
AUTONOMOUS WEAPONS AND LAW OF WARS: POSITIVIST VS. NATURALIST APPROACHES

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I. ABSTRACT

The advent of Autonomous Weapon Systems (AWS) represents one of the most significant challenges to the existing framework of international humanitarian law (IHL). By delegating lethal decision-making to algorithms, AWS disrupt the moral and legal assumptions underpinning the laws of war. This paper examines the legality and legitimacy of AWS through two foundational schools of jurisprudence: legal positivism and natural law theory. Positivists emphasize the formal sources of law and state consent, viewing AWS as lawful unless explicitly prohibited. Natural law theorists, conversely, argue that morality and human dignity must guide legality, condemning AWS as contrary to the principles of humanity. Through an interdisciplinary approach combining legal philosophy, international law, and ethics, this research contends that a purely positivist interpretation inadequately addresses the moral and accountability vacuum inherent in autonomous warfare. It concludes that a hybrid jurisprudential model—integrating moral reasoning within positivist legality—is essential to uphold humanitarian principles in the age of artificial intelligence.

Keywords: Autonomous Weapons, Jurisprudence, Positivism, Natural Law, International Humanitarian Law, Accountability, Artificial Intelligence, Laws of War.

II Introduction

Artificial intelligence (AI) has permanently transformed the nature of modern warfare. Autonomous weapon systems (AWS), which can select and engage targets without direct human intervention, are no longer part of science fiction. They are becoming an operational reality. From missile defense systems that intercept threats within milliseconds to experimental drones that can pursue moving targets on their own, the line between human judgment and machine autonomy in armed conflict is quickly fading. These technologies challenge the foundations of international humanitarian law (IHL), which depend on human intention, control, and accountability¹. The core humanitarian principles of distinction, proportionality, and precaution rely on human judgment. When the decision to take a life is made by an algorithm, those principles face a level of strain that has never been seen before.

The problem raised by AWS is not only technological but deeply human. If a machine decides who lives and who dies, where does responsibility begin and end? What becomes of the restraint and mercy that lie at the heart of the laws of war?² Can a legal system that was designed for human decision-makers truly manage the moral and practical risks created by artificial intelligence on the battlefield? These questions are no longer hypothetical. In 2020, reports suggested that Turkish-made Kargu-2 drones used in Libya may have acted without human control³. This incident moved the issue from theory to reality and showed that autonomous lethality is already possible. As a result, the United Nations, the International Committee of the Red Cross (ICRC), and several human rights organizations have called for immediate regulation or even a complete ban on fully autonomous weapons⁴. They warn that such systems could undermine the very idea of human dignity during armed conflict.

From a legal and philosophical standpoint, AWS raise profound challenges. Legal positivism, which separates law from morality, argues that the legality of AWS depends on formal legal sources such as treaties, customary international law, and the consent of states.⁵ In this view, AWS can be regulated within the existing legal framework of the Geneva Conventions and their Additional Protocols. Where the law is silent, states are free to interpret and act according

¹ Geneva Conventions and Additional Protocol I (1949, 1977).

² H.L.A. HART, *The Concept of Law* (2d ed. 1994).

³ Bashir Ali Abbas, *Lethal Autonomous Weapons Systems under Existing Norms of International Humanitarian Law*, J. DEF. STUD., 2020

⁴ International Committee of the Red Cross (ICRC), *Autonomous Weapon Systems: Implications of Increasing Autonomy in the Critical Functions of Weapons* (2023)

⁵ HANS KELSEN, *Pure Theory of Law* (Max Knight trans., 1967).

to their own policies. Natural law theory, on the other hand, insists that law must be guided by moral and ethical principles that go beyond what is written in legal texts. This perspective is reflected in the Martens Clause, which reminds us that even when treaties do not cover a situation, the principles of humanity and the dictates of public conscience still apply.

This tension between positivism and natural law lies at the heart of the debate on autonomous weapons. Should law remain neutral and formal, adapting slowly through established legal processes, or should it actively incorporate moral responsibility to remain legitimate in the age of intelligent machines? The positivist approach offers stability and predictability, but it risks moral emptiness when confronting technologies that challenge human control⁶. The natural law approach, by contrast, keeps morality and humanity at the centre of legal reasoning, but it can be vague and difficult to apply consistently. Balancing these two approaches is essential to ensure that international law evolves without losing either its authority or its ethical foundation.

This paper explores the moral and regulatory challenges posed by autonomous weapons through a comparative study of positivist and natural law interpretations of the laws of war. It examines how each framework understands accountability, legality, and morality in the context of machine autonomy and assesses whether current IHL principles are sufficient to govern AWS. The paper ultimately argues for a balanced model that combines the legal certainty of positivism with the moral depth of natural law. Such a model would ensure that the evolution of warfare does not come at the cost of human dignity. The central question this research seeks to answer is: Can positive law alone regulate new forms of violence, or must legal frameworks evolve to include moral principles, even if that creates uncertainty? In addressing this, the paper argues that human control, moral reasoning, and accountability must remain at the heart of the laws of war, even in an age where algorithms increasingly decide matters of life and death.

III Literature Review

The debate over Autonomous Weapon Systems (AWS) has grown into one of the most urgent discussions at the intersection of law, ethics, technology, and global security. Scholars have examined the technical and moral risks of AWS, but far fewer have explored how these systems challenge the very nature of law itself. Understanding that connection is crucial because our jurisprudential assumptions determine how we interpret and regulate new technologies. The

⁶ Geneva Conventions and Additional Protocol I (1949, 1977).

question is not only whether AWS are lawful, but what kind of law we believe should govern them.

A. Jurisprudential Foundations: Positivism and Natural Law

Legal positivism and natural law theory represent two foundational approaches to understanding law. Positivists, such as H. L. A. Hart and Hans Kelsen, argue that the validity of law depends on its source rather than its moral worth⁷. According to this view, rules become law when they are formally enacted through treaties, custom, or state practice. Applied to AWS, this means that unless an explicit treaty bans their use, these systems cannot be considered unlawful in themselves. The strength of this approach lies in its predictability and its respect for state sovereignty.

However, the positivist approach faces growing criticism in the context of emerging technologies. Because it depends on existing agreements and state consent, positivism often struggles to adapt quickly enough to rapid technological change⁸. AWS evolve faster than treaties can be negotiated, leaving regulatory gaps that can expose civilians to harm. Critics within the positivist tradition acknowledge this lag and warn that the law's silence can lead to accountability gaps, since autonomous machines cannot be prosecuted or held morally responsible.

In contrast, natural law theorists argue that law cannot be separated from morality. From Aquinas to John Finnis, natural law scholars maintain that legitimate law must reflect universal moral values such as human dignity, fairness, and conscience⁹. In the context of AWS, they question whether it is morally acceptable for algorithms to make life-and-death decisions without human judgment. They argue that when law allows machines to act without moral reasoning, it risks losing its legitimacy.

A cornerstone of the natural law position in international humanitarian law (IHL) is the Martens Clause, first introduced in the 1899 Hague Conventions and now included in several modern treaties¹⁰. The Clause provides that even when specific legal provisions are absent, civilians

⁷ H.L.A. HART, *The Concept of Law* (2d ed. 1994).

⁸ Kenneth Anderson, *Law and Ethics for Autonomous Weapon Systems*, COLUM. L. SCHOLARSHIP REPOSITORY 1 (2013)

⁹ J. Lee, *Autonomous Weapons, War Crimes, and Accountability*, 49 N.C. J. INT'L L. 123 (2024)

¹⁰ JOHN FINNIS, *Natural Law and Natural Rights* (1980).

and combatants remain under “the protection and authority of the principles of international law derived from established custom, the principles of humanity, and the dictates of public conscience.” The International Court of Justice (ICJ) recognized the enduring importance of this clause in its 1996 advisory opinion on the Legality of the Threat or Use of nuclear weapons, affirming that moral principles continue to apply even in the absence of explicit prohibitions (ICJ, 1996).

B. Institutional and Doctrinal Developments

International institutions have taken an increasingly active role in defining the boundaries of AWS use. The International Committee of the Red Cross (ICRC) has consistently called for “meaningful human control” over weapon systems to preserve accountability and humanitarian values¹¹ (ICRC, 2019). In collaboration with the Stockholm International Peace Research Institute, the ICRC’s 2020 report *Limits on Autonomy in Weapon Systems* proposed that states maintain human oversight in every stage of design and deployment to ensure compliance with IHL.

The United Nations Group of Governmental Experts (GGE) on Lethal Autonomous Weapons Systems (LAWS), active since 2014, has debated potential regulatory frameworks but has yet to reach a consensus¹². Similarly, the Tallinn Manual 2.0 on the International Law Applicable to Cyber Operations (2017) explores how existing IHL principles might apply to cyber and autonomous technologies, but it stops short of creating binding obligations. These discussions show that while institutions recognize the moral and legal challenges posed by AWS, they are still struggling to articulate enforceable norms.

Judicial decisions also highlight the limits of positive law in the face of emerging technologies. In its 1996 nuclear weapons opinion, the ICJ emphasized that even when treaties do not explicitly prohibit certain weapons, states remain bound by the principles of humanity and public conscience¹³. This reasoning has since influenced the interpretation of new weapon technologies, suggesting that the absence of explicit law does not amount to a legal vacuum.

¹¹ International Committee of the Red Cross, *Autonomous Weapon Systems: Implications of Increasing Autonomy in the Critical Functions of Weapons* (2023).

¹² United Nations Group of Governmental Experts on Lethal Autonomous Weapons Systems, *Meeting Reports* (2017–2024)

¹³ *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, 1996 I.C.J. 226

Empirical research reveals wide disparities in how states conduct weapons reviews under Article 36 of Additional Protocol I, which requires states to assess the legality of new weapons before they are used. Some states, such as the United Kingdom, maintain detailed and transparent procedures. Others perform reviews with limited oversight or public accountability. This inconsistency weakens international confidence in the existing regulatory regime. Scholars warn that if AWS continue to develop without consistent review mechanisms, accountability for unlawful harm may become increasingly elusive.

C. Ethical Concerns and Human Dignity

Natural law scholars and ethicists have expressed particular concern about the moral consequences of delegating lethal decisions to machines. Peter Asaro and Noel Sharkey argue that AWS threaten to erode fundamental humanitarian principles, since machines cannot experience empathy or moral deliberation¹⁴. Jeremy Waldron similarly emphasizes that legal rules depend on interpretation, and that interpretation is a moral act grounded in human judgment. Without such judgment, law risks becoming a hollow set of commands.

The concept of human dignity lies at the heart of this critique. The decision to take a life involves more than technical compliance with the rules of distinction and proportionality; it requires a moral agent who understands suffering and responsibility. Even if an algorithm could achieve perfect accuracy, it would still lack the capacity for mercy or compassion. This absence, according to natural law thinkers, fundamentally undermines the moral foundation of the laws of war¹⁵. Recent studies echo this sentiment, suggesting that the automation of lethal force could degrade not only the dignity of victims but also that of soldiers, who risk becoming instruments of technology rather than moral agents¹⁶.

D. Ongoing Tensions and Research Gaps

Despite the growing body of literature, several important questions remain unresolved. First, natural law theorists often emphasize moral principles but struggle to translate them into enforceable legal standards. Positivists, meanwhile, focus on clear legal sources but risk

¹⁴ Peter Asaro, On Banning Autonomous Weapon Systems: Human Rights, Automation, and the Dehumanization of Lethal Decision-Making, 94 INT'L REV. RED CROSS 687 (2012)

¹⁵ JOHN FINNIS, Natural Law and Natural Rights (1980)

¹⁶ Noel Sharkey, The Evitability of Autonomous Robot Warfare, 94 INT'L REV. RED CROSS 787 (2012)

allowing moral accountability to slip away in the absence of explicit rules¹⁷.

Second, the technical realities of AWS complicate both approaches. Issues such as opaque decision-making, unpredictable behaviour, and algorithmic bias raise questions about how traditional concepts of responsibility and intent can be applied to autonomous systems.

Third, there is a lack of consistency in how states interpret key obligations such as “meaningful human control.” Without shared definitions, even well-intentioned legal standards may be applied unevenly¹⁸.

Finally, moral and social expectations are evolving. As societies become more accustomed to automation, public attitudes toward the use of AWS may shift, potentially altering the content of the “public conscience” that the Martens Clause invokes. This evolution makes it even more important to keep philosophical and legal debates intertwined, ensuring that technological convenience does not eclipse human values¹⁹.

IV Analysis and Discussion

A. Positivist Approaches: Law as It Is

The positivist school of thought maintains that law derives its authority from written norms, treaties, and sovereign consent. In this view, the regulation of Autonomous Weapon Systems (AWS) proceeds cautiously, as states are bound only by what they have explicitly agreed to²⁰. Legal positivists such as H.L.A. Hart, Hans Kelsen, and John Austin conceptualize law as a system of rules validated by recognized authority rather than moral content. Austin described law as the command of a sovereign backed by sanctions, while Kelsen’s “Pure Theory of Law” sought to separate law from moral and sociological considerations. Hart later refined this by emphasizing that legal validity stems from a society’s “rule of recognition” that identifies what counts as law within that system²¹.

Under positivism, the legality of AWS is determined by reference to existing legal instruments

¹⁷ H.L.A. HART, *The Concept of Law* (2d ed. 1994)

¹⁸ Kenneth Anderson, *Law and Ethics for Autonomous Weapon Systems*, COLUM. L. SCHOLARSHIP REPOSITORY 1 (2013)

¹⁹ R. Ticehurst, *The Martens Clause and the Laws of Armed Conflict*, INT’L REV. RED CROSS (1997)

²⁰ H.L.A. HART, *The Concept of Law* (2d ed. 1994)

²¹ HANS KELSEN, *Pure Theory of Law* (Max Knight trans., 1967)

such as the Geneva Conventions and Additional Protocol I (AP I), particularly Article 36. Article 36 requires states to review all new weapons, means, or methods of warfare before their deployment to ensure compliance with international law. Some states, such as Sweden, the United Kingdom, and Australia, have publicly documented procedures for such reviews, while others remain opaque or silent in their practices²².

The principles of distinction and proportionality, cornerstones of International Humanitarian Law (IHL), also guide the use of AWS. Distinction requires that attacks target only combatants, and proportionality prohibits excessive harm to civilians relative to the anticipated military advantage²³. From a positivist standpoint, AWS are lawful as long as they can be operated in compliance with these established principles.

However, the positivist approach faces significant challenges in addressing accountability. If an AWS acts unpredictably and causes unlawful harm, questions arise as to who bears responsibility, the programmer, the commander, or the state²⁴. This “accountability gap” exposes the limitations of a framework that depends on human actors for culpability, as machines cannot be prosecuted under current legal doctrines. Critics further note that positivist regulation often lags behind rapid technological innovation²⁵. Law’s reactive nature can leave temporary gaps where emerging technologies operate without clear oversight, leading to what some scholars describe as a “race to the bottom” as states delay consensus to retain strategic advantages.

B. Natural Law Approaches: Law as It Ought to Be

In contrast, natural law theory emphasizes that legal systems must reflect universal moral principles that transcend state consent. Thinkers from Aquinas to John Finnis argue that laws devoid of moral grounding lose their legitimacy²⁶. Within this tradition, the Martens Clause stands as a moral compass. Originating in the 1899 Hague Conventions and reaffirmed in subsequent treaties, it provides that even where specific legal rules are absent, “civilians and combatants remain under the protection and authority of the principles of international law

²² Id.

²³ Id.

²⁴ Geneva Conventions and Additional Protocol I (1949, 1977)

²⁵ Bashir Ali Abbas, Lethal Autonomous Weapons Systems under Existing Norms of International Humanitarian Law, J. DEF. STUD., 2020

²⁶ JOHN FINNIS, Natural Law and Natural Rights (1980).

derived from established custom, the principles of humanity, and the dictates of public conscience.”

Applied to AWS, the Martens Clause ensures that emerging technologies remain subject to ethical scrutiny. The clause functions both symbolically and substantively, reaffirming that the ultimate purpose of law is to protect human dignity and minimize suffering. International bodies, including the International Court of Justice (ICJ), have recognized the clause’s binding moral authority. In its 1996 advisory opinion on nuclear weapons, the ICJ affirmed that principles of humanity and public conscience continue to apply even where explicit treaty law is silent²⁷. Human Rights Watch and the International Committee of the Red Cross (ICRC) have cited the clause to advocate for strict limits or outright bans on AWS, arguing that delegating lethal decision-making to machines undermines moral accountability.

Critics of natural law caution that the Martens Clause is open to interpretation. Concepts such as “public conscience” may vary across societies, creating uncertainty about how these values translate into enforceable obligations²⁸. Nonetheless, the enduring relevance of natural law lies in its insistence that legality must be grounded in morality, especially in areas where positive law remains incomplete.

C. Comparative Jurisprudence: Reconciling Positivism and Natural Law

The positivist and naturalist traditions offer contrasting yet complementary perspectives on AWS. Positivism provides procedural certainty through written law and state consent, while natural law emphasizes moral legitimacy and human dignity. Both perspectives converge on a central concern: ensuring that technological progress does not erode the humanitarian foundations of warfare.

Judicial and policy developments highlight this tension. The ICJ’s Nuclear Weapons opinion affirmed that humanitarian principles guide legal interpretation even in legal vacuums²⁹. Similarly, incidents such as the 1988 Iran Air Flight 655 tragedy illustrate how human-machine interaction can lead to catastrophic errors, underscoring the risks of automating lethal

²⁷ Theodor Meron, *The Martens Clause, Principles of Humanity, and Dictates of Public Conscience*, 94 AM. J. INT’L L. 78 (2000).

²⁸ Antonio Cassese, *The Martens Clause: Half a Loaf or Simply Pie in the Sky?*, 11 EUR. J. INT’L L. 187 (2000).

²⁹ *Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion*, 1996 I.C.J. 226.

decision³⁰. More recently, the 2020 Libya conflict saw the first documented use of autonomous drones engaging targets without direct human input, reinforcing the urgency of establishing “meaningful human control” as advocated by the ICRC.

D. Theoretical Framework: Integrating Legal Philosophy and IHL

Legal positivism and natural law intersect most vividly in the realm of IHL, which seeks to balance military necessity with humanitarian restraint. AWS challenge three foundational principles:

Distinction – Algorithmic decision-making may fail to accurately differentiate between combatants and civilians due to data bias or contextual misinterpretation.

Proportionality – Calculating collateral damage requires moral and situational judgment that algorithms lack.

Accountability – When autonomous systems act unpredictably, the diffusion of responsibility undermines established doctrines of command and individual liability.

From a positivist view, these challenges can be managed by refining Article 36 reviews and developing technical safeguards. Natural law, however, raises a deeper objection: that machines, by their very nature, cannot possess moral reasoning, making their participation in lethal decision-making fundamentally incompatible with the principles of humanity that underpin IHL³¹.

E. Toward a Hybrid Jurisprudence of Technology and War

Neither positivism nor natural law alone can resolve the regulatory and moral dilemmas posed by AWS. A balanced, hybrid approach is necessary, one that maintains the structural integrity of positivist legal systems while integrating the moral insights of natural law. This hybrid jurisprudence would recognize that law’s authority depends not only on procedural legitimacy but also on moral coherence.

³⁰ Bashir Ali Abbas, Lethal Autonomous Weapons Systems under Existing Norms of International Humanitarian Law, J. DEF. STUD., 2020.

³¹ Theodor Meron, The Martens Clause, Principles of Humanity, and Dictates of Public Conscience, 94 AM. J. INT’L L. 78 (2000).

In practice, this could involve embedding ethical standards into positivist mechanisms such as Article 36 reviews, adopting internationally recognized norms for meaningful human control, and interpreting IHL through the lens of the Martens Clause. By operationalizing moral reasoning within existing legal frameworks, states can ensure that technological progress does not outpace humanity's ethical responsibility.

Ultimately, the legitimacy of law in the age of autonomous warfare will depend on its ability to harmonize precision with conscience. AWS represent not only a technological challenge but also a test of jurisprudence itself, a measure of whether law can continue to embody both rational order and moral humanity in the face of unprecedented innovation.

V Findings and Recommendations

A. Findings

The analysis reveals several intersecting insights into how international law, morality, and technology converge in the debate on Autonomous Weapon Systems (AWS). The findings indicate both the strengths and the limitations of existing jurisprudential frameworks and underscore the need for an integrative approach to lawmaking in the age of algorithmic warfare.³²

1. Positivist frameworks maintain procedural legality but fail to ensure moral accountability in AWS deployment.

The positivist approach to international law provides a strong procedural foundation for the governance of new weapons. By anchoring legal authority in state consent, codified treaties, and customary law, it ensures predictability and legitimacy in the international legal order. Instruments such as Article 36 of Additional Protocol I require states to assess new weapons' compliance with International Humanitarian Law (IHL), offering a practical mechanism for oversight.

However, positivism's strength, its procedural rigor, is also its limitation. The model presumes human actors as both decision-makers and subjects of accountability. AWS disrupt this paradigm by delegating lethal functions to non-human systems, creating ambiguity over

³² H.L.A. HART, *The Concept of Law* (2d ed. 1994).

responsibility when autonomous decisions result in unlawful harm. Because positivist law depends on clear attribution of intent and agency, the diffusion of accountability between programmers, commanders, and algorithms reveals a structural gap. Consequently, positivism upholds legality in form but struggles to secure morality in substance.

2. Natural law reasoning safeguards human dignity but lacks practical enforceability in international law.

Natural law theory addresses precisely what positivism neglects: the moral dimension of warfare. Through principles such as the Martens Clause, it insists that even when positive law is silent, the “dictates of public conscience” and the “principles of humanity” must govern conduct³³. This moral underpinning reaffirms the centrality of human dignity in armed conflict and offers an ethical compass for evaluating AWS.

Yet, natural law’s reliance on moral reasoning without procedural mechanisms limits its enforceability. Concepts like “public conscience” and “humanity” remain interpretive and contestable, varying across cultural and political contexts. While moral appeals are persuasive in advocacy, they rarely produce uniform legal obligations. Thus, natural law’s capacity to inspire is unmatched, but its capacity to enforce remains underdeveloped.

3. A hybrid approach integrating moral criteria into positivist procedures offers the most viable regulatory path.

The findings suggest that neither positivism nor natural law alone provides a comprehensive solution to AWS regulation. Positivism ensures legal precision but risks moral indifference; natural law ensures ethical fidelity but lacks operational clarity. A hybrid jurisprudence can reconcile these tensions by embedding moral evaluation within positivist legal processes. For instance, Article 36 reviews could integrate explicit ethical assessments, evaluating not only compliance with legal norms but also alignment with humanitarian values³⁴.

Such integration does not undermine state sovereignty but strengthens it by ensuring that legal compliance remains anchored in legitimacy. By operationalizing moral criteria within positivist institutions, the law can evolve to address the unique challenges of autonomous technologies

³³ R. Ticehurst, *The Martens Clause and the Laws of Armed Conflict*, INT’L REV. RED CROSS (1997)

³⁴ JOHN FINNIS, *Natural Law and Natural Rights* (1980)

without compromising its coherence or authority.

B. Recommendations

Building upon these findings, the following recommendations propose both normative and institutional reforms to ensure that AWS development and deployment remain consistent with the dual imperatives of legality and humanity.

1. Incorporate Explicit Moral Review into Article 36 Evaluations

Article 36 of Additional Protocol I obliges states to determine whether new weapons comply with international law before use. However, most existing review processes remain technical and procedural, focusing on weapon performance, distinction, and proportionality. States should expand these reviews to include a **moral dimension**, assessing whether AWS conform to broader ethical principles, such as respect for human dignity and the preservation of meaningful human control.

This could involve establishing multidisciplinary review boards composed not only of military lawyers and engineers but also of ethicists, philosophers, and human rights experts. The review process should require explicit evaluation of whether a weapon system allows for human moral judgment in targeting and decision-making. Such “ethical impact assessments” would translate abstract moral principles into practical evaluative tools.

Furthermore, transparency in these processes should be encouraged through public reporting of review methodologies and non-classified outcomes. This would build public trust and promote shared accountability among states.

2. Codify “Meaningful Human Control” as a Binding Principle in Future AWS Treaties

The concept of “meaningful human control,” championed by the International Committee of the Red Cross (ICRC) and various advocacy groups, should transition from ethical aspiration to binding legal principle. A new international protocol under the framework of the Convention on Certain Conventional Weapons (CCW) could explicitly define and mandate levels of human involvement in decision-making related to targeting, engagement, and oversight.

Such codification would serve two purposes: first, it would preserve the moral agency of human

operators in life-and-death decisions; second, it would ensure compliance with IHL principles of distinction and proportionality, which depend on human judgment. States should negotiate standards specifying minimum thresholds for human intervention and accountability chains, ensuring that machines never exercise lethal force entirely independently.

3. Foster Interdisciplinary Collaboration Between Ethicists, Lawyers, and Technologists

AWS governance cannot be achieved through law alone. Effective regulation requires understanding both the technical realities of machine learning and the moral implications of automation. Governments and international organizations should create permanent advisory bodies where legal experts, ethicists, computer scientists, and military professionals collaborate on policy design, legal review, and compliance monitoring.³⁵

This interdisciplinary exchange would ensure that ethical insights inform system design from the outset rather than as an afterthought. For example, ethical principles could be embedded into system architecture through constraints on targeting algorithms or override mechanisms ensuring human intervention.

Academic institutions and research networks could also play a central role by producing joint studies, simulation-based risk assessments, and ethical design frameworks for AWS. Such collaboration would bridge the current gap between abstract moral debates and operational realities.

4. Encourage Transparency and Accountability in AWS Development

Transparency remains the cornerstone of accountability. States should adopt reporting obligations detailing their AWS research, testing, and review processes, similar to existing transparency measures under arms control treaties. International peer review mechanisms could be established under the auspices of the United Nations or the ICRC to assess compliance with both legal and ethical standards.

To strengthen accountability, the international community should consider **strict liability regimes** assigning responsibility for AWS misconduct to states, regardless of fault, complemented by **individual accountability** for commanders and designers where negligence

³⁵ Noel Sharkey, The Evitability of Autonomous Robot Warfare, 94 INT'L REV. RED CROSS 787 (2012)

or recklessness is demonstrated. Additionally, an international registry of AWS technologies could be created, ensuring traceability of systems deployed in armed conflict.

5. Negotiate New International Protocols and Continuous Review Mechanisms

Given the rapid evolution of AI and robotics, existing treaties may soon become obsolete. States, with support from the United Nations, ICRC, and regional organizations, should prioritize the negotiation of a dedicated **Autonomous Weapons Protocol**³⁶. This protocol should:

Define AWS in legally precise terms.

Codify principles of meaningful human control and moral accountability.

Require ethical review as part of Article 36 compliance.

Establish enforcement mechanisms and sanctions for violations.

In parallel, continuous review bodies should be created to assess technological developments in real time. Such expert panels would provide interpretive guidance, update legal standards, and issue non-binding advisory opinions, ensuring that law evolves alongside innovation.

6. Embed the Martens Clause as an Interpretive Principle

Future treaties and state practices should explicitly reaffirm the Martens Clause as a guiding interpretive tool. Rather than treating it as a moral afterthought, states should recognize it as a constitutional safeguard ensuring that humanity remains the ultimate referent of warfare law. The clause's invocation in treaty interpretation, legal reviews, and judicial reasoning would provide a moral anchor in situations where law is silent or ambiguous.

C. Synthesis of Recommendations

Collectively, these measures would produce a more adaptive, ethically grounded legal framework for AWS. By institutionalizing moral review, codifying human control, and fostering interdisciplinary dialogue, states can reconcile the certainty of positivism with the

³⁶ Noel Sharkey, The Evitability of Autonomous Robot Warfare, 94 INT'L REV. RED CROSS 787 (2012).

conscience of natural law. The hybrid model proposed here does not discard traditional legal structures but enriches them with normative depth and human sensitivity.

Such an integrated approach would also reinforce public trust in international law. In an age where algorithmic systems increasingly shape human destiny, the law's legitimacy depends on its ability to safeguard not only state interests but the very essence of human dignity.

VI Conclusion

Autonomous Weapon Systems represent one of the most profound challenges to modern jurisprudence. They test the limits of legal positivism's procedural clarity and expose the necessity of re-engaging with natural law's moral foundations. The positivist framework provides indispensable structure and legitimacy through treaties, protocols, and state consent. Yet, when confronted with technologies capable of making life-and-death decisions independent of human judgment, positivism alone proves inadequate.

Natural law theory, conversely, reintroduces the moral compass that positivism often sidelines. It reminds the international community that legality without morality risks hollowing out the very purpose of law: to protect human beings and uphold justice. The principles of humanity and public conscience articulated in the Martens Clause are not merely rhetorical, they represent enduring moral constraints that must guide technological innovation in warfare.

However, moral ideals require institutional embodiment to be effective. The future of AWS regulation must therefore rest on a **hybrid jurisprudence** that synthesizes positivist legality with natural law morality. This model preserves the predictability of codified law while ensuring that ethical considerations shape both interpretation and implementation. Embedding moral reasoning into Article 36 reviews, codifying meaningful human control, and reaffirming the Martens Clause as an interpretive safeguard are concrete steps toward this synthesis.

Ultimately, the governance of AWS will determine not only the legality of future wars but also their humanity. The challenge is not simply to regulate machines but to reaffirm the moral agency that defines human civilization. Law must evolve, not merely to accommodate technological progress but to ensure that such progress serves humanity rather than diminishes it.

By integrating moral conscience into procedural order, the international community can

construct a framework where innovation and humanity coexist. In doing so, law can reclaim its dual identity: a system of rules and a guardian of values. Only through such integration can the world confront the dawn of autonomous warfare with both precision and principle, ensuring that the future of war remains anchored in the dignity of life itself.

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