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# Normative Development of Lethal Artificial Intelligence Weapons and China's Plans

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The issue of the normative development of lethal artificial intelligence weapons remains to be urgently addressed. The 2020 United Nations Convention on Certain Conventional Weapons reached consensus on the three dimensions: the international law basis for the application of lethal artificial intelligence weapons systems, the subject of responsibility, and the governance framework for normative development. The first dimension concerns the international legal basis for the application of weapons, as the normative development and use of lethal artificial intelligence weapons cannot be separated from the basic and universally accepted rules of international humanitarian law; the second dimension concerns the normative development of lethal artificial intelligence weapons systems, with the international community agreeing that human control should be imposed on lethal artificial intelligence weapon systems; finally, regarding the subject of responsibility, individuals or states should be held responsible when lethal artificial intelligence weapons violate international humanitarian law. However, the guiding principles are too general and principled, and no substantive doctrinal discussion has been conducted on the extent, manner, and stages of human control. The Position Paper on Regulating the Military Application of Artificial Intelligence proposed by China is based on the concept of a community of human destiny and is based on the UN Guiding Principles on Artificial Intelligence Weapons, refining the operational framework for the development of the regulation of lethal artificial intelligence weapons. The normative development of weapons has guiding significance, and further promotes the institutional design of lethal artificial intelligence weapons at the international legal level.

*Keywords:* lethal artificial intelligence weapons, international humanitarian law, human control principle, responsibility mechanism

## Introduction

Lethal artificial intelligence weapons refer to weapons armed with deep learning capabilities of artificial intelligence that can operate and make decisions through visual perception, voice recognition, and select and attack targets on their own based on pre-established algorithms.[1] The United Nations Convention on Certain

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[1] From the literal meaning of the name, the definition of lethal artificial intelligence weapon consists of two elements, namely lethal artificial intelligence weapon = artificial intelligence + weapon. The definition of lethal artificial intelligence weapons is premised on the concept of artificial intelligence, which is a computer system that performs tasks that typically require human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages. Therefore, lethal artificial intelligence weapons refer to weapons armed with artificial intelligence, which can operate through visual perception, speech

Conventional Weapons (hereinafter referred to as "CCW") States Parties have been discussing lethal artificial intelligence weapons since 2014, focusing on the range of legal, ethical, and security challenges that may arise from the use of emerging artificial intelligence technologies in the military. The ability of lethal artificial intelligence weapons to make equivalent, proportionate decisions and accurately identify their targets has raised questions in various countries. In 2016, the Group of Governmental Experts on Lethal Artificial Intelligence Weapons was formally established and began to work on whether a new Protocol to CCW is required to regulate or prohibit the development, use or transfer of lethal artificial intelligence weapons, the Group's meetings have been unable to reach consensus. In 2019, countries made important progress in the discussion of lethal artificial intelligence weapons. The Conference of the States Parties to CCW Weapons agreed on 11 basic principles for regulating lethal artificial intelligence weapons. The introduction of 11 guiding principles makes the development and use of lethal artificial intelligence weapons no longer carried out in a legal vacuum, and international humanitarian law (hereinafter referred to as "IHL") is fully applicable to the development and use of lethal artificial intelligence weapon systems (United Nations, 2019). The 2020 Group of Experts reaffirmed the value of the 11 Guiding Principles, and many States commented on and interpreted the status and role of the Guiding Principles and their implementation, thereby developing the intrinsic linkages between the Guiding Principles, which clearly clarify the normative and operational framework for the application of artificial intelligence technologies to weapons systems (United Nations, 2020b). China first submitted a Position Paper on Regulating Military Applications of Artificial Intelligence (hereinafter referred to as The Position Paper) on December 13, 2021 at the Sixth Session of the CCW. The Position Paper regulates the militarization of artificial intelligence in eight areas and perspectives: strategic security, military policy, legal ethics, technological security, R&D operations, risk management, rule-making, and state cooperation (Ministry of Foreign Affairs of the People's Republic of China, 2021). At this critical moment to address the issue of lethal artificial intelligence weapons, China's initiative has made an important contribution to the development of rules for lethal artificial intelligence weapons, and it is necessary to interpret and analyse the content of the initiative in depth in order to promote a framework for the governance of lethal artificial intelligence weapons.

## Lethal Artificial Intelligence Weapons Adhere to IHL

### Principle of Distinction

Article 48 of Additional Protocol I of 1977 provides for the principle of distinction, which is not only a fundamental principle of IHL, but also customary international law, and is universally binding on States. In view of this, the States Parties to Additional Protocol I shall observe the principle of distinction in armed conflicts and wars. In its advisory opinion on the Legality of the Threat or Use of Nuclear Weapons, the International Court of Justice identified the principle of distinction and the principle of limitation of means and methods of warfare as fundamental principles of IHL, and considered the principle of distinction to be a primary principle of IHL. According to the Court, "the principle of distinction is the first principle of IHL and provides for a distinction between combatants and non-combatants" and thus the principle of distinction constitutes a fundamental pillar of IHL.

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recognition, decision-making, and select and attack targets by themselves according to pre-established algorithms. The clarity of names and definitions makes the category and extension of lethal artificial intelligence weapons less ambiguous.

**Principle of Proportionality**

The principle of proportionality means that in the overall attack, the parties to the conflict foresee that the collateral damage caused by the attack shall not exceed the specific and direct military benefits obtained, for the consideration of balancing military necessity and humanitarian protection and limiting the degree of damage to civilians and civilian objects. The principle of proportionality is set out in Article 51(5)(2) and Article 57(2)(2) of Additional Protocol I. This principle is accepted as customary international law in international and non-international armed conflicts (International Committee of the Red Cross, 2005). The Position Paper proposes that efforts should be made to minimize collateral damage and reduce the loss of life and property during the use of lethal artificial intelligence weapons. In other words, lethal artificial intelligence weapons should comply with the principle of proportionality. In the Galic case,[2] the International Criminal Tribunal for the former Yugoslavia emphasized the principle of proportionality, suggesting that the principle of minimizing harm to civilians and civilian objects should be applied.

**Precautionary Principle**

The principles of prevention and distinction and proportionality are both customary international law and legally binding. In the Kupreškić case,[3] the International Criminal Tribunal for the former Yugoslavia further demonstrated the principle of precautionary measures to prevent the effects of attacks in international and non-international armed conflicts, a principle that the Tribunal considered to be customary international law. Therefore, lethal artificial intelligence weapons are subject to the precautionary principle before and during an attack to deter collateral damage to civilians and civilian objects caused by hostilities.

**Human Control Principles Governing Lethal Artificial Intelligence Weapons**

In recent years, the autonomy of lethal artificial intelligence weapons has advanced tremendously, and although they possess faster computing capabilities than humans, they do not possess human cognition and value judgments. To ensure the safe operation of lethal artificial intelligence weapons in complex and uncertain environments, the guiding principles set forth the human control principle, which recognizes that the operation of lethal artificial intelligence weapons still requires human control and intervention. Even though countries have proposed that the principle of human control should be adopted for lethal artificial intelligence weapons weapons, the nature of human control and how to define it lack a consistent answer, which still needs further discussion. The concept of human control is rather general, and countries have used different qualifiers to define human control, such as meaningful human control, appropriate human control, sufficient human control, or minimum level of or minimum indispensable extent of human control, so further elaboration and clarification is necessary. A discussion of the content of the human control principle will help to elaborate and clarify the concept. In addition, countries are most concerned about the specific content of the principle of human control, that is mode and extent of human participation and intervention. This paper believes that the focus of the principle of human

[2] Case Prosecutor v. Stanilav Galic (Trial Judgement and Opinion), [2003] IT-98-29-T, International Criminal Tribunal for the former Yugoslavia (ICTY), 5 December 2003, available in full at: https://www.refworld.org/cases,ICTY,4147fb1c4.html, last visited on 23 January 2022.

[3] Case the Prosecutor v. Kupreskic (Trial Judgement), [2000] IT-95-16-T, International Criminal Tribunal for the former Yugoslavia (ICTY), available in full at: https://www.refworld.org/cases,last visited on 18 January 2022.

control should not only be on the ethical level, but should also focus on the requirements of the law. Any form of human control that does not conform to the rules of international law is not allowed.

**Specific Elements of the Principle of Human Control**

Whether fully autonomous lethal artificial intelligence weapons can autonomously select and attack targets without any human intervention is unpredictable and pre-assessed. On February 3, 2022, the United States used lethal artificial intelligence weapons to launch a large-scale airstrike in Syria that killed at least six children and four women (BBC News, 2022). The use of remote control of intelligent weapons platforms by technologically advanced nations can launch "targeted killing" attacks against enemy heads of government, military commanders, or critical national infrastructure, potentially achieving a "first strike" effect (Zhang & Du, 2021, p. 88). The deployment and use of such lethal artificial intelligence weapons has raised concerns about violating the sovereignty of other countries and disrespecting the human right to life, and has been met with legal and ethical opposition. The reasons for the international community to oppose lethal artificial intelligence weapons without human control can be summarized into four levels: First, the issue of compliance with IHL. The object of IHL is human beings, and lethal artificial intelligence weapons cannot have human consciousness (Zhao & Li, 2020, p. 16), that is, cannot make emotional judgments in unstructured war scenarios and make appropriate judgments in a timely manner. Second, the issue of attribution of responsibility. Such lethal artificial intelligence weapons hinder accountability for wrongdoing because human operators are excluded. Third, the issue of human rights violations. With the proliferation of assassination attacks by lethal artificial intelligence weapons, the arbitrary deprivation of human life constitutes an affront to human dignity. Fourth, it threatens international peace and stability. Lethal artificial intelligence weapons allow fewer soldiers to engage in war, resulting in fewer soldier casualties. The development of lethal artificial intelligence weapons has been incorporated into national strategies, intensifying the arms race among nations, causing the threshold for war or armed conflict to be lowered, leading to a threat to the peace and stability of the international community. States therefore generally agree that humans should maintain control over the core functions of lethal artificial intelligence weapons. States are currently focusing their concerns on how and in what ways humans can exercise control over lethal artificial intelligence weapons and how to put the elements of human control into practice. According to the principles of human control, the normative development of lethal artificial intelligence weapons can be developed in four ways: subject (who), content (what), time (when), and the manner of control over lethal artificial intelligence weapons (how).

**Subject—Who Exercises the Control**

Operators of lethal artificial intelligence weapons—combatants. The operator's control of weapons is inherent in international law as a rule for the use of weapons (South African Research Chair in International Law, 2018). In international criminal law, for example, the subject of international criminal responsibility is predominantly individual crimes, and Articles 23, 24, and 25 of the Rome Statute of the International Criminal Court all stipulate individual criminal responsibility. Lethal artificial intelligence weapons should therefore be designed to allow commanders and operators to exercise human control over them. Human-machine interaction occurs at all stages of the development and deployment of lethal artificial intelligence weapons. Warfare is complex, and requires the combination of humans and lethal artificial intelligence weapons to achieve precise

strikes on military targets. In military situations, lethal artificial intelligence weapons can quickly process many computer values, such as navigation, calculation, and target detection. However, the selection of targets and the decision of when to initiate force must be made by humans. The operation of lethal artificial intelligence weapons should therefore always remain with a human operator making the key decisions (United Nations, 2020b). The UK Ministry of Defence has made it clear that such weapons in the UK today and in the future will always be under the control of human operators and pilots (UK House of Commons Defence Committee, 2014). Maintaining human control of lethal artificial intelligence weapons, particularly over critical functions, is essential to comply with IHL.

**Content—What Is Controlled by Humans**

Human control over the content of lethal artificial intelligence weapons is mainly reflected in the control of key functions. It can be divided into three main categories: (1) The types of tasks performed by lethal artificial intelligence weapons. *United Nations Charter* (hereinafter referred to as *The UN Charter*) stipulates that states shall not use the threat or force to invade other countries, so lethal artificial intelligence weapons should perform tasks of a defensive nature and are prohibited from launching active attacks and violating the sovereignty of other countries. (2) The types of targets attacked by lethal artificial intelligence weapons. The use of lethal artificial intelligence weapons in the presence of civilians and civilian objects is prohibited (Zhu, 2013, p. 105), and advance warning should be given when using lethal artificial intelligence weapons. (3) The environment in which lethal artificial intelligence weapons are used, and lethal artificial intelligence weapons cannot perform actions that apply the principles of distinction, proportionality, and precautions in attacks of IHL, especially in complex and changing conflict scenarios. Under current technological conditions, lethal artificial intelligence weapons should perform simple tasks in predictable environments, simple, static, predictable environments rather than complex, dynamic, unpredictable environments. In addition, the deployment and use of lethal artificial intelligence weapons that cause significant effects on the environment on which humans depend is prohibited, and the three categories above provide different ways to reduce unpredictability in the use of lethal artificial intelligence weapons, to maximize certainty in the damage that may be caused by lethal artificial intelligence weapons, and to minimize harm to civilians and civilian objects.

**Timing—When to Implement Controls**

Human control of lethal artificial intelligence weapons takes place in diverse forms at various stages. First in the research and development phases (R&D) of a lethal artificial intelligence weapon. the designer actually exercises control by implementing a code for the weapon system that allows operator input and intervention during the operation of the weapon system. Secondly the testing, evaluation, and verification phase of lethal artificial intelligence weapons. States follow Article 36 of Additional Protocol I to review the legality of lethal artificial intelligence weapons to ensure that the weapon system can be used in compliance with international law, in particular, the principles of distinction, proportionality, and precaution can be observed. The third is the deployment and command phase of lethal artificial intelligence weapons. Lethal artificial intelligence weapons and humans should always maintain a affiliation relationship, which means that the determination and adjustment of lethal artificial intelligence weapon system tasks require human decisions (United Nations, 2018). This requires the human operator to understand the characteristics of the weapon system, the environment in which it

is deployed, and to have sufficient information about the lethal artificial intelligence weapon. Fourth stage of use and discontinuation of lethal artificial intelligence weapons. Commanders or operators activate lethal artificial intelligence weapons and monitor their operations. For example, when the operational environment changes or malfunctions, the weapon system can be operated to intervene appropriately. The human exercises the final decision on the lethal artificial intelligence weapon activation weapon.

**The Way—How to Exercise Human Control**

Human control of lethal artificial intelligence weapons is primarily conducted through the principle of human-machine interaction. Human-computer interaction allows humans to directly intervene in the firing, deactivation, and aborting of lethal artificial intelligence weapons (United Nations, 2020a). IHL requires that decisions be made by humans based on a holistic overview, and human-machine interaction must ensure that humans maintain control over the weapons deployed and operated. Human-computer interaction principles contain two categories: human-in-the-loop measures and human-on-the-loop measures (US Department of Defense, 2012). Each category reflects the varying degrees of human control over a lethal artificial intelligence weapon. Human-in-the-loop refers to the ability of the user to control key functions of the weapon system, directly and actively selecting targets and applying force to them, that is, humans are in constant remote control of the weapon system. The human-on-the-loop allows humans to only supervise the operation of lethal artificial intelligence weapons, but also retains the power to intervene on lethal artificial intelligence weapons, then to suspend and deactivate the weapon system. The categories of human-machine interaction are applied with different degrees of autonomy of lethal artificial intelligence weapons. Humans will need to deliberate before using lethal artificial intelligence weapons to decide which targets to attack, whether to attack them, how long to attack them, and whether to stop using force. Therefore, humans control lethal artificial intelligence weapons through physical controllers (such as sensors, radars), so that humans have explicit visual perception of and access to the surroundings of the target of a lethal artificial intelligence weapon attack, ensuring that the operator has continuous awareness of the state of warfare on an ongoing basis.

## Construction of the Lethal Artificial Intelligence Weapon Responsibility System

In recent years, the legal status of lethal artificial intelligence weapons has been explored in a number of papers. The question is whether such weapons can be given legal subject status similar to human beings, which in turn affects the attribution of war responsibility for lethal artificial intelligence weapons. Most of the available academic research has concluded that lethal artificial intelligence weapons have no personality and there is no “responsibility gap” problem. For example, Professor Guan Jianqiang advocated following the explanation of the purpose. He believes that the purpose of discussing lethal artificial intelligence weapons is to put artificial intelligence weapons into the perspective of IHL and implement legality review, and therefore lethal artificial intelligence weapons are more like a way for states to fight for their rights. Artificial intelligence weapons are more like ways and means for states to win the war (Guan & Zheng, 2020, p. 107). Tim McFarlane argues that lethal artificial intelligence weapons are a new type of weapon (McFarland, 2015, p. 1320), and Professor Li Shouping suggests that artificial intelligence weapons systems are a collection of weapons, means, and methods of warfare (Li, 2021, p. 166). The 2019 Conference of the States Parties to the CCW, transformed controversial issues into concrete principles by jointly discussing the legal regulation of lethal artificial intelligence weapons,

clarifying the legal status of lethal artificial intelligence weapons should not be anthropomorphized, the ability of humans to make decisions about lethal artificial intelligence weapons systems must be preserved, and criminal liability cannot be transferred from humans to machines (United Nations, 2019). The criminal responsibility accountability mechanism covers two levels of state responsibility and individual responsibility.

**National Responsibility**

First the state assumes national responsibility for violations of jus in bello by lethal artificial intelligence weapons. Article 36 of Additional Protocol I states as follows:

> In the study, development, acquisition or adoption of a new weapon, means or method of warfare, a High Contracting Party is under an obligation to determine whether its employment would, in some or all circumstances, be prohibited by this Protocol or by any other rule of international law applicable to the High Contracting Party.[4]

For this article, Article 36 sets the legal basis for the review of the legality of lethal artificial intelligence weapons. Article 36 provides for a framework regime for the review of new weapons and new methods and methods of warfare, and is not legally binding, leaving enough room for the review of new weapons and new methods and methods of warfare in the domestic law of each state, which is a matter within the sovereignty of each state.[5] On the surface, the state is not responsible for the use of lethal artificial intelligence weapons. However, a deeper reading of Article 36, Article 36 refers to "this Protocol or any other", "Prohibited by rules of international law" is understood to establish a legal link with Article 35.[6] The basic rule set forth in Article 35 has been agreed to by States and is legally binding and has become customary international law.[7] So states are internationally legally responsible for failing to exercise due diligence in the review of lethal artificial intelligence weapons, which in turn leads to violations of jus in bello.

**Individual Criminal Responsibility**

When lethal artificial intelligence weapons violate the rules of the law of war, individuals are held international criminal responsibility. In the *Hermann Göring case*, the Nuremberg International Military Tribunal rejected the defendant's claim that individuals are protected from individual responsibility by the principle of state sovereignty. The tribunal held that international law covers the mechanisms of state and individual responsibility, and that individuals are punishable for violations of international law. The subject of a crime against international law is a human being and not committed by an abstract entity, and the provisions of international law can only be enforced by punishing the individuals who commit such crimes.[8] Articles 25 and 28 of the Statute of the International Criminal Court both provide for forms of individual criminal responsibility, recognizing the multiple forms of crimes in the context of joint criminality.[9] Article 30 of the Statute further addresses the psychological constituent elements of individual criminal responsibility, requiring that individuals

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[4] Protocol I additional to the Geneva Conventions, Article 36.
[5] See Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949, available at https://www.icrc.org/en/publication/0421-commentary-additional-protocols-8-june-1977-geneva-conventions-12-august-1949, last visit on 10 January 2022, Para. 1481.
[6] Ibid, Para. 1468.
[7] Ibid, Para. 1472.
[8] Case the Prosecutor v. Hermann Goering, Nuremberg Trials, [1946] RG260, available in full at https://crimeofaggression.info/documents/6/1946_Nuremberg_Judgement.pdf, last visit on 15 November 2021.
[9] Article 25 of Rome Statute of the International Criminal Court stipulates that: "Individual criminal responsibility". Article 28 of Rome Statute of the International Criminal Court stipulates that: "Responsibility of commanders and other superiors".

commit criminal acts intentionally and knowingly. Whether it is the combatant and his or her commander, or the person programming and developing the weapon, who knowingly uses and programs a lethal artificial intelligence weapon in violation of international law, the aforementioned persons are subject to international criminal responsibility. A programmer or developer of a lethal artificial intelligence weapon knowingly codes or implants a malicious program that causes the lethal artificial intelligence weapon to violate IHL in an armed conflict, which constitutes an international crime. In such a situation, the programmer and developer becomes the subject of individual criminal responsibility. However, in general, the programming and development personnel cannot foresee the operational scenarios of lethal artificial intelligence weapons and complex warfare scenarios, and do not possess the mental element of intent and knowledge, and are not criminally liable. To cope with this situation, in recent years the psychological element of subjective intent for international criminal offenses has evolved, and indirect intent has been gradually incorporated into the psychological element of the crime. In the case of *Prosecutor V Bemba*, the International Criminal Court held that the lower limit of the mental element of war crimes under Article 28 is indirect intent. The defendant commits a war crime when he or she "ought to have known" that an international crime is being committed or is about to be committed by forces under his or her effective command and control.[10] Combatants and their commanders will undoubtedly be criminally liable when they continue to use lethal artificial intelligence weapons knowingly or knowingly that they would violate international law.

**China's Plans to Regulate Lethal Artificial Intelligence Weapons**

The construction of a legal regime for artificial intelligence continues to uphold a common, integrated, cooperative, and sustainable development perspective. The Position Paper deeply implements the global security concept, providing a concrete path for the construction of an international legal regime for the regulation and governance of lethal artificial intelligence weapons, it can prevent and avoid the significant damage and danger caused by the application of lethal artificial intelligence weapons, as well as prevent an arms race among countries and alleviate humanitarian concerns. The Position Paper contains nine appeals, and explains the guidelines and framework for the governance of lethal artificial intelligence weapons in three dimensions.

Firstly, in terms of strategic security and military policy, The Position Paper proposes that all countries, especially major powers, must take a prudent and responsible approach to the military application of artificial intelligence and not seek absolute military superiority; they must not use artificial intelligence military applications as a tool to wage war and seek hegemony (Ministry of Foreign Affairs of the People's Republic of China, 2021). Lethal artificial intelligence weapons have the ability to strike quickly, operate persistently, and strike a wide range of weapons, and will initiate "first strikes" with "low-cost, high-yield" military actions, reducing the cost of attack and lowering the threshold of war. The war is more likely to break out. Lethal artificial intelligence weapons change the traditional offensive landscape from one of "defense dominance" to one of "offensive dominance". Especially when combined with nuclear weapons, lethal artificial intelligence weapons inadvertently increase the risk of escalation of the nuclear threat, thereby undermining national confidence in the

[10] Case the Prosecutor v. Jean-Pierre Bemba, International Criminal Court, [2016] ICC-01/05-01/08, available in full at https://www.icc-cpi.int/car/bemba, last visit on 17 November 2021.

survivability of second-strike capabilities and triggering retaliatory first strikes. In addition, artificial intelligence systems have been used by terrorist groups to carry out terrorist missions, and the ISIS terrorist group has used lethal artificial intelligence weapons equipped with explosive devices to carry out terrorist attacks and deliver biological and chemical weapons of mass destruction (Bunker, 2015, p. 22). Today there is a lack of legal regulation of lethal artificial intelligence weapons, and the proliferation of lethal artificial intelligence weapons will have a significant impact on future escalation of warfare, nuclear security, and strategic stability. The use of lethal artificial intelligence weapons should be approached with caution, but individual countries such as the United States have used lethal artificial intelligence weapons as a tool to promote hegemony, using drones to repeatedly kill civilians under the guise of upholding justice.[11] Such acts are a serious departure from international human rights and humane law. China advocates that lethal artificial intelligence weapons cannot be used as a tool for waging war and seeking hegemony, and are unanimously committed to promoting the building of a community of human destiny in the field of artificial intelligence in order to prevent the risks of lethal artificial intelligence weapons, maximize the safe and reliable operation of lethal artificial intelligence weapons, and reduce the harm caused to humans.

Secondly, The Position Paper focuses on humanism and proposes "AI for good", that is, the military application of artificial intelligence is guided by international law, strengthens self-discipline, and ensures that the system always conforms to human control. The Position Paper responds to the concerns of various countries about lethal artificial intelligence weapons from the legal level. The Position Paper considers the legal basis for the use of lethal artificial intelligence weapons to be governed by the international legal regime, which primarily relates to *The UN Charter*, IHL and customary international law, and responds to States' concerns about lethal artificial intelligence weapons at a legal level. *The UN Charter* stipulates that countries prohibit the use of force to violate the sovereignty of other countries,[12] and further stipulates two situations in which countries lawfully use force.[13] According to the United Nations Charter, countries prohibit the use of lethal artificial intelligence weapons to violate the sovereignty of other countries. The provisions of IHL on weapons and methods of warfare remain applicable to lethal artificial intelligence weapons, in particular the principles of distinction, proportionality, and precaution (Yang & Wei, 2020, p. 140). In addition, all prohibitions on the use of certain types of weapons also apply to lethal artificial intelligence weapons, in accordance with international treaties and customary law. The Position Paper clarifies the responsibilities of developers, users, and recipients, and proposes

[11] On December 28, 2021, *The New York Times* disclosed a report on civilian casualties caused by the U.S. Department of Defense's use of drone air strikes. The report shows that over the past 20 years, at least 91,000 U.S. military personnel have launched air strikes from Iraq to Afghanistan, from Syria to Yemen to Pakistan. At least 22,000 civilians were killed in this air strike.

[12] Article 2 of United Nations Charter stipulates that: "All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations".

[13] Article 42 of United Nations Charter stipulates that: "Should the Security Council consider that measures provided for in Article 41 would be inadequate or have proved to be inadequate, it may take such action by air, sea, or land forces as may be necessary to maintain or restore international peace and security. Such action may include demonstrations, blockade, and other operations by air, sea, or land forces of Members of the United Nations". Article 51 of United Nations Charter stipulates that: "Nothing in the present Charter shall impair the inherent right of individual or collective self-defence if an armed attack occurs against a Member of the United Nations, until the Security Council has taken measures necessary to maintain international peace and security. Measures taken by Members in the exercise of this right of self-defence shall be immediately reported to the Security Council and shall not in any way affect the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary in order to maintain or restore international peace and security".

that artificial intelligence developers, users, and other relevant parties should have a high sense of social responsibility and self-discipline, and strictly abide by laws, regulations, ethics, and standards (National New Generation Artificial Intelligence Governance Professional Committee, 2019). States should comprehensively consider the combat environment and the characteristics of lethal artificial intelligence weapons, and implement human-machine interaction during the weapon operation cycle. Humans are the ultimate responsible subject, and establish an artificial intelligence accountability mechanism. Under the international legal system, states, military commanders, manufacturers, and programmers could be held accountable for unlawful acts of lethal artificial intelligence weapon systems, such as state responsibility for violations of IHL and international human rights law, and criminal responsibility for war crimes for individuals who program and deploy weapons.

Thirdly, we should jointly regulate military applications of artificial intelligence, establish an international mechanism for universal participation, and promote a universal consensus governance framework and norms. The Meeting of States Parties to the CCW has become the main platform for discussing lethal artificial intelligence weapons. Countries should continue to conduct in-depth discussions on lethal artificial intelligence weapons under the auspices of the United Nations, make full use of the United Nations platform to conduct detailed discussions on lethal artificial intelligence weapon systems (Long & Xu, 2020, p. 83), take into account the claims and demands of military powers and weak countries, and reach a broader consensus. In addition, international organizations, such as the International Committee of the Red Cross and the International Committee for the Control of Robotic Weapons, have also listed the regulation of lethal artificial intelligence weapons as an important issue. Therefore, scholars and experts in the field of artificial intelligence should also fully provide their opinions, so that the legal system of lethal artificial intelligence weapons can be constructed through pluralistic approach (Long & Xu, 2020, p. 86). The development of lethal artificial intelligence weapons can be regulated only after full discussion and consultation and weighing the interests of all parties. China has been actively participating in the Meeting of States Parties to the CCW, actively advocating that the development and implementation of a legal framework for lethal artificial intelligence weapons. The formulation and implementation of the legal framework for lethal artificial intelligence weapons is inseparable from the participation and discussion of various countries and social groups.

## Conclusion

Lethal artificial intelligence weapons should comply with the rules IHL referred to in the Geneva Convention and its Additional Protocols, in particular the principles of distinction, proportionality, and precaution. The principle of human control can effectively complement the intelligence of lethal artificial intelligence weapons and the unique value judgment ability of human beings, and ensure that lethal artificial intelligence weapons operate within the scope of the commander and operator’s intention in a realistic combat environment. and that military operations are conducted in compliance with IHL, achieving the goal of increased military efficiency and attack safety. The principle of human control allows lethal artificial intelligence weapons to minimise the occurrence of lethal artificial intelligence weapon failures. The standards of human control vary according to national interests. On this basis, it is of practical significance to discuss the applicable conditions of the principle of human control. States and individuals are eligible for criminal responsibility when lethal artificial

intelligence weapons violate international law. A community with a shared future for mankind plays a leading role in the formulation of outer space and cyber rules. In the construction of international rules for artificial intelligence, the community with a shared future for mankind continues to apply. The rich connotation of a community with a shared future for mankind provides a legal path for regulating lethal artificial intelligence weapons. The Position Paper is based on the concept of a community with a shared future for mankind, and transforms the controversial issues of lethal artificial intelligence weapons into concrete guiding principles. The guiding principles require the governance of lethal artificial intelligence weapons at different levels, including risk management and control, rule-making, research and development operations, legal ethics, military policy, and strategic security. The Position Paper proposes the international law, normative framework, and accountability mechanism applicable to lethal artificial intelligence weapons, responding to the controversial issues of general concern to all countries, which is extremely constructive and reflects China's wisdom.

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