999); Belsky, Merva & Roht-Arriaza, *supra* note 182, at 366.

207 *See* Jurisdictional Immunities, *supra* note 186, ¶ 91.

208 *See id.* ¶ 70 (relying on "State practice" to determine whether the territorial tort exception applies to acts committed by the armed forces).