

International Humanitarian Law and AI-Enabled Weapons Before War Begins

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This Article explores the normative underpinnings of International Humanitarian Law (“IHL”) and their relationship with AI-Enabled weapons. Ultimately, it argues that IHL may benefit from comparing its guiding normative principles with the guiding principles of jus ante bellum, or just preparation for war. To make this comparison, this Article presents six novel guiding principles of jus ante bellum: foreseeability, proportionality, clarity, testing, necessity, and intentionality to assist in guiding the conduct of states in preparation for war. By highlighting the relationship between principles of IHL and principles of jus ante bellum, IHL may have more success in governing warfare in a world of AI-enabled weaponry.

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I. INTRODUCTION

On March 8th, 2021, the United Nations Security Council published a report from the Panel of Experts on Libya alleging an instance where an AI-enabled

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drone acted autonomously during the Libyan Civil War.¹ The report details a case where a Kargu-2 drone engaged in “continual harassment” of retreating soldiers but did not say whether this harassment also included violent engagement.² Though the report did not list any casualties or injuries, this incident raises serious moral concerns about our conduct during warfare.

This is at least in part because of how Kargu-2 works. The Kargu-2 is a loitering munition³ with swarming capabilities that uses AI to classify *and* engage targets.⁴ This means a few things: (1) because of its swarming capabilities, it can jointly engage targets with other Kargu-2 drones and (2) it classifies the targets that it engages using AI—a machine learning⁵ object-recognition algorithm—which cannot always distinguish between combatants and noncombatants.⁶ This inability—even if rare—raises serious moral concerns about using drones like the Kargu-2.⁷

Importantly, however, weapons like the Kargu-2 must be *developed* or *procured* before they are used during wartime.⁸ It is possible that, with more rigorous testing, the incident reported in the Panel of Experts’ report could have been avoided. To avoid future episodes where AI-enabled weapons appear to inflict serious moral wrongs on the battlefield, it is worth considering how to justly prepare for war.

Traditionally, philosophers of war and peace—and just war theorists in particular—have focused on two categories of study: *jus ad bellum* and *jus in bello*.⁹ The former considers what actions, if any, are morally justified when starting war.¹⁰ The latter considers what actions, if any, are morally justified

¹ See Maria Cramer, *A.I. Drone May Have Acted on Its Own in Attacking Fighters, U.N. Says*, N.Y. TIMES, June 3, 2021, at A8 (coverage and analysis of the reported attack).

² See *id.*; Zachary Kallenborn, *Was a Flying Killer Robot Used in Libya? Quite Possibly*, BULL. OF THE ATOMIC SCIENTISTS (May 20, 2021), <https://thebulletin.org/2021/05/was-a-flying-killer-robot-used-in-libya-quite-possibly> [<https://perma.cc/TZ4K-AKBA>].

³ See Evan Beebe, *Loitering Munitions 101: What They Are and Why They Matter*, INST. FOR DEF. & GOV’T ADVANCEMENT (Aug. 22, 2025), <https://www.idga.org/command-and-control/articles/loitering-munitions-101-what-they-are-why-they-matter> [<https://perma.cc/TZ4K-AKBA>] (an explanation of loitering munitions and definition of loitering munitions as: “aerial weapons equipped with some form of built-in warhead”).

⁴ *Id.*

⁵ See Sara Brown, *Machine Learning, Explained*, MIT SLOAN SCH. OF MGMT. (Apr. 21, 2021), <https://mitsloan.mit.edu/ideas-made-to-matter/machine-learning-explained> [<https://perma.cc/465C-8XGH>] (an explanation of machine learning).

⁶ Cramer, *supra* note 1, at A8.

⁷ See Frances Kamm, *Equal Treatment and Equal Chances*, 14 PHIL. & PUB. AFFS. 177, 187–88 (1985) (an argument that killing noncombatants is morally unjustified because it does not treat noncombatants as moral equals).

⁸ Rather than making a substantive assertion, this claim merely makes explicit the syllogism that some agent must either develop or procure the weapon before using it because either: (1) the weapon does not exist or (2) the agent does not possess the weapon.

⁹ See *generally* MICHAEL WALZER, *JUST AND UNJUST WARS: A MORAL ARGUMENT WITH HISTORICAL ILLUSTRATIONS* (4th ed. 2006) (offering a foundational account of modern just war theory).

¹⁰ *Id.* at 21–22.

during war.¹¹ Part of the benefit of this framework is that the moral status of a war's cause and the moral status of actions taken in pursuit of its cause are separate.

By focusing on *only* these two categories of study, however, the moral relevance of our conduct *before* war begins can be obscured. Especially because AI-enabled weapons are changing the way war is fought,¹² it is important to be prepared for potential new conflicts. At the same time, mere preparation should not be used, morally speaking, to justify aggression against other global actors. Some attention is due to *jus ante bellum*—the category of study that considers what actions, if any, in preparation for war.¹³

Recent work surrounding *jus ante bellum* suggests that the philosophically rich just war tradition provides useful guidance for emerging issues related to the development and use of AI-enabled weapon systems.¹⁴ Unfortunately, however, no scholar has yet explained what the moral principles underlying *jus ante bellum* are. This can lead to (1) conceptual unclarity about *how* to justly prepare for war and (2) more importantly, *why* some practices or policies are morally (un)justified.

This Article has two aims. The first is to explain six underlying moral principles of *jus ante bellum*: foreseeability, proportionality, clarity, testing, necessity, and intentionality. The second is to show that *jus ante bellum* can also provide useful guidance for International Humanitarian Law. In pursuit of these aims, the remainder of the Article is structured as follows: Section II explains what the moral principles that guide *jus ante bellum* are. Then, Section III (1) shows how current principles of IHL are both similar and dissimilar to the principles of *jus ante bellum* and (2) argues that IHL's justification for governing AI-enabled weapons *during war* might depend, at least in part, on its justification for how those weapons are prepared for use in war. Afterwards, Section IV suggests a few plausible avenues for current IHL to more closely track the moral requirements of *jus ante bellum*. Lastly, Section V concludes and briefly summarizes the Article's thesis.

II. *JUS ANTE BELLUM* AND AI-ENABLED WEAPONS

The purpose of this section is to clarify the moral demands of *jus ante bellum* by identifying its guiding moral principles. Before doing so, however, it is important to explain some of the key terms and limit the scope for the rest of the Article.

¹¹ *Id.* at 21, 25.

¹² Kristian Humble, *War, Artificial Intelligence, and the Future of Conflict*, GEO. J. INT'L AFFS. (July 12, 2024), <https://gjia.georgetown.edu/2024/07/12/war-artificial-intelligence-and-the-future-of-conflict> [https://perma.cc/4K55-HRQF].

¹³ See Mitt Regan & Jovana Davidovic, *Just Preparation for War and AI-Enabled Weapons*, 6 FRONT. BIG DATA 1, 1–3 (2023) (an argument that just war theory provides a valuable framework for assessing contemporary issues in weapons development).

¹⁴ *Id.* at 2.

First, this Article will focus on AI-enabled weapons systems, not lethal autonomous weapons systems (“LAWS”). The former refers to any weapon (system) that uses AI to enhance it or make it functional.¹⁵ The latter refers to any weapon (system) that can identify and engage targets without human intervention.¹⁶ Sometimes AI-enabled weapons are included in LAWS, but the presence of AI-enabled weapons is neither a necessary, nor a sufficient condition for LAWS.¹⁷ Next, “demands of *jus ante bellum*,” picks out moral *requirements* before war begins.¹⁸ Of course, there are other actions that are also praiseworthy or blameworthy under the purview of *jus ante bellum*,¹⁹ but the focus here shall be only on what the moral *requirements* are. Lastly, I leave open here *who* bears the burden of meeting the demands of *jus ante bellum* when developing AI-enabled weapons. As some philosophers have noted, it is not always obvious which agent(s) have which *specific* obligation(s) when developing AI-enabled weapons.²⁰

A. Motivating Principles of *Jus Ante Bellum*

It is important to avoid situations in which actors prepare for war in an unnecessarily threatening manner.²¹ When actors prepare for war aggressively, other actors may use this unnecessarily threatening preparation as moral justification to develop their own threatening programs. Consider the Cold War, for instance. The United States and the USSR notoriously engaged in public displays of new weaponry as a means of intimidation and to signal readiness for potential conflict.²² While direct violent conflict between the two nations never occurred, persistent acts of intimidation raised widespread concerns that a full-

¹⁵ See *id.* at 1 (a definition of AI-enabled weapons as: “weapons that utilize artificial intelligence and machine-learning models in the targeting process, which may include tasks such as object recognition, target identification, or decision-support”).

¹⁶ See Benjamin Perrin & Masoud Zamani, *The Future of Warfare: National Positions on the Governance of Lethal Autonomous Weapons Systems*, LIEBER INST. W. POINT (Feb. 11, 2025), <https://lieber.westpoint.edu/future-warfare-national-positions-governance-lethal-autonomous-weapons-systems> [<https://perma.cc/2DDU-NDLY>] (an acknowledgement that there is no legally agreed upon definition for LAWS, but a tentative definition as: “weapons systems that, once activated, ‘select targets and apply force without human intervention.’” (internal citation omitted)).

¹⁷ Although, at present, there is no commonly agreed upon definition for LAWS, hence the focus on AI-enabled weapons and not LAWS. See Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons System, *Non-exhaustive Compilation of Definitions and Characterizations*, CCW/GGE.1/2023/CRP.1 (March 10, 2023) (U.N. document summarizing states’ varied definitions of LAWS).

¹⁸ Regan & Davidovic, *supra* note 13, at 1.

¹⁹ See, e.g., STEPHEN NATHANSON, *TERRORISM AND THE ETHICS OF WAR* 125–32 (2010) (a discussion of the moral permissibility and obligation of some actions during wartime, according to various views).

²⁰ See, e.g., Sven Nyholm, *Attributing Agency to Automated Systems: Reflections on Human-Robot Collaborations and Responsibility-Loci*, 24 SCI. & ENG’G ETHICS 1201, 1202 (2018) (an explanation of the responsibility gap for AI-enabled technologies).

²¹ Regan & Davidovic, *supra* note 13, at 2–3.

²² See generally RONALD E. POWASKI, *MARCH TO ARMAGEDDON: THE UNITED STATES AND THE NUCLEAR ARMS RACE, 1939 TO THE PRESENT*, at 228 (1987) (a historical account of US-Soviet relations during the Cold War).

scale nuclear confrontation could ensue.²³ Accordingly, the mere preparation for war can be viewed by others as threatening and could have ultimately escalated to acts of war.²⁴

Given that some preparatory actions can be viewed as threatening, caution is warranted regarding what actions should be undertaken when preparing for war. Even if the intention is not to threaten, a potential adversary might perceive those actions as aggressive, potentially prompting their own preparations for armed conflict. By justly preparing for war, it is possible to avoid unintentionally provoking other states while still preparing for foreseeable conflict. In this way, meeting the demands of *jus ante bellum* can assist in meeting the demands of *jus ad bellum* by helping to prevent the unintentional *initiation* of hostilities.

While the foregoing highlighted how just preparation for war may support compliance with the demands of *jus ad bellum*, just preparation for war can also assist in meeting the requirements of *jus in bello*. What *jus in bello* demands from combatants during warfare is debated by just war theorists.²⁵ Still, considerations of *jus in bello* are tightly wound up in IHL because of their importance during international armed conflict.²⁶ The 1949 Geneva Conventions, for example, outline protections for prisoners of war.²⁷ Though a lot of historical context surrounds the origins of the Geneva Conventions,²⁸ part of the reason why so many countries wanted to agree on what was *impermissible* during wartime was to also determine what acts taken during war might be morally and legally *permissible*.²⁹ The legal codification of these rules of conduct reflects a recognition among state actors of their moral obligations during warfare.³⁰

²³ *Id.* at 62.

²⁴ *Id.*

²⁵ See generally JEFF MCMAHAN, *KILLING IN WAR* vii (2009) (a revisionary account of the ethics of killing in war); see also David Rodin, *The Moral Inequality of Soldiers: Why Jus in Bello Asymmetry is Half Right*, in JUST AND UNJUST WARRIORS: THE MORAL AND LEGAL STATUS OF SOLDIERS 44, 44–68 (David Rodin & Henry Shue eds., 2008) (a defense of the view that there is a morally relevant difference between killing combatants fighting for a just cause and combatants fighting for an unjust cause).

²⁶ See, e.g., Steven Freeland, *The Applicability of the Jus in Bello Rules of International Humanitarian Law to The Use of Outer Space*, 57 INT'L ASTRONAUTICAL CONG. 1, 1 (2006) (an example of how *jus in bello* informs IHL on an important international issue).

²⁷ See generally JEAN S. PICTET, INT'L COMM. OF THE RED CROSS, COMMENTARY, GENEVA CONVENTION RELATIVE TO THE TREATMENT OF PRISONERS OF WAR (Jean S. Pictet ed., 1952) (commentary on protections afforded to prisoners of war by the Geneva Conventions of 1949).

²⁸ See Geoffrey Best, *The Geneva Conventions: Past Present and Future*, 119 ROYAL UNITED SERVS. INST. FOR DEF. STUD. 22, 22 (1974) (a historical explanation of how the Geneva Conventions came to fruition).

²⁹ *Id.* at 23.

³⁰ *Id.* at 22.

Further, part of why *pre-war* training is important is because it ensures that combatants on both sides meet their moral obligations during war.³¹ The benefit is twofold: (1) in preparing combatants for war, they become competent users of lethal force³² and (2) it also precludes the ‘following orders’ excuse for morally blameworthy conduct.³³ For (1), when soldiers know how to properly handle weapons, the risk of mishandling or misusing a weapon decreases.³⁴ For (2), pre-war training also informs combatants of their moral obligations before war begins. If a soldier has knowledge of their moral obligations to other combatants before a conflict begins, then they cannot claim their failure to satisfy the requirements of their obligations during war was due to an unawareness of what was (morally) required of them.³⁵

B. *Principles of Jus Ante Bellum*

Having established the value of a careful analysis of *jus ante bellum* in guiding conduct prior to the onset of war, the remainder of this section proposes six moral principles that undergird *jus ante bellum*: foreseeability, proportionality, clarity, testing, necessity, and intentionality. These principles are to be understood as individually necessary and jointly sufficient for an action to be *morally* justified in preparation for war. However, the relative importance and applicability of each condition may vary depending on the facts of a particular case.³⁶ To date, just war theorists have not articulated a set of guiding principles for *jus ante bellum*. The principles outlined above, and explained below, are therefore offered as a novel proposal for the moral foundations of *jus ante bellum*.

Moreover, these moral principles guiding just preparation for war should not be taken as principles *only* for guiding the development of AI-enabled weapons. They guide the entirety of *jus ante bellum*, not just in the case of AI-enabled weapons. However, as will soon be discussed, some of the requirements of *jus*

³¹ See, e.g., Regan & Davidovic, *supra* note 13, at 3.

³² See, e.g., Hasnady Alim et al., *From Military Training to Cognitive Readiness: The Role of Military Leader*, 15 INT’L J. ACAD. RSCH. BUS. & SOC. SCIS. 650, 655–56 (2025) (an empirical study on the effects of cognitive training in the Malaysian Army that found that soldiers who are better trained perform better in complex environments like the battlefield).

³³ See Jeff McMahan, *Innocence, Self-Defense and Killing in War*, 2 J. POL. PHIL. 193 (1994) (an explanation and rejection of the following orders excuse for morally blameworthy conduct in war); see also Alexander A. Guerrero, *Don’t Know, Don’t Kill: Moral Ignorance, Culpability, and Caution*, 136 PHIL. STUD. 59, 66–68 (2007) (an argument that ignorance of moral obligations does not excuse morally blameworthy conduct).

³⁴ Cf. Oleg Fedorovich et al., *Modeling of Supply Logistics and Training of Military Personnel for the Successful Use of Weapons in a Combat Area*, 3 RADIOELECTRONIC & COMPUT. SYS. 33, 41 (2022) (a multivariate analysis of the effectiveness of training of military personnel).

³⁵ See McMahan, *supra* note 33, at 73 (an argument that knowledge of one’s special moral obligations provides additional reason to comply with those obligations); but see Yitzhak Benbaji, *The Moral Power of Soldiers to Undertake the Duty of Obedience*, 122 ETHICS 43, 47–49 (2011) (an attempt to show how soldiers have a role-based duty to follow orders of their commander under a contractarian ethical framework); see also Guerrero, *supra* note 33, at 66 (a “template” of a view that one can remain morally culpable for their ignorance).

³⁶ Fedorovich et al., *supra* note 34, at 33.

ante bellum are especially important when considering cases of AI-enabled weapons.³⁷ Accordingly, the first moral principle of *jus ante bellum*, foreseeability, is now introduced and defended.

C. Foreseeability

Weaponry for war should be developed for use in a foreseeable conflict and in response to a specific threat.

A “foreseeable conflict” may be understood as a conflict between two global actors that is reasonably anticipated based on a history of aggressive actions. Without making robust claims about what qualifies as “reasonable,” the point here is that past aggression can serve as a reasonable indicator of future hostility.³⁸ For example, knowledge of pre-February 2022 hostilities between Russia and Ukraine could have supported a reasonable anticipation of armed conflict between the two nations.³⁹

The foreseeability condition also requires that weapons developed for use in war be prepared in response to a *specific threat* and not a general threat. A general threat is any possible harm that could affect an actor in a broad or unspecific way. Some hypothetical examples might include “Terrorism” or “Communism.” A specific threat, on the other hand, refers to a particular and (sometimes) urgent danger to an actor. Hypothetical examples may include “Russia’s AI-enabled weapon” or “Israel’s mobilization of forces in the West Bank.”

These distinctions are significant because the limited availability of information between actors can make it difficult to reasonably foresee some threats.⁴⁰ It is not necessary, however, to possess complete information for a threat to count as foreseeable, but a sufficient degree of understanding is required by the standard of reasonability. For instance, the development of new weapons in response to a general threat like “Communism” would not meet this (moral) standard because the object of the threat is ill-defined. Mere foreseeability, however, is not enough to guide *jus ante bellum*. The next moral principle, proportionality, will address this further.

D. Proportionality

A weapon developed for used in war should be both (1) proportionate to the anticipated threat and (2) proportionate in cost.

³⁷ See discussion *infra* Section II.F.

³⁸ Håvard Hegre, Håvard Møkleiv Nygård & Peder Landsverk, *Can We Predict Armed Conflict? How the First 9 Years of Published Forecasts Stand Up to Reality*, 65 INT’L STUD. Q. 660, 660 (2021) (a prediction model for armed conflicts within states using previous instances of armed conflict to predict future conflict).

³⁹ See Andrew E. Kramer, *Russian Troop Movements and Talk of Intervention Cause Jitters in Ukraine*, N.Y. TIMES, Apr. 9, 2021, at A7.

⁴⁰ Regan & Davidovic, *supra* note 13, at 2.

As with most traditional accounts of *jus ad bellum* and *jus in bello* conflict, weapons developed in preparation for war should conform to some proportionality constraint.⁴¹ While it may appear intuitive that governments will pragmatically allocate greater resources to more pressing concerns, this principle targets a more specific issue. It addresses instances in which disproportionate investments—whether in time, funding, or infrastructure—result in the development of weapons so advanced or expansive that they increase the likelihood of being perceived by adversaries as acts of aggression.

For any account of *jus ante bellum*, proportionality has two faces: *anticipatory proportionality* and *cost proportionality*. Anticipatory proportionality compares the threatening capabilities of a weapon being developed for use in war to the anticipated threat that the weapon is being developed for. Anticipatory proportionality requires that a weapon developed for use in war not be disproportionately threatening to counter the anticipated threat. Cost proportionality, on the other hand, compares the severity of the anticipated threat with the cost required to vanquish that threat. It requires that a weapon developed for use in war not be disproportionate in cost relative to the amount required to vanquish the anticipated threat. As was the case with anticipatory proportionality, this disproportionality can be in both excess and deficit (i.e., wasteful spending and insufficient spending, respectively). For *jus ante bellum*, cost proportionality is especially salient in cases where other technologies, programs, or enterprises, might have yielded a greater benefit for their financiers relative to the allocated funds.

E. Clarity

The intended function of a weapon ought to be clear, or at least explainable, to its user.

As used here, the term “intended function” of a weapon, refers to both (1) how and (2) when a weapon should be used. Attention to both dimensions is important, as they help mitigate the risk of unintended consequences arising from the misuse of weapons developed in preparation for warfare. In the case of AI-enabled weapons, the phrase “at least explainable” in this criterion does not require that the underlying algorithm be fully transparent or explainable. Instead, all this criterion requires is that the user of an AI-enabled weapon understands how and when the weapon should be used. Additionally, if the developer of the weapon intended for use in war can show the anticipated enemy that they have taken necessary precautions to limit *jus in bello* violations (e.g., misfiring resulting in the deaths of illegitimate targets),⁴² the enemy gains some reassurance in that the developer or user of the weapon does not intend any blatant violations of *jus in bello* principles between the two parties.

⁴¹ Walzer, *supra* note 9, at 128.

⁴² See Paola Gaeta, *Who Acts When Autonomous Weapons Strike? The Act Requirement for Individual Criminal Responsibility and State Responsibility*, 21 J. INT'L CRIM. JUST. 1033, 1035–41 (2024) (arguing that AI-enabled weapons carry serious risks of accidentally attacking civilians).

The clarity condition does not require that all information about a weapon's development be made available to the public or even to all individuals involved in its use. Such a requirement would be overly demanding and would go beyond the intended purpose of the clarity criterion. Instead, the essential claim is that the intended function of the weapon should be clear to those tasked with operating it. For example, a soldier need not understand the internal mechanics of her rifle or the strategic rationale for its production; however, she should understand that its intended use is to discharge a bullet capable of seriously wounding or killing an enemy combatant. This interpretation of the clarity condition both avoids excessive demands and preserves the capacity of states to develop weapons in preparation for conflict, while minimizing the risk of appearing unnecessarily aggressive to other actors.

F. *Testing*

A weapon or weapon system should be tested to ensure that it is (1) safe to use and (2) reliable in its function.

The testing condition requires that a weapon is both safe to use and reliable in its functioning. The amount of testing need not apply equally to every circumstance.⁴³ Moreover, the principle does not require that a weapon intended for use in war must undergo a specific number of testing rounds to ensure its safety and reliability. This would not be sufficiently sensitive to vast technological differences between weapons. Rather, the position advanced here is generally that due care should be exercised in the design and production of weapons used in wartime. This is just to say that, when testing a weapon, it is morally impermissible to under-examine its safety and reliability by: (1) rushing testing due to administrative pressure,⁴⁴ (2) not verifying their testing through an external examination,⁴⁵ (3) verifying an unreliable weapon, or (4) feeding an algorithm inaccurate or incomplete data in cases of autonomous weapon development.⁴⁶ This list is, of course, not exhaustive, but contains only a few examples of how morally salient actors might violate this criterion.

Only when the weapon that has been developed is reasonably believed on the part of the morally salient actor to be (1) safe in its use for the user and (2) reliable in its function, can a weapon, should it be used in war, be considered justly prepared for use in war. Importantly, the testing principle requires that the weapon works as intended *before* distributing it for widespread use. Moreover, if the weapon's function is altered in any significant way, this change should be communicated to its intended users.

⁴³ AI-enabled weaponry, for example, may require more testing than legacy weapons. See Regan & Davidovic, *supra* note 13, at 3.

⁴⁴ See, e.g., Bethan McKernan & Harry Davies, 'The Machine did it Coldly': Israel used AI to Identify 37,000 Hamas Targets, GUARDIAN (Apr. 3, 2024, at 09:53 ET), <https://www.theguardian.com/world/2024/apr/03/israel-gaza-ai-database-hamas-airstrikes> [<https://perma.cc/6JHZ-2VMX>].

⁴⁵ *Id.*

⁴⁶ *Id.*

G. *Necessity*

Any weapon developed for use in war ought to be developed because all other reasonable alternatives would fail to fulfill the intended purpose of the weapon.

All weapons developed for use in war should only be developed if all other reasonable alternatives would fail to meet some goal.⁴⁷ Moreover, as was the case with proportionality, necessity factions into *anticipatory necessity* and *cost necessity*. Anticipatory necessity concerns developing only weapons that are necessary to respond to an adversary. For example, if there is a foreseeable threat of a submarine striking one ship, requiring the construction of anti-submarine technology on *all* ships is unnecessary to vanquish that threat.

Cost necessity, on the other hand, concerns using only necessary costs to construct a weapon, such that its cost morally justifiable to its financiers (e.g., taxpayers). For instance: if a net can successfully vanquish an airborne threat, it is not costly necessary to develop a new anti-aircraft missile system. More broadly: if a technology already exists that will successfully vanquish a threat, and the use of that technology is less costly than developing a new technology, then we should prefer the existing technology. For this reason, the condition of necessity may be used to decide between two options when, in both cases, the anticipated threat is foreseeable, and the response is proportionally appropriate.

Apart from the fact that this view assumes that there are some acts of war that can, in fact, be (un)justified, the condition of necessity will also forbid a morally salient actor from developing wildly disproportionate or unnecessary weapons for the sake of deterring other countries from developing their own weapons. If, however, there are two options to counter a foreseeable threat in which are both options are proportionate in harm and cost, then the option that uses either fewer resources in development or has the least anticipated violent response in its usage should be preferred.

H. *Intentionality*

A weapon or weapons system should not be developed with the intention to violate the demands of *jus ad bellum* or *jus in bello*.

Lastly, the intentionality condition demands that we should not develop weapons with plans to use them to violate the demands of *jus ad bellum* or *jus in bello*. Moreover, while I am focused here on weapons research and development, the condition of intentionality could also apply to the procurement of a weapon. For instance, if data collected by advertisers was purchased by a country's military to coordinate an unnecessary or disproportionate attack, they will have also violated the condition of intentionality.

Assuming that a weapon has been properly tested and developed in accordance with criteria of foreseeability and proportionality, the intended use

⁴⁷ This reflects some philosophers' views that necessity is a moral requirement of *jus in bello*. See, e.g., Alexander Blanchard & Mariarosaria Taddeo, *Jus in Bello Necessity, The Requirement of Minimal Force, and Autonomous Weapons Systems*, 21 J. MIL. ETHICS 286, 289–98 (2022) (an explanation of the necessity condition for *jus in bello* and an application to autonomous weapons systems).

of the weapon is still important because, ultimately, if an armed conflict is foreseeable, the development of technology in preparation for use in war should not violate the demands of *jus in bello*⁴⁸ or *jus ad bellum*.⁴⁹ It is perhaps the case that, in some instances, the condition of intentionality works with the condition of clarity insofar as they both judge the *function* of any weapon developed for use in war. The condition of intentionality, however, goes a step further. While the condition of clarity calls for understanding of a weapon's intended function, intentionality asks if the intended function or intended use is likely to result in violations of *jus in bello*.

This section introduced six principles of *jus ante bellum* to guide our conduct before war begins: foreseeability, proportionality, clarity, testing, necessity, and intentionality. These principles are grounded in the shared desire of morally salient agents to meet the demands of *jus ad bellum* and *jus in bello*. These conditions were not introduced merely to provide an unrealistic list of supposed moral obligations without considering how morally salient agents interact in a non-ideal world. Instead, these conditions can (and are) useful for guiding our conduct before war begins. The following section will compare some of the guiding principles of IHL and *jus ante bellum* to identify some of the shared normative commitments and implied obligations of IHL and *jus ante bellum*.

III. INTERNATIONAL HUMANITARIAN LAW TODAY

So far, the analysis has focused on principles of *jus ante bellum*. In this section, these principles will be compared and contrasted with the guiding moral principles from IHL. Here, the focus shifts to the IHL principles of Humanity and Necessity.⁵⁰ Moreover, the particular principles discussed below are normatively salient because “[t]he balance between humanity and necessity underlies and informs the entire normative framework of IHL.”⁵¹ If this is true, and the goal of this Article remains to propose principles of *jus ante bellum* to guide the normative project of IHL, then focusing on the principles of Humanity and Necessity are at the very least an apt starting place for exploring how the normative projects of *jus ante bellum* and IHL interact. Moreover, examining the humanity and necessity principles of IHL can help illustrate some of the similarities and differences with the principles of *jus ante bellum* outlined above.

⁴⁸ It is difficult to provide a comprehensive account of the demands of *jus ad bellum* and *jus in bello* at least in part because they are focused on different questions and in part because their relationship is not always clear. See generally Frédéric Mégret, *Jus ad Bellum and Jus in Bello*, 100 AM. SOC'Y INT'L LAW 121, 121–23 (2006) (an exegesis of the relationship between *jus ad bellum* and *jus in bello*); see also McMahan, *supra* note 33, at 15 (a brief discussion of various conflicting views about the ethics of killing in war).

⁴⁹ Mégret, *supra* note 48, at 122.

⁵⁰ See generally INT'L COMM. OF THE RED CROSS, THE PRINCIPLES OF HUMANITY AND NECESSITY (Mar. 2023), https://www.icrc.org/sites/default/files/wysiwyg/war-and-law/02_humanity_and_necessity-0.pdf [<https://perma.cc/G3X9-TELX>] (an explanation of the IHL principles of Humanity and Necessity).

⁵¹ *Id.*

As was the case for the principles of *jus ante bellum*, each principle will be introduced before a discussion of its requirements. In this case, however, the discussion will focus on the similarities and differences between principles of *jus ante bellum*. Of course, for each of these principles, there is an obvious difference that principles of IHL generally only apply to conduct after war starts,⁵² whereas principles of *jus ante bellum* are posited to guide action before war begins.⁵³ Nonetheless, it's helpful to clarify what the normative goals of each of these principles are if considering *jus ante bellum* can serve as a helpful guide (or addendum to) to the principles undergirding IHL.⁵⁴

A. Humanity

Unnecessary suffering caused by inhumane treatment is impermissible.⁵⁵

In many ways, it is difficult to compare the normative goals of the Humanity principle of IHL⁵⁶ with the normative goals of the principles of *jus ante bellum*.⁵⁷ This is because many principles of *jus ante bellum* all capture some normatively salient part of the Humanity principle. For example, preventing unnecessary suffering might, in some cases, be captured by the principle of proportionality (and specifically anticipatory proportionality). In others, preventing unnecessary suffering could be captured by the principle of intentionality. This is all to say that the normative goal underlying the Humanity principle is captured, in some way or another, by the principles of *jus ante bellum*: we should prevent unnecessary suffering.

This said, there are some key differences between the humanity principle and the principles of *jus ante bellum*. Most notably, the Humanity principle is motivated by a “respect for the human being.”⁵⁸ It thereby appeals to the normative notion of dignity. Violations of this principle are, in a sense, morally wrong because violations of the Humanity principle do not take seriously the dignity of individual persons (e.g., not supplying prisoners of war sufficient medical care or hygienic resources).⁵⁹ However, the principles of *jus ante bellum*, at least as explained above, appeal more broadly to mitigating risk in preparing for war. As a result, the value of human life may sometimes be forfeited in pursuit of a more widespread reduction in the risk of starting war, whereas for the Humanity principle, the protection of persons is itself the starting point and guiding aim.

⁵² *Id.* at 2.

⁵³ See Asaf Lubin, *Technology and the Law of Jus Ante Bellum*, 26 CHI. J. INT'L L. 339, 341 (2025).

⁵⁴ *Id.*

⁵⁵ INT'L COMM. OF THE RED CROSS, *supra* note 50.

⁵⁶ *Id.*

⁵⁷ Lubin, *supra* note 53, at 59.

⁵⁸ INT'L COMM. OF THE RED CROSS, *supra* note 50.

⁵⁹ *Id.*; Ginevra Le Moli, *Human Dignity in International Humanitarian Law*, in HUMAN DIGNITY IN INTERNATIONAL LAW 173, 182–88 (2021) (an argument that human dignity is a moral right that grounds legal rights guaranteed by IHL).

B. *Necessity*

Only methods or actions necessary to achieve a legitimate military objective are permissible in war.⁶⁰

In many ways, the Necessity principle of IHL closely parallels the intentionality principle of *jus ante bellum*. The Necessity principle of IHL requires that only actions required to weaken the enemy's military capabilities are permitted actions, and even then, only if these actions are permitted by other guiding principles of IHL (e.g., Humanity). This structural similarity reveals a shared normative commitment across both frameworks: that the use of force, whether in preparing for war or in conducting it, must be disciplined by purpose and bounded by law. Just as the intentionality principle prevents the development or deployment of weapons for inherently unjust or unlawful ends, the Necessity principle of IHL limits wartime conduct to acts that are militarily justifiable and legally constrained.

When considering the differences between the demands of the Necessity principle of IHL and the demands of *jus ante bellum*, it is important to consider what counts as a legitimate military objective. The account of *jus ante bellum* that has so far been defended doesn't say much about what counts as a legitimate military objective, save for the foreseeability condition which distinguishes between general and specific threats. As was the case with the humanity condition, however, the necessity condition is posited only to guide our conduct during wartime. The principles of *jus ante bellum*, of course, are concerned with guiding our conduct before war begins,⁶¹ even if the reason for this guidance is because we hope to satisfy the demands of *jus ad bellum* or *jus in bello*.

The discussion above illuminated that there remain some important normative issues about *preparation* for war that principles governing conduct only *during* wartime miss out on. In the context of AI-enabled weaponry, for example, if the guiding normative principles of IHL focus strictly on how humans might suffer unnecessarily because an AI-enabled weapon system acted autonomously (as was the case with the Kargu-2 drone),⁶² then those principles might fail to guide normatively relevant action before war begins (e.g., failing to satisfy the testing condition of *jus ante bellum*). However, as demonstrated at the start of the previous section, even if IHL is focused strictly on *jus in bello*-related concerns, this still provides strong reason to consider the moral justification of our conduct before war begins.

This section examined how the normative aims of International Humanitarian Law—particularly its principles of Humanity and Necessity—both align with and diverge from the normative aims of *jus ante bellum* discussed in the previous section. Because the principles of IHL focus exclusively on conduct during wartime, they may overlook a crucial aspect of the moral landscape. Namely, the principles of IHL may miss out on important

⁶⁰ INT'L COMM. OF THE RED CROSS, *supra* note 50.

⁶¹ Lubin, *supra* note 53, at 4.

⁶² Cramer, *supra* note 1, at A8.

moral implications of developing weapons for use in war prior to the outbreak of hostilities.

IV. LOOKING FORWARD

The previous section considered IHL principles of humanity and necessity. It concluded that modern IHL should consider principles of *jus ante bellum* as helpful in guiding future policy decisions. This section will consider a few ways IHL might try to implement the principles of *jus ante bellum* into its regime and briefly notes a few challenges posed to this implementation by the emergence of AI-enabled weapons and weapons systems.

One solution is to aim for more expansive arms control agreements to include new classes of weapons like AI-enabled weapons.⁶³ Such an agreement might prohibit the development or sale of weapons that violate the principles of *jus ante bellum*. In this sense, we might limit some *kinds* of AI-enabled weapons as legally impermissible to develop.⁶⁴ Alternatively, we could apply existing IHL to the development of AI-enabled weaponry. As Vincent Boulanin notes, Article 36, Additional Protocol I of the Geneva Conventions (1949) already requires states to legally review weapons being developed, acquired, or adopted to ensure that their use does not violate IHL.⁶⁵ States that have ratified Additional Protocol I, however, vary in what their legal reviews include.⁶⁶ Providing more guidance to these states—guidance that tracks the criteria presented above—may promote international collaboration between states regarding the development of AI-enabled weaponry and lessen the risks of unintentional aggressive behavior between global actors.⁶⁷

No specific claim is made here regarding which of the aforementioned proposals ought to be adopted. Rather, the purpose is to present several potential pathways for integrating the rules of *jus ante bellum* into an international legal regime. This serves to demonstrate that such integration is not an unrealistic project, even if moral requirements may, at times, be demanding.⁶⁸ The proportionality condition (of *jus ante bellum*), for example, might be much more difficult for morally salient actors to satisfy in cases involving drones. This is because weapons like drones—whether they be man-operated or completely autonomous—have the capacity to gather intelligence or airstrike a target

⁶³ See generally Matthijs M. Maas, *How Viable is International Arms Control for Military Artificial Intelligence? Three Lessons from Nuclear Weapons*, 40 CONTEMP. SEC. POL'Y, 285 (2019) (a discussion of some of the potential opportunities and costs of arms control agreements for AI-enabled weapons).

⁶⁴ *Id.*

⁶⁵ Vincent Boulanin, *Implementing Article 36 Weapon Reviews in the Light of Increasing Autonomy in Weapon Systems*, STOCKHOLM INT'L PEACE RSCH. INST., Nov. 2015, at 2.

⁶⁶ *Id.*

⁶⁷ Boulanin also notes that these reviews are often quite costly. Given this, there is a “strong incentive” for countries to strengthen their international collaboration, if they seek to avoid violating IHL. *Id.* at 1.

⁶⁸ See generally LISA TESSMAN, MORAL FAILURE: ON THE IMPOSSIBLE DEMANDS OF MORALITY (2015) (an explanation that moral requirements can be very demanding and that they often go unmet).

without directly risking any human lives.⁶⁹ Drones gained their prominence during the Obama administration's frequent use in Pakistan because: "[d]rones offer a cheap alternative to sending ground forces into Pakistani tribal areas. Such a move would cause heavy casualties among the local population, as well as destabilising the Pakistani state."⁷⁰

Drones also make cost proportionality (i.e., justifying the cost of building a drone to the citizens that fund its construction) difficult to maintain. Though one might intuitively think that drones are more expensive to build and maintain than traditional weapons of air combat, an F-35 Joint Strike Fighter, for example, costs about \$91 million per unit with operating costs of \$16,500 per hour of flight, while the MQ-9 reaper drone costs only \$6.48 million with operating costs of only \$3,250 per hour of flight.⁷¹ So, regardless of their extreme exercise of force, drones may increase in popularity because they are cost-effective and place human lives further from the dangerous battlefield.⁷²

V. CONCLUSION

This Article defends the view that (1) proposing principles of *jus ante bellum* can be useful if we hope to meet the demands of *jus ad bellum* and *jus in bello* and (2) proportionality, foreseeability, clarity, testing, necessity, and intentionality are strong candidates for use as such principles. In considering the view that sometimes our legal and moral obligations overlap, this Article further suggests that principles of *jus ante bellum* can serve as helpful guidance for the development of IHL. While the legal obligations of IHL do, in some cases, closely mirror the moral obligations of *jus ante bellum*, there is still much work to be done on the international stage to successfully meet the demands of *jus ante bellum*.

In the advent of AI-enabled weapons and weapons systems, IHL has the potential to curtail some of the catastrophic risks posed by the widespread use of AI-enabled weapons. However, deliberation about the moral obligations owed to fellow human beings prior to formal regulation of conduct in war should not be neglected. By remaining mindful of the demands of *jus ante bellum*—especially the six principles outlined and defended herein—there may be greater success in avoiding grave moral errors during armed conflict by appropriately regulating conduct before war begins.

⁶⁹ See Prem Mahadevan, *The Military Utility of Drones*, 78 CSS ANALYSIS SEC. POL'Y 1, 3 (2010) (a discussion of drone usage by the United States and the political controversy generated by the Obama administration's use of drones in Pakistan).

⁷⁰ *Id.*

⁷¹ See Wayne Mclean, *Drones are Cheap, Soldiers are Not: A Cost-Benefit Analysis of War*, THE CONVERSATION (June 25, 2014, at 23:26 ET) <https://theconversation.com/drones-are-cheap-soldiers-are-not-a-cost-benefit-analysis-of-war-27924> [<https://perma.cc/7AUE-PL9C>] (an analysis of the costs and benefits of drone usage for state militaries).

⁷² *Id.*