A STUDY OF AUTONOMOUS WEAPON SYSTEMS AS A CHOICE OF MEANS AND METHODS OF WARFARE IN RELATION TO THE PRINCIPLES GOVERNING THE LAW OF ARMED CONFLICT: A CASE STUDY RUSSO – UKRAINIAN WAR

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DECLARATION

I, **ABIRO. M. IMMACULATE ACHUKA,** declare that this dissertation paper is my own original work and that it has not been presented to any other university for a similar or any other degree award.

Signature; ……

Date; ……

APPROVAL

I MS. Madam Patricia Nduru confirm that Abiro. M. Immaculate Achuka conducted research under my supervision and this dissertation has been submitted under my endorsement as a supervisor of the student's research.

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DEDICATION

I dedicate this paper to my dad and all retired and active militants who risk their lives for the protection of their countries and are constantly in the face of fatal or irreparable damage upon their lives. Your work is highly appreciated. This paper is also dedicated to everyone who has suffered loss or been affected by war as result of emerging technologies. This is a constant reminder of the need for ethical considerations in the use of these machines. As well as my supervisor, who has aided critical thinking in the face of rising technologies and the future of war.

ABBREVIATIONS AND ACRONYMS

AWS - Autonomous weapon systems

AP 1 - Protocol additional to the Geneva conventions of 12 august 1949, and relating to the protection of victims of international armed conflicts (Protocol I) 8 June 1977

AP 2 - Protocol additional to the Geneva conventions of 12 august 1949, and relating to protection of victims of non-international armed conflict (Protocol II)

IHL - International Humanitarian Law

IHRL -International Human Rights Law

ICRC -International community of the Red Cross

G.C - Geneva Convention

ABSTRACT.

This research will seek to give some insight on what should be done to level the ground when it comes to armed conflicts among states, keeping in mind the application of the principles of customary international humanitarian law.

The development of artificial intelligence in each and every aspect and field globally means that the area of armed conflict is not an exception. In a bid to ensure complete achievement of the reasons for resorting to armed conflict, states have been seen to openly resort to the use of these autonomous weapon systems. The employment of these autonomous weapon systems in conducting war has been to a larger extent a disregard of the principles governing armed conflict. This is majorly because the law of armed conflict seeks to strike a balance between humanity and the ability to achieve the desired end for either party to the armed conflict. It should be duly noted that in order to uphold the concept of humanity, international humanitarian law runs and is based on a number of guiding principles that include the principles of humanity, distinction, discrimination, military necessity, proportionality, neutrality, as well as prohibition from causing excessive harm and superfluous injury.

It should be noted that the law governing armed entirely leans on the need to distinguish civilians and civilian objects from the military and military objects and objectives. This is embedded under articles 48 and 51 (4) of additional protocol 1 to the Geneva conventions.

Therefore, taking all necessary laws, conventions and treaties into consideration, this research paper will show how the use of autonomous weapon systems in armed conflict is a threat to the observance of the principles of international humanitarian law does, placing emphasis on how the use of these autonomous weapon systems defies and limits the actual implementation of the principles above that govern the law of war.

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CHAPTER ONE:

GENERAL INTRODUCTION:

1.0. INTRODUCTION.

The need to create a balance and ensure a leveled ground for parties involved in conflicts is the major reason for the law on armed conflict. In an effort to ensure this, through continuous customary practices, a branch of law known as international humanitarian law has been developed overtime to regulate the conduct of parties involved in these hostilities. IHL is based on a number of principles all of which look to protect all parties to a conflict from superfluous injury as a result of unnecessary use of force. Some of these principles include necessity, neutrality of states not involved in the conflict, the prohibition from causing excessive harm and superfluous injury, the principle of proportionality, the principle of distinction and military necessity. It is arguable that in as much as IHL looks to strike a balance, and facilitate both the intentions of the belligerents as well as protect those involved in armed conflict. It is clear that this branch of law is largely humanitarian. To ensure the observance of these principles amidst hostilities, many other aspects of international humanitarian law have been developed one of which is the Convention on certain conventional weapons [1] that looks to supervise the choice of means and methods used in warfare alongside other conventions, treaties and laws. Means refers to the weapons or weapon systems used and methods refers to the tactics or strategies used to defeat an enemy in a situation of armed conflict. Under IHL, the use of armed force must follow the laid out rules provided for by the different codified laws in cases of armed conflict. This is because IHL looks at the objective of war being to only weaken and overwhelm the opponent and not to completely destroy them. A large variety of weapons maybe employed to ensure that the defined goal of IHL is achieved and these weapons maybe used in different ways .However IHL regulates the use of these weapons as well as the weapons themselves .Weapons that are known to be prohibited under IHL are those of a chemical

[1] United Nations , Convention on prohibitions or restrictions on the use of certain conventional weapons which may be deemed be excessively injurious or to have indiscriminate effects, adopted 10th October 1980, entered into force 2nd December 1983, United Nations treaty series, vol.1342,p.137

and biological nature as well as those that are indiscriminate , that is, those weapons that cannot differentiate civilian and combatant targets as well as weapons that are likely to cause unnecessary or superfluous harm.

However, with the increasing relations among states, it is inevitable for states to be involved in conflict and in as much as IHL has been clear to state the definite principles governing it and the need for parties to hostilities to pay attention to their choice of mans and methods of warfare, the constant development of economies has also led to the development of new technologies which in turn have been employed as a means and methods in the war and this are called autonomous weapon systems. According to Maria Rosaria Taddeo and Alexander Blanchard[2], the definition of autonomous weapon system may be drawn from different jurisdictions, but I will refer to the definition used in china. According to this definition, autonomous weapon systems are characterized by five primary features, though the definition is not restricted to these alone. First, is lethality which refers to the system's ability to carry a destructive payload capable of causing fatal harm. Second is autonomy. This means that the system operates entirely without human oversight throughout the execution of its tasks. Third is the inability to be terminated, implying that once activated the system cannot be stopped. Fourth is indiscriminate action, where the system carries out attacks causing injury or death, without distinguishing between different environments, situations or targets. Lastly evolution, this means that their ability of the system to independently learn and adopt through environmental interactions, potentially growing in functionality and complexity beyond what its creators anticipated (china, 2018)[3].

1.1 BACKGROUND

The war started in 2014 after Russia's annexation of Crimea and escalated in 2022 and still going on to date. The occupation of Crimea happened after Russia had earlier tried to suppress the euromaidan movement which was peaceful but later turned into a broader protest against the then Ukrainian government that had refused under its

[2] Gulmez, Salih (2023) "military robots: ethics of lethal autonomous weapon systems (master's thesis). Middle East technical university. https://hdl.handle.net/11511/105528
[3] Gulmez Salih (2023) "military robots: ethics of lethal autonomous weapon systems (master's thesis). Middle East technical university. https://hdl.handle.net/11511/105528

President Victor Yanukovych, to partake in association with the European Union in favor of its close ties with Russia[4].

Russia invaded Ukraine to assert its dominance and to prevent Ukraine from joining the north Atlantic treaty organization (NATO) and the European Union (EU) which Putin the president of Russia view as threats. The invasion was also backed up the need to maintain strategic control over Crimea and the black sea region and also to protect the rights of ethnic Russians in Ukraine and to ensure favorable economic ties and trade routes through territorial control particularly for Russian gas exports to Europe[5].

The war has seen a drastic increase in the production and use of military technology on either side as it was already stated that the Russo Ukrainian war has seen the most openly and widespread use of autonomous weapons systems that are a make of technology. The conflict has seen the overt use of artificial intelligence driven weapons, drones, cyber warfare, and artificial intelligence driven battlefield strategies[6].

Autonomous weapon systems are the main reason for the enactment of the 1980 convention on prohibitions or restrictions on the use of certain conventional weapons[7] which may be deemed to cause excessive injury or have indiscriminate effects.

It is an undeniable fact that with the constant development of artificial intelligence around the world, the development of autonomous weapon systems are not an exception to this wave. As earlier stated, this would be with an aim of fully achieving the aims of engaging in warfare. An argument has been put up that autonomous weapon systems are meant to address the threat of global terrorism. However, the argument is

[4] Ibid
[5] ibid
[6] ibid
[7] Convention on prohibition or restrictions on the use of certain conventional weapons which may be deemed to be excessively injurious or to have indiscriminate effects (with protocols I, II, III) GENEVA, 10 October 1980

not satisfactory as how can it then be explained that systems that have been created to curb terrorist attacks have since been used in conflicts[8].

'*Unbeknownst to many, lethal autonomous weapons (AWS) have existed for decades, but they have largely been defensive and anti-material. However, as increasingly advanced defensive AWS, such as complex swarming systems, become more prominent, states will assuredly develop ways to counter, including offensive LAWS. Certainly, the near developmental focus of such systems will be on operational environments in which there are relatively low risk of injury or death to civilians or untoward incidents in general , it is a matter of when, not if, these systems will be widely used in direct combat situations'*[9]

More advanced and equipped weapons systems are gradually becoming incorporated into warfare as artificial intelligence and technology develops. "*The first mass production of autonomous weapon systems was seen was the Kettering "Bug" Aerial Torpedo (circa 1917)10 as well as Soviet "Teletank" units (two battalions), and German "Goliath" remote-control mini-tanks (over 7,500 produced) used during World War II World War 2, that marked the end of the Nazi regime in 1945 contributed greatly to the development of nuclear weapons, enhanced aeronautic capabilities, advanced computers, radar, microwaves, all of which were classified under autonomous weapons systems"*[10]. The arms race competition between the United States and Soviet Union defined and sparked the cold war that was a result, a platform for the states to show their superiority by producing more autonomous weapons systems. These weapon systems included the EF-111 Raven developed by general dynamics and Grumman, served as a platform for electronic jamming and reconnaissance missions. Other notable systems include the maverick missile, a laser-guided weapon designed to destroy tanks from the air; the McDonnell Douglas F-15Eagle, equipped with long-range radar-guided

[8] Terrorism and autonomous weapon systems: future threat or science fiction? Expert analysis Dr Alexander Blanchard , Jonathan hall kc 19 June 2023
[9] Scholar.smu.edu
[10] Law school student scholarship 1248.

missiles; and the A-10 Thunderbolt II from Fairchild republic specifically built for close air support and targeting armored vehicles. [11]

In 1943 the war new functionalities were introduced majorly to listen for, locate, track and home in on German U-boats attacking allied transatlantic shipping.[12]After the war, larger autonomous functionalities majorly air defense mechanisms were introduced and these caused the kamikaze raids of Okinawa in 1945 that turned out to be intense. Eventually, the US military developed, tested and deployed autonomous weapon systems that resulted into weapons that once fired by a human operator had a degree of self-governance and could go on to continue an attack entirely on their own[13].

During the Vietnam War, less sophisticated guided weapons were commonly employed, while more advanced guided missiles and bombs became prominent during operation desert storm. By 1999, the CBU-105 wind- corrected munition dispenser (WCMD) was introduced. This air-dropped weapon could navigate over a target area and release 40 sensor-fused sub munitions, each capable of autonomously identifying and attacking armored vehicles. It saw significant use during the 2003 invasion of Iraq.

1972 saw the introduction of the British morfax mark 7 wheelbarrow which was the first unmanned vehicle[14]. It was manufactured by a UK company called morfax and it was a remote controlled track vehicle with a single use in mind which was used to locate and dispose of dangerous objects mostly bombs[15].

Many writers like Thompson Chengetta in his book accountability gap: autonomous weapon systems and modes of responsibility in international law and Ronald Odhiambo Bwana In his article kicking man out of the loop: the case of loitering munitions and implications for international humanitarian law have seemed to agree on one particular point that the use of autonomous weapons systems dehumanize war when they are used in disregard of the principles governing IHL. As a matter of fact, the continuous

[11] Skinner, airland battle doctrine 25
[12] New York institute of technology.
[13] Work, Robert O. “A short history of weapons with autonomous functionalities .” principles of the combat employment weapon systems with autonomous functionalities , center for new American security, 2021, pp 5-7 JSTOR
[14] www.herittage.org
[15] Tom, Chaine ; Back in the day : the morfax paradigm .2:30 pm Friday 16th December 2022

production of these autonomous weapon systems, coupled with their foreseeable benefits, creates the need to use them despite all the laws that have been put in place including the convention on certain conventional weapons (1980), the chemical weapons conventions (1993), and biological weapons convention (1972). The benefits attached to these autonomous weapons systems encourages their production so as they can be used in armed conflict which weapons disregard the principles of international humanitarian law which in turn dehumanizes armed conflict, going against the very heart of the law of armed conflict.

1.2 CONCEPTUAL FRAMEWORK

PRINCIPLES OF THE LAW OF ARMED CONFLICT	- Humanity - Proportionality - Prohibition from causing excessive harm and superfluous injury - Discrimination - Distinction - Neutrality - Military necessity	INDEPENDENT VARIABLE
AUTONOMOUS WEAPON SYSTEMS AS A MEANS AND MEHODS OF WAR FARE	-The convention on certain convention weapons - Accountability -Means of warfare -Methods of warfare	DEPENDENT VARIABLE

1.3 STATEMENT OF PROBLEM

The use of autonomous weapons systems in warfare has come a long way and if not paid attention to may cause massive instability. The biggest and most significant problem in regards to the use of autonomous weapons systems in the Russo – Ukrainian war the use of autonomous weapon systems in the war such as lancet drones, switchblade drones and artificial intelligence target systems as a means and method of warfare and this causes a threat to the law of armed conflict. The threat is majorly because the law on armed conflict does not regulate autonomous weapon systems which means that the employment of these autonomous weapon systems is to the detriment of all the parties involved in and affected by the war as there are high chances on experiencing harm, loss and damage of lives and property as inevitable effects of the war. This is also a problem in regards to ensuring the protection of civilians and militants which can only be done by abiding by the principles governing armed conflict such as proportionality, necessity , distinction and others , that autonomous weapon system are not subject to.

1.4 OBJECTIVES OF STUDY

The main objective of the study is to establish the lack of a well-defined relationship between the autonomous weapons systems and the principles governing the law of armed conflict.

The specific objectives include

1. To analyze the dangers caused by the use of these autonomous weapon systems to the militants and civilians in the Russo- Ukrainian war

2. To examine the extent to which the use of autonomous weapon systems can comply with the principles of international humanitarian law.

3. To identify the legal and ethical concerns relating to the use of autonomous weapon systems in the Russo- Ukrainian war.

1.5 RESEARCH QUESTIONS

The research will look to answer the following questions;

1. How has the use of autonomous weapons systems been a danger to the militants and civilians subject the Russo Ukrainian war?

2. To what extent does the use of autonomous weapon systems align with the principles of international humanitarian law?

3. Whether the use autonomous weapons systems may in the long run be of any effect to the law governing armed conflict?

4. What should be done to regulate the use of autonomous weapons systems in situations of armed conflict?

1.6 SIGNIFICANCE OF THE STUDY

This research is mainly going to look at the threat posed by autonomous weapons systems in war specifically looking at how the continuous use of these autonomous weapons systems does not align with the principles governing the conduct of hostilities and how this non-alignment to the principles is a grave danger to those that are involved in or subject to the effects of the hostilities, paying attention to any threats that may have surfaced in the Russo – Ukrainian war. The research will also seek to prove that without the application of these principles, the branch of international humanitarian law is at a risk of being completely demeaned since the canons on which it was grounded have been, to a larger extent, breached through the continued use of these autonomous weapons systems in war.

1.7 JUSTICATION OF THE STUDY

The need for this research is to draw a significant line on the dangers that can be caused due to the continued use of these autonomous weapon systems in the Russo-Ukrainian war especially to those that may be experiencing the hostilities first hand, and how the continued use of AWS poses a threat, majorly to the observance of the principles

governing IHL during the Russo-Ukrainian war , considering they are the bedrock for the behavior that is employable in the conduct of hostilities and yet these principles do not regulate autonomous weapon systems. This research will also look to show how it is not ideal to use machines as means and methods of war because they lack the ability to apply the basic knowledge a human would have to, basing on the standards laid out in regards to the principles of IHL and how these standards are employed in war to ensure the rightful conduct of these hostilities.

1.8 SCOPE OF THE STUDY

As the years go by, war is continually being advanced including the weapons that are being produced and employed in war which is most definitely able to cause a shift in the law of war.

The research is going to focus on the different AWS and their capabilities as used in war and the effect of these autonomous weapon systems

The research is going to place emphasis on the Russo – Ukrainian war and what means and methods have been employed in the war and the effects of these means and methods.

The time scope of the research is two months and it is to be carried out by conducting online research from writers that have written on AWS and it is to be limited to how AWS relate to the principles governing the law of armed conflict.

1.9 LITERATURE REVIEW

Autonomy is the capability machines have to perform any tasks without human input relying on sensors and computer programming with the environment[16]. Autonomy supports weapon systems with enhancing their mobility, targeting intelligence, system coordination and internal diagnostics.[17]. The law regarding the use of autonomous

[16]

[17]www.rand.org

weapons is envisaged is international humanitarian law also known as the law of armed conflict[18]. The intention of the law of armed conflict is to strike a balance between humanity and the permissibility of war and the application of hostilities to attain a desired objective in the end.

As Robert. O. Work noted, when a weapon is designed that it becomes impossible to hold anyone accountable for its outcomes, the use of such weapon becomes both morally wrong or legally unacceptable[19]

Although international humanitarian law does not contain explicit provisions regulating autonomous weapon systems, there is general consensus that such systems must operate in full compliance with IHL standards. It is the duty of each state involved in the development, deployment or use of these systems to ensure this compliance[20].

According to Dustin A Lewis in his analysis of war algorithm accountability, the key technological issue lies in the ability of autonomous systems to independently make or implement decisions related to warfare without human input. His work explores the potential for these algorithms to be governed by existing international legal frameworks with an emphasis on accountability. However, while his research highlights the challenges of enforcing responsibility for actions taken by autonomous weapon systems, it does not comprehensively examine how these systems interact with, or possibly violate the foundational principles of international humanitarian law. In contrast the current research aims to specifically explore how these principles are often overlooked or breached through the deployment of autonomous weapon technologies. [21]

It is common knowledge that international law has set a standard for states to follow so as to always maintain a peaceful and co-existent living and trading environment and this standard has mainly sought to achieve everything possible to ensure that states are

[18] Mazal, J., Fagiolini,A, A., Vasik,P., Pacillo, F., Bruzzone, A., Pickl, S.,& Stodola, p. (eds.).(2024). "Modelling and simulation of autonomous systems", Springer. https://doi.org/10.1007/978-3-031-71397
[19] Slidelegend.com
[20] Robert. O. Work. Principles for the combat employment of weapon systems with autonomous functionalities. A short history of weapon systems with autonomous functionalities , center for a new American security (2021)
[21] University of Cambridge student papers .Lewis, D.A., Blum, G., &Modirzadeh, N.K. (2016). War algorithm accountability. Harvard law school program on international law and armed conflict. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2832734

always at peace with each other, preventing the outbreak of the use of force at all costs. This whole notion on protecting peace among states introduces the concept of jus ad bellum. This sector of the law looks at the conditions that are acceptable and may permit states to go to war or use armed force in general. It should be noted that in a quest to ensure longevity of peace time among states, international law is governed by a number of principles some of which include prohibition of the use of force. The 1945 United Nations charter on the prohibition of the use of force under article 2(4) confirmed the trend that '*the members of the organizations shall refrain from the threat or use of force against the territorial integrity of political independence of any state or in any other manner inconsistent with the purposes of the united nations.* Non-intervention of states is another principle looks to ensure non-interference in internal and external affairs of other states. This builds up from the principle of states sovereignty. Another important principle that may be of importance to this topic of study is the principle of state responsibility. Under international law each state is held accountable for any wrongful acts that may have been committed towards another state. The Nicaragua case[22] is one that can be looked at to establish how far international organizations go to hold a state accountable for their wrongful acts towards another state. The case revolved around the liability of the United States in regards to the principle of state sovereignty. This was in regards to the fact that the US had supported the contras rebels with financial, military and logistic support which who were fighting the Sandinista government in Nicaragua[23]. The court held that there can be no doubt that the provision of strictly humanitarian aid to persons or forces in another country whatever their political affiliation maybe or objectives, cannot be regarded as unlawful intervention or as in any other way contrary to international law[24]. The Lockerbie case also goes ahead to show when states may take on responsibility for

[22] International court of justice.(1986).military and paramilitary activities in and against Nicaragua (Nicaragua v united states of America).Judgment of June 27, 1986, I.C.J. reports 1986, p. 14. Dspace.ashoka.edu.in

[23] ibid

[24] International court of justice (1986). Military and paramilitary activities in and against Nicaragua (Nicaragua v United States of America). Judgment of June 27, 1986, I.C.J. reports 1986 , p. 14

acts committed by those holding positions of authority[25]. The facts of the case were that on December 21, 1988, pan am flight 103 exploded over Lockerbie in Scotland killing all 259 people on board and 11 on ground, in 1999, Libya handed over two suspects claiming that they had not acted on directions of the government. The case tested whether individuals could be held accountable for actions counted as those of the state. It was decided that personal individuals are held accountable when it comes to terrorism even though they are acting on directions of a state[26]. However, in as much as international law actively prohibits the use of force among states there are exceptions to this rule. Self-defense for one stands as an exception as stipulated under article 51[27]. As long as an attack on a state has been proved to be eminent or actual, the act of self-defense is proportional and is as well necessary, then, self-defense is established as an acceptable avenue for the use of force towards another state[28]. A case to this effect is the Caroline incident. In this case during the Canadian rebellion against British rule, some Americans supported the Canadian insurgents by providing ammunition over an American steam ship called the Caroline. . The British crossed into American territory seized the ship and destroyed it, to which the Americans argued on grounds of proportionality and necessity and the court ruled in their favor stating and act in retaliation should be necessary and proportional to the attack[29]. Articles 34, 35, 36 and 42[30], provides for the ability of the UN Security Council acting upon chapter VII of the charter to resort to the collective use of force in response to a threat to the peace, a breach of peace or an act of aggression. Another additional exception to this rule is the use of force to protect nationals

The exceptions laid out in regard to the prohibition of the use of force , now, show us that there is indeed a possibility for states to use force that may result to war not mainly based off of the exceptions provided under the statute but may be result of

[25] Case concerning questions of interpretation and application of the 1971 Montreal convention arising from the aerial incident at Lockerbie (Libyan Arab Jamahiriya v united states), ICJ reports 1992, p. 114 (preliminary objections)
[26] ibid
[27] Article 51, United Nations Charter "nothing in the present charter shall impair the inherent right of individual or collective self-defense …"
[28] Christopher greenwood, essays on war in international law (Cameron may 2006)
[29] The Caroline v united states 11U.S.496(1813)
[30] Articles 34, 35, 36 and 42 of the United nations charter, chapter VII

other reasons majorly known the parties involved . When war is declared between or among states, another concept of international law which is 'jus in bello' is introduced. Jus in Bello majorly looks at the conditions and rules that parties involved in conflict are subject to as they conduct the war[31]. The branch of international law that governs jus in Bello is known as international humanitarian law. International humanitarian law is a branch of customary international law that looks to protect those that are actively involved in war while trying to find a balance to also help different states to achieve the end result for which they may be involved in this war. International humanitarian law also known as the law of armed conflict or the law of war is mainly employed in regards to two classes of conflict. These are, international armed conflicts that look to govern the conduct of hostilities among two or more states, across boundaries and non-international armed conflict that focuses on any conflict that is not among high contracting parties but rather is confined within a territory. In a non-international armed conflict, the parties are mainly not high contacting parties or states. For this kind of conflict to attract the application of international humanitarian law, it should fall in the confines of common article 3[32] and article 1[33] of the Protocol Additional to the Geneva conventions of 12 august 1949, and relating to the protection of victims of Non-international armed conflicts (Protocol II), 8 June 1977.

In 2016, the US launched the sea-hunter, a system that was meant to scavenge the waters for months looking for enemy sub-marines and reporting their location without any available on-board crew. The system was also able to attack submarines on its own[34] .Although such systems area highly desirable , their production has caused a state of urgency among humanitarian organizations , human rights campaigners, arms control

[31] Yoram Distein , the conduct of hostilities under the law of international armed conflict (3rd edition , Cambridge university press 2016)

[32] Common article 3 of the Geneva conventions (1949), "in the case of armed conflict not of an international character occurring in the territory of high contracting parties, each party to the conflict shall be bound to apply ,as a minimum , the following provisions..."

[33] Article 1 of the additional protocol to the Geneva conventions (1977)"this protocol [...] shall apply to all armed conflicts which take place in the territory of a high contracting between its armed forces and dissident armed forces or other organized armed groups which, under responsible command, exercise such control over a part of its territory as to enable them to carry out sustained and concerted military operations…"

[34] The US navy's new autonomous warship called the sea hunter /an unarmed craft designed for hunting submarines and more by James Vincent via Reuters /source Darpa April, 8 2016 at 11; 33am MT +3

advocates among others, who believe that the continued employment of these weapons in as much as they are diversified would not and do not have the capability to distinguish between civilians and combatants or to any extent execute the other principles governing armed conflict[35].

"*The massive use of these systems, use of drones in the war in Ukraine is pushing for more AI guided weapon systems"* [36] *says Win Zwinjnenburg, a project leader in humanitarian disbarment at PAX, a Dutch organization that campaigns to end armed violence.*

Some of the weapons systems with autonomous functionalities used in the Russo-Ukrainian include, the Russia KUB- BLA drone. This particular system hits the ground targets, delivering target coordinates. It is said to incorporate artificial intelligence, visual identification (AIVI) technology for real time recognition. It also increases the area covered during a single flight by 60 times and improves the drone's lethality and autonomy [37]. Its nature vitiates the principles of proportionality, distinction and necessity as it is loitering munition that solely directs its attacks. Russia reportedly used the KUB-BLA on numerous occasions since its invasion of Ukraine began with the first evidence of its use being in March 2022[38].

Russia's lancet drone is also another AWS that is a smart multipurpose weapon capable of autonomously finding and hitting a target. It creates its own navigation and communications modules as well as its own navigation field and does not require ground or sea based infrastructure.[39] Just as the KUB-BLA, the lancet drone is made with censors that enable it attack a desired target, although it is unable to distinguish whether it's a civilian or military. The lancet drone also lacks the ability to apply proportional force or even employ precaution to prevent excessive harm.

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[36]Morgan Meaker, business Feb 24, 2023, 7:00 am. Ukraine's war brings autonomous weapons to the front line.
[37] ibid
[38]www.wired.com
[39] ibid

Ukraine's Bayraktar TB2 drone, switchblade loitering missiles and the phoenix ghost drone has also been successfully used in the war. The Turkish –made Bayraktar TB2 drone is a multipurpose system that with autonomous flight capabilities that can perform target acquisition using an on-board laser designer, switchblade 300 and switchblade 600, loitering missiles with various autonomous capabilities. The US has also committed to provide switchblade 600 systems and 121 phoenix ghost systems to Ukraine. These are a kind of loitering munition with a guided anti- armor warhead[40] developed to destroy armored ammunition. The application of these principles often requires difficult and subjective judgments to be made in the context of complex and rapidly evolving military scenarios. Such judgments are heavily dependent on context and the specific facts of the situation. Determining the proportionality of an attack requires a value judgment to be made about whether the civilian impacts are "excessive".[41]This simply means that determining the force to be used should be done keeping in mind what the impact on civilians would be in comparison to the military advantage to be achieved. This decision is made by the leaders in command, as they try to strike a balance between achieving their military advantage, where harm is to be caused to civilians.

According Robert Sobon, if AI continues to be incorporated in modern warfare, the likability of human intervention and control persisting in warfare is limited, the decisions and capabilities of AI may remain the sole thriving force in conducting war, completely and entirely neglecting human intervention.[42]His research broadly discusses the ethical concerns as in regards to responsibility, legitimacy and accountability where autonomous weapon systems are used but does not look to challenge the employment of these weapon systems in regards to the principles of international humanitarian law. The paper does not provide a legal critique to the use of autonomous weapon systems as in regards to international humanitarian law

[40] ibid

[41] A legal perspective ; autonomous legal systems under international law by Neil Davidson scientific and policy advisor, arms unit , legal division international community of the red cross

[42] Robert Sobon on AI and arms; The Cold war Continued 2022

In 2015, Stephen Hawking, Elon Musk, Steve Wazniak and many other leaders in the AI space openly condemned the development of autonomous weapons systems stating that,

"The key question to humanity today is whether to stat a global AI arms race or to prevent it from starting. If any major military power pushes ahead with AI weapon developments, a global arms race is virtually inevitable and the endpoint of this technological trajectory is obvious, autonomous weapons will become the Kalashnikov's of tomorrow"[43]

In regards to this article, the continuous use of these autonomous weapons systems is an imminent danger mostly to the observance of the principles of international humanitarian law. The article also does not address what should be done to limit the use of these autonomous or at least how they can be regulated to align with the principles of international humanitarian law

As earlier established, international law as a whole looks to attach accountable parties to any act that may be discoverable as a breach of international as Robert Sobon identifies. In Robert Sobon's article, he emphasizes the fact that non-dependence on AWS on human intervention limits the level of accountability expected in IHL. Individuals and organizations as well as governments of states can be held responsible for any wrongful acts against other states. And this responsibility is majorly attached to the decisions that these parties make or the responses they choose to take when it comes to any situation that may call for international intervention. This is easier because there is an identity attached to the different actions exercised. However, the same cannot be said in situations where this accountability is meant to be directed to an autonomous weapon system (AWS). I earlier established that AWS do not have the ability to apply basic human knowledge as they cannot apply human intuition to carry out tasks like distinction, preserving humanity determining what amounts to military necessity among other tasks. It becomes evident then, that even responsibility for

[43] Eric Levitz, Elon Musk and Stephen hawking call for a ban on autonomous weapons, MSNBC (Jul28, 2016) httpps:/www.msnbc.com/elon-musk-and-stephen-hawk-call-a-ban-on-autoonomus weapons 649206

harmful actions, in as much as it may be traced back to a AWS, needs to be owned up to by either a human, organization or any government which defeats the whole notion of accountability for persons responsible as it is looked at under international law.

Responsibility, legitimacy and accountability have always been core principles of ethical warfare,[44]as each side involved in conflict is answerable for the decisions it makes during combat . The application of international humanitarian law in warfare inherently requires some degree of human involvement. Although international humanitarian law places legal obligations on states and conflict participants, it is ultimately individuals who must follow these rules during attacks and who can be held liable if the rules are broken.

Therefore, maintaining a certain level of human oversight over autonomous weapon systems is essential to ensure the user's intent is properly reflected in the system's actions. This requirement for human input may naturally restrict how autonomous these weapons can be while still complying with IHL. [45].

It is important to note that responsibility is taken to create dependable platform for accountability where these actions may be of harm. Then accountability will inform the responsible parties on who should be rightfully punished or who should pay the cost of this wrongful act. Legitimacy speaks to establish the fact that responsibility and accountability as explained, are held and traced back to the party responsible and also, legitimacy looks to ensure that whatsoever is said and done in conducting hostilities and employing any rightful action subsequent, is done in accordance with the laws that govern that particular aspect. With all that established, it is clearly interpretable that, picking from the definition given on autonomous weapon systems (AWS), and the absence of human intervention as well incapability of AWS to apply basic human knowledge, AWS, do not meet the standard of responsibility, legitimacy, and accountability, hence an imminent threat to what the principles of international

[44] War under international law, legal bites (Jun 1, 2018) https:/www.legal bites.in /war –international law. Scholarship shu. edu
[45] Stephen Harwood. A cyber-systematic view of autonomous weapon systems (AWS)