



LETHAL AUTONOMOUS WEAPONS: A CONUNDRUM OF MORALITY AND LEGALITY

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Abstract

Every nation aims to bolster its security to counter any form of threat from foreign entities. This desire has led to a capricious trend of advancements in the field of weapon machinery. The development of autonomous machineries has mostly been limited to non-lethal machines such as surveillance drones and radar systems but the trend is now making its way into development of lethal weapons too. The question on the legality of autonomous lethal weapons has attracted a lot of discussion from all corners of the world. There is a void in the international legal framework regarding the specific question of autonomous lethal weapons therefore it becomes imperative to discuss the ramifications of such development. With reference to different legal frameworks and official stances of numerous nations at major international platforms, this paper offers a glance at the legal feasibility of lethal autonomous weapons.

Introduction

“Autonomous Weapon System may be lawful but awful”¹

The world is witnessing an outstanding development in artificial intelligence which has revolutionised the computer and

smartphone market in the past decade. The development in these fields has reached the saturation point and any further addition to it does not serve any practical utility. However, weapon machinery is a field yet to be explored to the full potential. The application of artificial intelligence in weapon machinery, though in operation for quite some time, has not left the nascent stage of development.

An autonomous weapon does not require any human control to carry out tasks. It is able to identify and engage targets. The decisions are made on the basis of weapon’s database and machine learning. There is no human intervention in any of the steps which is the main point of concern from both legal and moral point of view. The database of a machine cannot be expected to be familiar with every type of situation the machine might face and hence could result in erroneous decisions. The errors can result in arbitrary loss of life and liberty of people that the machine interacts with. Deployment of a system cannot be afforded which is not flexible enough to adapt to the situations that is new or unknown.

The advent of artificial intelligence in lethal weapon machinery has been termed as ‘third revolution in warfare’ where opinions of experts on the topic has mostly been against the forthcoming pervasive implementation. The experts have expressed their concern on numerous occasions where they have written letters to the United Nations to consider the probable threats posed by development of lethal autonomous weapons (LAWs). Numerous nations are reported to be working

¹ Christof Heyns, *Lethal Autonomous Robotics and the Protection of Life*, UN Human Rights Council, U.N. Doc. A/HRC/23/47. [hereinafter Heyns]



on the development of autonomous weapons. The list consists of USA, UK, China, Russia, South Korea, Israel and France as one of the most prominent names.

There are many arguments both in favour and against the development and deployment of autonomous lethal weapons. The delegation of power to decide human life to machine algorithms has rather attracted a lot of criticism on moral and ethical grounds. Speculations over its role in an outbreak of war of unprecedented dimensions have also been raised. Even if a machine is perfected to the point where it would not arbitrarily attack someone, it would still not be able to decide on the matters that might entail serious political consequences. Nevertheless, this paper shall be confined on the question of legal feasibility of such machines in accordance with the relevant laws that can address the issue to some extent.

Part I addresses the question by equating the compliance requirement of weapons to International humanitarian Law. Part II brings the issue of autonomous weapons under the roof of Martens Clause which defines and discusses the weapons not specifically covered by any law. Part III shifts the attention to Customary International Law and examines the stand of numerous nations on the given topic. The paper concludes with a view on the issue and recommendation on what should be the way in pursuing such advancements.

² *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, 1996 I.C.J. 226, ¶86 (Jul. 8)[hereinafter *Nuclear Weapons*].

I. Lethal Autonomous Weapons Vis-à-vis International Humanitarian Law

International Humanitarian Law (IHL) covers “the entire law of armed conflict and applies to all forms of warfare and to all kinds of weapons.”² It defines the boundaries under which a weapon has to function in order to comply with the moral and legal requirements. It lays down an ideal weapon’s technical functionality with the primary goal of achieving two objectives, the protection of non-participants in an armed conflict and limiting the impact of weapons.³ These requirements confer obligations on states in their interaction during armed conflict with another state. Geneva Conventions 1949 contain a major part of International Humanitarian Law which is accepted by and binds almost every country.⁴

International Humanitarian Law is the genesis of many specific weapon regulatory regimes developed in the past century. The 1972 Biological Weapons Convention; the 1980 Conventional Weapons Convention and its five protocols; the 1993 Chemical Weapons Convention and many more are based on the principles of IHL. The basic principles of IHL has gained the status of customary international law and it is binding on every country.⁵ IHL lays down numerous requirements which shall now be discussed with reference to lethal autonomous weapons in the realm of international law.

A. Legal Review of the Newly Developed Weapon

Every country is required to ensure IHL compliance in the development phase of a

³ ICRC, *What is International Humanitarian Law*, 07/2004.

⁴ *Ibid.*

⁵ *Ibid.*



new weapon.⁶ The review has to be done at research phase, development phase, acquisition phase⁷ and just prior to deploying the system.⁸ The review has to be carried out again the moment circumstances change for which the weapon was developed.⁹

This stage is in itself the determinant factor of legality of a weapon. It required the states to ensure IHL compliance at every stage of development of a weapon. The compliance can be ensured by equating the functionality of the weapon with different principles enshrined in IHL. Those principles are discussed below in detail.

B. Principle of Distinction

An autonomous weapon might be programmed to eliminate every militant in its vision. Suppose a militant, within the range of the weapon, is using a civilian as a cover and is on the verge of escape. The machine has two conflicting decisions at this point, to respect the life of civilian and let the militant run away or to collaterally eliminate the civilian along with the militant to ensure no one gets away once in its range.

“The parties to the conflict must at all times distinguish between civilians and combatants. Attacks may only be directed

against combatants. Attacks must not be directed against civilians.”

St. Petersburg declaration gave birth to the principle of distinction wherein it was noted that the primary objective of any state during an armed conflict is to weaken the enemy military forces which requires targeting only the offensive entities from the other side.¹⁰ Further, with no specific reference to ‘civilian and combatant distinction’, the Hague Regulations derives certain provisions from this principle and prohibits “the attack or bombardment, by whatever means, of towns, villages, dwellings, or buildings which are undefended.”¹¹ Violating this principle and intentionally directing any form of attack on civilians constitutes a war crime under the statute of International Criminal Court.¹² The principle of distinction is to be followed in armed conflict of both international and non-international nature.¹³ For better understanding of the principle, Civilians, Combatants and their status have to be deeply analysed.

i. Civilians Combatants

Combatant is a person who has active and direct participation in hostilities during an armed conflict.¹⁴ Apart from them, every person who is not a part of the armed force, is a civilian under IHL and shall not be

⁶ Additional Protocol to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), Art. 36, June 8, 1977, 1125 U.N.T.S. 3 [hereinafter AP-I].

⁷ ICRC, *A Guide to the Legal Review of New Weapons, Means and Methods of Warfare*, 25 (2006).

⁸ DoD Directive 300009, *Autonomy in Weapon Systems*, 7 (US.D.A. 2012). [hereinafter DoD Directive]

⁹ ICRC, *A Guide to the Legal Review of New Weapons, Means and Methods of Warfare*, 25 (2006).

¹⁰ St. Petersburg Declaration, preamble, § 83.

¹¹ Hague Regulations, Article 25.

¹² Rome Statute of the International Criminal Court, art. 8(2)(b)(i), July 17, 1998, 2187 U.N.T.S. 90 [hereinafter ICC Statute].

¹³ Common article 3 to the Geneva Conventions of 12 August 1949.

¹⁴ UN General Assembly, Res. 2444 (XXIII) (adopted by unanimous vote of 111 in favour, none against and no abstentions). 27th International Conference of the Red Cross and Red Crescent, Plan of Action for the years 2000–2003 (adopted by consensus).



intentionally subjected to any form of attack.¹⁵

Individuals who are member of the armed force but do not have offensive role in the conflict are also provided protection under IHL. Medical and religious personnel's, who are part of the enemy armed force, have to be treated as a non-combatant.¹⁶ Furthermore, the military manuals of Germany and USA do consider the possibility of other non-combatant members in an armed force apart from medical and religious personnel. According to Germany's military manual, a combatant is a person who participates in a use of a weapon or a weapon system capable of carrying out attack. Other than them, the members of armed forces who do not have combat mission are to be treated as non-combatant.¹⁷ Article 4(A)(4) of the third Geneva Convention goes a step further than distinguishing between combatants and non-combatants and distinguishes non-combatants from civilians who might be accompanying the armed forces but are not a member of it per se.¹⁸ The rule of the common article 3 to Geneva Conventions, 1949 also protects the person who had an active part in hostilities but has now laid down his weapon and is not capable of carrying out an attack on account of a wound, sickness, inability or some other cause.¹⁹

The main determinant of this principle is the capabilities of the person and therefore there also exists an exception to the rule of

distinction. The exception, *levee en masse*, does not protect the civilians who are not a member of any armed force but still wield weapon and participate in hostilities.²⁰ This exception is also customary in nature and is codified in Brussels Declaration,²¹ Hague Regulations²² and Third Geneva Convention.²³

The lethal autonomous weapon should be able to perform the task of distinction. Regardless of the nature of armed conflict, the autonomous weapon should respect civilian life which is a corollary to their identification. Real life scenarios cannot be always predicted in a certain range and there is always something out of the box. A machine cannot be expected to solve every situation by subjecting it to its algorithms. However, if the deployment of LAWs is limited to scarcely populated areas or at the borderlines then it can handle the limited no. of situations. The IHL compliance of LAWs in a densely populated still seems to be a mind-bending task as the current level of technological development cannot afford it.

C. Principle of Proportionality

“Launching an attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated, is prohibited.”

¹⁵ UN Commission on Human Rights, Res. 1992/S-1/1.

¹⁶ First Geneva Convention, Article 25.

¹⁷ Germany, Military Manual, § 587.

¹⁸ Third Geneva Convention, Article 4(A)(4).

¹⁹ Rule 6, common article 3 to Geneva Conventions 1949.

²⁰ ICRC, *Customary International Humanitarian Law*, 2005.

²¹ Brussels Declaration, Article 10.

²² Hague Regulations, Article 2.

²³ Third Geneva Convention, Article 4(A)(6)



An attack should be proportional to the threat faced in an armed conflict.²⁴ Article 51(5)(b) and article 57 of Additional Protocol 1 lay down the foundation of this principle.²⁵ The intentional military attack which is disproportionate or excessive in nature in nature and has the definite ability to indiscriminately attack civilians is treated as a war crime in International Criminal Court.²⁶ It has been observed by International Court of Justice to be of customary nature which is also evident by the fact that Article 51(5)(b) and Article 57 of Additional Protocol 1 met no reservation when adopted.^{27 28} Even when the LAWs are carrying out an attack in self-defence, they are required to follow the principle of proportionality.²⁹

The Lethal Autonomous Weapons should be able to carry out an attack which is proportional and does not cause excessive damage than what would be required to control the situation. For this purpose, the LAWs need to be equipped with a wide range of weapons and systems starting from audio warnings and untargeted explosions to scare away the potential threat. Regardless of its

deployment location, the LAW should respect the right to life and should be able to make reasonable apprehension or at least send signals to troops to make required arrests. Just in case any LAW is only equipped with lethal weapons, it should only be deployed or used in the circumstances which warrant the need of a lethal attack to ensure proportionality.

D. Principle of Responsibility

Any violation of IHL is followed by accountability.³⁰ It is highly probable that LAWs might create accountability gap.³¹ The concern over the question of responsibility in case an autonomous weapon violates IHL is quite complex to solve as machines lack intent which is an essential element to assign responsibility.³² However, this enigma can be avoided if the developers or the state which fields the system takes the collective responsibility of any violations.³³ The responsibility of any potential violation can be assigned in advance.³⁴ If responsibility is accepted by the state pre-emptively, then real world gains of the autonomous weapon system can be gained.³⁵

²⁴ *Nuclear Weapons*, ¶41.

²⁵ Additional Protocol I, Article 51(5)(b) (adopted by 77 votes in favour, one against and 16 abstentions) (cited in Vol. II, Ch. 4, § 1) and Article 57(2)(a)(iii) (adopted by 90 votes in favour, none against and 4 abstentions)

²⁶ ICC Statute, Article 8(2)(b)(iv).

²⁷ France, *Statement at the Diplomatic Conference leading to the adoption of the Additional Protocols*.

²⁸ Mexico, *Statement at the Diplomatic Conference leading to the adoption of the Additional Protocols*.

²⁹ Jennings, *The Caroline and McLeod Cases*, 32 A.J.I.L. 82, 82-84 (1938).

³⁰ AP-I, ART. 85(3), Neil Davison, A Legal Perspective: Autonomous Weapon Systems under International Humanitarian Law, in UNODA

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³¹ ICRC, *International humanitarian law and the challenges of contemporary armed conflicts*, ICRC Doc. 32IC/15/11 (2015).

³² Rebecca Crootof, *War Torts: Accountability for Autonomous Weapons*, 164 U. PA. L REV.

³³ M. Waxman and K. Anderson, *Law and Ethics for Autonomous Weapon Systems: Why a Ban Won't Work and How the Laws of War Can* 13 (2013) [hereinafter Waxman Anderson].

³⁴ R. Arkin, *The Robot didn't do it*, POSITION PAPER FOR THE WORKSHOP ON ANTICIPATORY ETHICS, RESPONSIBILITY AND ARTIFICIAL AGENTS 1 (2013).

³⁵ Waxman Abderson.



It depends completely on the developers or the state to decide whether LAWS create any accountability gap or not. If they refuse to accept the responsibility of any potential violation then the deployment of LAWS will surely violate the principle of responsibility.

II. Lethal Autonomous Weapons Vis-à-vis Martens Clause

Martens clause, created by F.F. Martens, is applied on a subject matter not specifically covered by any law.³⁶ The 1899 Hague Peace Conference gave birth to this principle which eventually got codified in the Hague Convention, 1899. It deals with the capricious technological advancements and weighs it primarily on moral grounds. The Martens Clause triggers compliance requirement of two types namely 'principles of humanity' and 'dictates of public conscience'.

The terms are quite vague in nature and do not have a definite structure which can be referred for establishing compliance. F.F. Martens, while creating this legal principle, attempted to give it a legal definition which can bolster its application and avoid confusion.

A. Principles of humanity

Earlier known as laws of humanity, the principle of humanity requires humane treatment of the enemy in an armed conflict. Treating someone humanely is broken down

into principles of proportion, distinction and precaution which have been dealt in International Humanitarian Law.³⁷ The additional way of following this principle, which remains in grey area, is by exercising compassion and making legal and ethical judgement.³⁸

If we analyse LAWS from the perspective of compassion, which is an emotional element, then LAWS would most likely fail the test. The LAWS would be subjecting its target to algorithms and deciding its course of action based on its stored database, which leads to objectifying the target and hence violates humane treatment.³⁹ However, as Martens Clause is a legal concept, its test should be subjected to legal definition of 'principles of humanity' which has been defined in several military manuals.

The Law of Armed Conflict (LoAC) principle of humanity suggests that one should not use force in such a manner which is excessive in nature or is more than what is required to achieve the military objective.⁴⁰ It sounds quite familiar to the principle of proportionality discussed in IHL which can be ensured by equipping the machine with a wide range of weapons wherein they would be triggered in the specific situation. Notable jurist Meron has also defined the 'principle of humanity' in the context of Martens Clause. According to him, the 'principles of humanity' are reflected in the rules of warfare in common article 3, the distinction principle, protection of civilians, limitation on means of

³⁶ AP-1, art 1(2).

³⁷ GARY SOLIS, *THE LAW OF ARMED CONFLICT: INTERNATIONAL HUMANITARIAN LAW IN WAR* (2010).

³⁸ Human Rights Watch, *Heed the Call: A Moral and Legal Imperative to Ban Killer Robots*, (2018) [Hereinafter HRW Heed].

³⁹ Christof Heyns, *Autonomous Weapons in Armed Conflict and the Right to a Dignified Life: An African Perspective*, 33 S.A.J.H.R

⁴⁰ United Kingdom, LOAC Manual.



warfare, prohibition on collective punishment and prohibition on torture.⁴¹

With reference to Common Article 3, there are two problematic aspects for LAWs, prohibition on violence of life and person who are ‘*hors de combat*’ (who are unable to fight on account of inability, injury, sickness) and prohibition on ‘outraging human dignity. Equating the anticipated level of advancements of LAWs with the aspect of *hors de combat*, it is most likely that it can be achieved in the near future where the LAWs can figure out the gestures which imply surrender and inability to fight. With regards to the second aspect of human dignity, the LAWs have to be looked through the lens of human rights.⁴² The term ‘human dignity’ lacks clarity in legal terminologies and the areas where it applies is also not certain in entirety.⁴³ The instance of making it applicable to LAWs can be treated as *lex ferenda* (what the law should be) and not *lex lata* (what the law is). Therefore, principles of humanity do not offer clarity in addressing the question of legal feasibility of LAWs.

B. Dictates of public conscience

The dictates of public conscience are assumed to be synonymous with public opinion.⁴⁴ Public opinion are dictates which reflect the concern of range of people and entities.⁴⁵ However, Greenwood notes that public opinion lacks clarity and is vague to the point that it has not garnered enough support and is impractical to use. It lays down no threshold above which one could say there is enough public opinion against LAWs.⁴⁶ Therefore, what is not defined in the first

place, cannot be used as a litmus test for morality.

Alternatively, the public opinion can be in most of the cases assumed to be respecting the IHL principles of distinction, proportionality, precaution and respect for civilian life which can be achieved by the technology.⁴⁷ On the other hand, it can also be said since we have not reached the pinnacle in the development of LAWs, we have no clear idea about their functionality and what they would offer as a finished product. therefore, even if we have some kind of opinion about them, it might not be accurate as they can turn out to be quite different from what we assume them to be.

The Martens Clause lacks the clarity that is needed to address the issue at hand. Most of its aspect are vague and defined only to extent which is dealt with in the principles of IHL. What Martens Clause has to offer is often shrouded by personal opinion and bias which lacks any legal structure.

III. ‘Meaningful Human Control’ – Position in Customary International Law

When it comes to human involvement in the functions of machine that runs on Artificial intelligence, human can either be ‘in the loop’ or ‘out of the loop’. The fully autonomous machines perform every task on their own and have no human involvement whereas some autonomous machines do require a human command after they have everything prepared to perform a task. This difference has been the main point of debate in the international community. With the

⁴¹ Theodor Meron, *The Martens Clause, Principles of Humanity, and Dictates of Public Conscience*. 94(1) A.J.I.L. 78 (2000) [hereinafter Meron]

⁴² *Heyns*.

⁴³ *Ibid*, pg. 49

⁴⁴ *Meron*.

⁴⁵ *HRW Heed*.

⁴⁶ Dieter Fleck, *THE HANDBOOK OF HUMANITARIAN LAW IN ARMED CONFLICTS*, 1ST EDN.

⁴⁷ *HRW Heed*.



presumption of successful development of LAWS, a meaningful human control over its critical functions has been demanded by many nations.

Customary International Law hold a high rank in the hierarchy of sources of international law.

As there exists no specific law regarding LAWS, Customary International Law (CIL) seems to be the most viable option to solve the debate of meaningful human control. CIL is “a general practice accepted as law”.⁴⁸ Customary International Law hold a high rank in the hierarchy of sources of international law. The formation of CIL is a complicated process which has been simplified by International Court of Justice in many cases. For a practice to become CIL, two essentials have to be met – State practice coupled with *opinion juris*.⁴⁹ *Opinion juris* is a belief that certain rule is required, prohibited or allowed, based on the nature of rule, as a matter of law.⁵⁰ CIL is also derived from bilateral and multilateral treaties when a similar law is repeatedly codified in

numerous treaties.⁵¹ CIL is binding on every country regardless of the fact whether specific consent is provided or not.

There exists no physical act on the part of any state in relation to LAWS to be taken into consideration as ‘state practice’ since no country has yet fielded a fully autonomous weapon system. Furthermore, the stance relating to its development cannot be considered as ‘state practice’ since undisclosed practices do not contribute to formation of CIL.⁵² Therefore, only verbal acts of the states can be used as ‘state practice’ which has been done by ICJ in plethora of cases including the *Nicaragua case*,⁵³ *Gabcikovo-Nagymaros’ Project case*⁵⁴ and the *Fisheries Jurisdiction case*.⁵⁵ The official stance of a nation in terms of official statement at any international platform is also considered as a state practice.⁵⁶

Majority State parties and NAM,⁵⁷ African Group,⁵⁸ European Union,⁵⁹ ICRC,⁶⁰ UNIDIR⁶¹ made statements in UN Convention on Certain Conventional

⁴⁸ ICJ Statute, Article 38(1)(b)e.

⁴⁹ ICJ, *Continental Shelf case* (Libyan Arab Jamahiriya v. Malta), Judgement, 3 June 1985, ICJ Reports 1985, pp. 29–30, § 27

⁵⁰ ICJ, *North Sea Continental Shelf cases*, Judgement, 20 February 1969, ICJ Reports 1969, p. 3

⁵¹ *Ibid.*

⁵² ILA Report, supra note 18, Principle 5, p. 726.

⁵³ ICJ, *Case concerning Military and Paramilitary Activities in and against Nicaragua* (Nicaragua v. United States), Merits, Judgement, 27 June 1986, ICJ Reports 1986, p. 100, § 190

⁵⁴ ICJ, *Case concerning the Gabcikovo-Nagymaros Project* (Hungary v. Slovakia)’, Judgement, 25 September 1997, ICJ Reports 1997, pp. 39–46, §§ 49–58

⁵⁵ ICJ, *Fisheries Jurisdiction case* (United Kingdom v. Iceland), Separate opinion of Judge Dillard, 25 July 1974, ICJ Reports 1974, pp. 56–58

⁵⁶ Draft conclusions on identification of customary international law, with commentaries, [2018] 2 Y.B. Int’l L. Comm’n 66, U.N. Doc. A/73/10 [hereinafter Draft CIL]

⁵⁷ Venezuela on behalf of the Non-Aligned Movement, statement to CCW GGE on Lethal Autonomous Weapons Systems, (Aug. 29, 2018).

⁵⁸ African Group, statement to CCW GGE on Lethal Autonomous Weapons Systems, (Apr. 9, 2018).

⁵⁹ European Union, statement to CCW GGE on Lethal Autonomous Weapons Systems, April 9, 2018.

⁶⁰ ICRC, statement to CCW GEE on Lethal Autonomous Weapons Systems, (Apr 11, 2018).

⁶¹ UN Institute for Disarmament Research on Lethal Autonomous Weapon Systems, statement to CCW



Weapons meetings and general consensus was reached among all 80 participating states on having meaningful human control over autonomous weapons.⁶² USA Department of Defence has also adopted same principle.⁶³ Furthermore, actions of Transnational Corporations also have indirect role in forming CIL.⁶⁴ Organisations such as Human Rights Watch,⁶⁵ Campaign to Stop Killer Robots⁶⁶ and Article 36⁶⁷ have actively stood in favour of human control.

Statements made on behalf of state are widely regarded as opinion juris.⁶⁸ opinion juris is reflected in conduct of state in relation to resolutions adopted by an international organisation, public statement made on behalf of state and governments legal opinion.⁶⁹

All the 80 participating members in UN GGE Convention on Certain Conventional Weapons voted in favour of principle of human control over autonomous weapons.⁷⁰ Statements of 42 States in 74th session of UNGA regarding autonomous weapon and CCW Principles have also vouched against lack of human control over autonomous weapons out of which 30 recommended complete ban.⁷¹ Furthermore, resolutions

adopted by Belgian Parliament,⁷² European Parliament⁷³ and UK Ministry of Defence advisory paper on LAWs follow the same opinion.⁷⁴

All the state practice mentioned above make a very strong case against a fully autonomous weapon. There exists almost no opposite state practice which is against human control over autonomous weapon. However, an argument can still be made that the world has not yet seen a fully functional autonomous weapon hence its decisions are based on an incomplete knowledge but still understanding of correlation between human control and autonomous weapons cannot change matter how the final product turn out to be.

IV. Conclusion

The past decade has witnessed more speculation regarding the legality of LAWs that actual development in this technology. A fully autonomous weapon system that is able to carry out the tasks that are under question will be possible in another half decade. Nevertheless, their legal feasibility treads on uncertain path.

The IHL compliance requirements of distinction, proportion, review can be

GEE on Lethal Autonomous Weapons Systems, (Apr. 9, 2018).

⁶² CCW GGE, *A Simple Premise: Programmes Should Not End Lives*, 6 CCW Report 7 (2018).

⁶³ DoD Directive.

⁶⁴ *Draft CIL*, at 132.

⁶⁵ Human Rights Watch, statement to CCW GGE on Lethal Autonomous Weapons Systems (Mar. 26, 2019).

⁶⁶ Campaign to Stop Killer Robots, statement to CCW GGE on Lethal Autonomous Weapons Systems (Aug. 20, 2019).

⁶⁷ Article 36, statement to CCW GGE on Lethal Autonomous Weapons Systems (Apr. 11, 2018).

⁶⁸ *Draft CIL*, at 141.

⁶⁹ *Draft CIL*, at 140.

⁷⁰ GGE CCW, *Report on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems*, CCW/GGE.1/2019/CRP1/Rev.2 (2019).

⁷¹ Campaign to Stop Killer Robots, UN Head Calls for a Ban, (Nov. 12, 2018).

⁷² Belgium Parliament, *Proposition De Résolution*, Bel. Parl Doc. 54 3203/001, (2018).

⁷³ European Parliament, Resolution on Autonomous Weapon Systems, EUR PARL. DOC. 2018/2752(RSP) (2018).

⁷⁴ UK MINISTRY OF DEFENCE, REMOTE CONTROL: REMOTELY PILOTED AIR SYSTEMS - CURRENT AND FUTURE UK USE, HC., (2013).



achieved by the LAWs. The only problem in IHL lies in accountability gap that the machines with no human involvement might create. The principle of collective accountability can solve this issue if states pre-emptively take the responsibility of any IHL violation.

The Martens Clause does not make a strong case against development and deployment of LAWs as it lacks proper legal definition and structure. It brings in the emotional factors which are hard to define specially when it has to be compared to a machine, we are not completely familiar with. Therefore, the legality of LAWs is unhindered by the application of Martens Clause.

However, there is a strong opposition to fully autonomous weapons when it comes to Customary International Law. On numerous meetings and conferences held at international level, the statement of majority participating states has been against absence of human control on LAWs. A significant amount of countries in those participating countries have called for a blanket ban on LAWs. In several resolution adopted across the world, the same opinion is reflected and there exists almost no support for fully autonomous weapon. Even if such a machine is developed, the CIL would require it to go through a final human command before exercising force on any human being.

The problems are less connected to technical aspects of the LAWs but more to fact that how it will be used by the states. The two most problematic aspects discussed in the paper, i.e. – accountability gap and lack of meaningful human control are associated with the human decisions rather than machine's functionality. It remains unclear

on the speculation over how and in what manner LAWs will be used. The loss and legal implications could be notable even if one country decides to have no human control and does not pre-emptively assign responsibility.

Contrary to the concern of 'accountability gap', every action of LAWs could be attributable to the state and hence state can be held liable but the real concern lies in the fact that LAWs are autonomous and can take decisions which the state would not take in any circumstances. The lack of communication between state and machine can be used as a defence to some extent.

When it comes to meaningful human control then LAWs could be programmed to categorise different kinds of actions, i.e. – lethal and non-lethal actions. LAWs would be making decisions in fraction of second and might not consider the consequences which might result from political tensions between the countries. There should be a meaningful human control over the actions that result in violating the rights of humans, even justifiably. The humane factor provides the opportunity of second guessing the judgements. If the states accept the responsibility for violations of IHL by the LAWs and assign a human control, even for a single final command, then LAWs could be legally fielded in the real world.

The discussion gets more complex once we analyse LAWs solely based on their technical features because that field is constantly changing and what we see today might be something else tomorrow. This analysis can be carried out once a fully autonomous weapon system has reached the final stage of development and is yet to be fielded.
