ASSESSING THE COMMAND RESPONSIBILITY IN ROBOTIC WARFARE: A CHALLENGE TO INTERNATIONAL HUMANITARIAN LAW

Submitted by:

FOUZIA PERVEEN

Registration no: 232-FSL/LLMIL/F15

Supervised by:

DR. SADIA TABASSUM

Assistant Professor

Department of Law

Faculty of Shariah and Law

International Islamic University, Islamabad

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(K)

(1) Military weapons

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(3) Humanitarian law


بسم الله الرحمن الرحيم

----DEDICATED TO MY BELOVED FATHER----

International Islamic University Islamabad
Faculty of Shari'ah& Law
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Approval Sheet

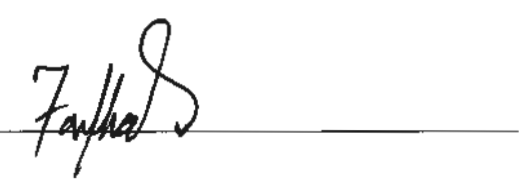
This is to certify that we evaluated the thesis entitled "Assessing the Command Responsibility in Robotic Warfare: A Challenge to IHL" submitted by Fouzia Perveen (Registration no:232-FSL/LLMIL/F15) in partial fulfillment of the award of the degree of LLM International Law. The thesis fulfills the requirements in its core and quality for the award of the degree.

Dr. SadiaTabassum, Assistant Professor

Supervisor

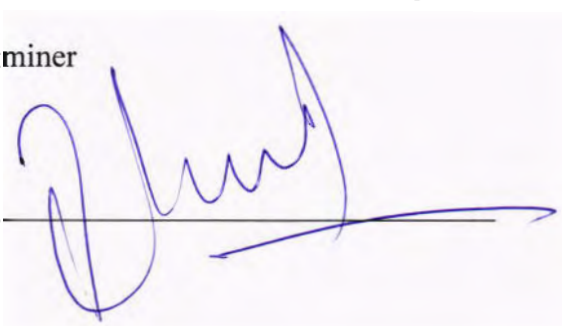
Dr. Farkhanda Zia Professor, Department of Law

Internal Examiner



Miss SadiaZahoor, Lecturer Behria University,Islamabad

External Examiner



ACRONYMS

IHL.	International humanitarian law
ICL.	International Criminal Law
ICC.	International Criminal Court Statute,
ICTR.	International Criminal Tribunal for Rwanda Statute
ICTY.	International Criminal Tribunal for Yugoslavia Statute,
ICRC.	International Commission of Red Cross
CIHL.	Customary IHL,
RS.	Rome statute of International Criminal Law
AP-I	Additional Protocol-I of Geneva Conventions (1977)
AP II	Additional Protocol-II of Geneva Convention
HR	Hague Regulations, 1907
4 GC's	Four Geneva Conventions
CIL.	Customary International Law
DoD	Department of Defence
IDTs	Intelligent Decision-making Techniques

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INTRODUCTION

With the advancement of the science and technology the idea of "robotic warfare" has been introduced. Similarly, robots which select and target without human interference, are speculated to threaten the basic principles of IHL, leading to augmented international armed conflict and licentious or unfair decisions on the battleground. With the emergence of this concept of modern warfare several issues relating to the applicability of IHL have been raised. In this research, the key issues related the robotic warfare with special reference to autonomous weapon system is discussed.

Another issue which has been discussed is legal status of the robotic weapons along with their compliance by way of the doctrines of distinction and proportionality. The importance of command responsibility has also been evaluated in the context of robotic warfare. Weapons technology in today's world is becoming more unconventional, similarly humans are being removed from battlefield. In fact weapons are aiming to remove human being from the battlefield to avoid risk of harm to them.[1] Autonomous Robotic Weapons System is operating by themselves due to advancement of technology. It seems as science fiction but is going to be reality with their capability of operating itself, independently from human oversight.[2] Setting up of lethal Autonomous Robotic System in battlefield, may remove human altogether in near future.[3]

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[1] Asaro, Peter, How Just could a Robot War Be? In P Brey, A Biggle and K Waelbers (eds), Current Issues in computing and Philosophy (IOS press 2008), 50, 57.

[2] Grut,, Chantal, The Challenge of Autonomous Lethal Robotics to International Humanitarian Law, (Oxford University Press, 2013), 5.

[3] Singer P.W., Wired For War: The Robotics Revolution and 21st Century Conflict (The Penguin Press, 2009), 75, 123.

As future military systems incorporate greater autonomy, however, the way in which that autonomy is incorporated into weapon systems will raise challenging legal, moral, ethical, policy and strategic stability issues.[4] However, this research will also discuss other principles of IHL which should be under consideration by Commander himself in order to avoid unnecessary sufferings by robotic weapons in battlefield. For this purpose, Principle of Proportionality is declared in AP I, Articles 51 and 57; and Hague Convention IV, Article 26, says that, 'The harm caused to civilians or civilian property must be proportional and not excessive in relation to the concrete and direct military advantage anticipated by an attack on a military objective.'[5]

Likewise, Principle of Distinction is mentioned in AP I, Articles 40, 41, 48, 51 and 57, AP II Articles 4 and 13 GC IV, Art 27, Common Article 3and states that: 'all those involved in hostilities must distinguish between those who take part in hostilities and those who do not or no longer take part.' Opining that an autonomous machine's behavior 'must be attributed to the machine itself and not to its designer or operator'[6] The use of fully autonomous weapons raised serious concerns of responsibility, which would erode another established tool for civilian protection. Given that such a robot could identify a target and launch an attack on its own power, it is unclear who should be held responsible for any unlawful actions it commits.[7]

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[4] Ibid 2

[5] Article 52 of Additional Protocol I to the Geneva Conventions provides a widely accepted definition of military objective: "In so far as objects are concerned, military objectives are limited to those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage", (Moreno-Ocampo 2006, p. 5,

[6] Andreas Matthias, The Responsibility Gap: Ascribing Responsibility for the Actions of Learning Automata, (ETHICS & INFO. TECH. 175, 182 (2004))

[7] Ibid

Hence, limitation of present research will be around autonomous robotic weapon system, command responsibility and their implications with respect to IHL during robotic warfare. This indiscriminate killing by robots has opened the new chapters of debate among the international jurists, organization and other subjects of international law. This research is conducted to discuss all these issues in detail and to bring some solution.

THESIS STATEMENT

Indiscriminate targeting by lethal autonomous robotic weapons system in contemporary world without requiring human intervention is challenging the principles of IHL particularly command responsibility during armed conflicts.

SIGNIFICANCE OF STUDY

This research would discuss different dimensions of IHL with special focus on liability of Commander for the use of robotic weapon system during armed conflict. Researcher shall analyze that, whether, robotic warfare truly creates accountable black hole and this research will also discuss and relate principles of IHL to establish whether superfluous and unnecessary suffering caused by fully Autonomous Robotic Weapon System. Further, it will also highlight that indiscriminate targeting by these weapons cause serious challenges to IHL which as a result lead towards unjust war.

LITERATURE REVIEW

For literature review, the researcher has gone through a number of books, statutes, articles, reports and law journals on the subject. There is a plethora of literature available on command responsibility but limited data on robotic warfare with regard to commander responsibility.

Following is the available literature on the issue of Challenge of Command Responsibility and liability for use of autonomous robotic weapons system in warfare in the form of primary and secondary data sources. Primary sources are;

1. The book *"IHL and the law of armed conflict"* by Antoine A. Bouvier is a comprehensive reference work on laws of Armed conflict. It should be emphasized that the rules and principles of IHL are actually legal rules, not just moral or philosophical precepts or social custom. The corollary of the legal/normative nature of these rules is, of course, the existence of a detailed regime of rights and obligations imposed upon the different parties to an armed conflict. For those states that have accepted them, the treaties of IHL are of a binding character. This means, inter alia, that the most serious violations thereof trigger individual criminal responsibility. IHL must be understood and analyzed as a distinct part of a more comprehensive framework, the rules and principles.[8]
2. The book "*Routledge handbook of ethics and war, Just war theory in the twenty-first century*" Edited by Nicholas G. Evans, Fritz Allhoff, and Adam Henschke, grapples with these and other questions by exploring the relationship between theory and practice. Contributors of this book examine the theoretical aspects of the just war tradition, their application to modern conflicts, and the way that this tradition is changing or ought to be changing in the face of new social and technological development with special reference of IHL. Mainly the book

[8] A. Bouvier Antoine, International Humanitarian Law and the Law of Armed Conflict, (Peace Operations Training Institute, 2012), 20.

comprises of three parts: changes in the just war theory, changes in the sorts of actors in war, and changes in robotic technology. [9]

3. Book *"Handbook on the Practical use of IHL"* by Rikke Ishøy in this literary work writers considered commander responsible for violations of IHL and its principles by subordinates. If they under authority should have knowledge of commission of offences by subordinates or failed to preclude his subordinates for commission of offences in battlefield or to investigate them for such violation. Report for such violation should be sent to higher authority. It is written in this handbook that if subordinates violated principles of IHL than commander will be punished on behalf as he could not prevent them.[10] New strategies should be made in order to cope up with issue of robotic warfare.
4. Lin. P, F. Allhoff, and N. Rowe, "*Is It Possible to Wage a Just Cyberwar?*" This new Handbook offers a comprehensive overview of contemporary extensions and alternatives to the just war tradition in the field of the ethics of war. The modern history of just war has typically assumed the primacy of four particular elements: jus ad bellum, jus in bello, the state actor, and the soldier. This book put these five elements under close scrutiny, and explored how they fare given the following challenges: [11] firstly, this research elaborated the role of Jus ad bellum and jus in bello and the integral principles that follow from the distinction play in modern warfare, similarly state's role in modern warfare and its status in just war

[9] Allhoff, Fritz, Nicholas G. Evans and Adam Henschke, Routledge Handbook of Ethics and War, Just war theory in the twenty-first century, (New York, Routledge press, 2013), 2.
[10] Ishøy, Rikke, Handbook on the Practical Use of International Humanitarian Law, (Danish Red Cross © 2004), (revised ed-2008),
[11] Lin, Patrick, Neil Rowe, And Fritz Allhoff, Is It Possible to Wage a Just Cyberwar?, (The Atlantic, 2012)

theory. Authors also help to understand and comprehend just war theory. But he did not emphasis on specification of laws for robotics warfare.

5. The Article *"Autonomous Weapons and Human Responsibilities"* written by Bead Jack M states that lethal autonomous weapons system is system in which robotic system can have ability to control, to sense, and act without external human intervention or control. For a wide variety of reasons, autonomous weapon systems are the next logical and seemingly inevitable step in the continuing evolution of military technologies.[12] Author said again that this diminishing level of human control will continue to rise increasingly is difficult questions about both state and individual accountability for the actions of autonomous weapon systems. While state and individual accountability involve different legal regimes, they sometimes share some key components, particularly in applying the IHL and Law of Armed conflict framework to determine whether states, through their military forces and commanders, have violated key obligations designed to protect civilians and civilian objects. Whether they have command responsibility or individual criminal responsibility. Similarly, Access to effective human judgment already appears to be emerging as the deciding factor in establishing practical restrictions and framing legal concerns with respect to the deployment of the most advanced autonomous weapons.[13] In my opinion writer didn't touch definition of civilian. Word civilian in context of IHL should be defined and explained in order to be more specific.

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[12] While "weapon systems" may comprise many different components, programs, and supporting technologies, the terms "autonomous weapon systems" and "autonomous weapons" are used interchangeably.

[13] Beard, Jack M. "Autonomous Weapons and Human Responsibilities." Geo. J. Int'l L. 45 (2013): 617.

6. Article *"War Torts: Accountability for Autonomous Weapons"* by Rebecca Crootof author is of the view, Unlike conventional weapons or remotely operated drones, autonomous weapon systems can independently select and engage targets. In consequence, they will take activities that look like war crimes the downing of a passenger jet, the destruction of a village, the sinking of a cruise ship, without any individual acting negligently, recklessly or intentionally. There must be some action caused through will to be held as criminal under IHL. Few actions are prohibited by laws which are against morality. Author is of the view that it is impossible to do so it may consider harmful. Need of hour is that state should regulate the use of force and devastating wrongs as prime concern. Otherwise its greater concern and violation of IHL which give rise to responsibility of state.[14]
7. *"Killer Robots, Legality and Ethicality of Autonomous Weapons"* By Armin Krishnan 2013 – Routledge. 'The prospect of intelligent machines rebelling against their human creators is an enduring preoccupation of Western popular culture. Yet most of us know little about the real capabilities of armed robots. In this highly original survey, Armin Krishnan explains the current state of the art in military robotics and explores the implications of the growing use of autonomous weapons. This study is a valuable resource for anyone seeking to understand the battlefield of the future.' Nikolas Gardner, USAF Air War College, USA 'The advent of military or "killer" robots raises profound issues for the future of warfare and arms control. This development, which has become possible due to the combination of nanotechnology, artificial intelligence, robotics and information technology, is the principal topic of this path-breaking book. It will

[14] Crootof, Rebecca, War Torts: Accountability for Autonomous Weapons, (Yale Law School, 2016), 37.

therefore be of great significance to those interested in the ethical, legal and military debates about the future use of this technology.' Darryl Howlett, University of Southampton, UK 'Overall, Krishnan's book will be of interest to policymakers and concept developers looking for ideas and education on the 'killer robots' question. It will equally serve academic researchers as a text book for entering the field and as a departure point for their own work. The book would be a useful addition to libraries in applied philosophy, military systems engineering and security policy.' Australian Defence Force Journal 'Krishnan (Univ. of Texas, El Paso) presents one of the greatest ethical questions of modern warfare... This book would be useful for an undergraduate engineering ethics course; it could also accompany a graduate course on unmanned systems. Additionally, it offers roboticists a level of awareness regarding the ethics of these future weapon systems. Includes a solid, thorough bibliography. Summing Up: Highly recommended. Academic and professional audiences, all levels.' Choice '... the author has made great effort in this "path

8. Case law, Prosecutor v Dellalic (Celebici case) also discussed that commander will be liable for acts committed under his supervision but he should have knowledge and intention of such destruction. Following the determination by the Trial Chamber that "the sentences are to be served concurrently" Document only indicates the highest penalty imposed on each of the convicted.[15] Zejnil Delalic is found not guilty of the 11 counts of Grave breaches of the Geneva Conventions and Violation of the laws and customs of war he was charged with due to his alleged command over the Celebici prison-camp at the relevant time. He is also

[15] Celebci Case (IT-96-21) MUCIĆ et al.

acquitted of the count charging him as a direct participant in the unlawful confinement of civilians.[16] The Trial Chamber found that Mr. Delalic did not have command and control over the Celebici prison-camp and over the guards who worked there, such as to entail his criminal responsibility for their actions.

RESEARCH METHODOLOGY

The research will be a conducted through qualitative type research analyses. Qualitative Research is primarily exploratory research. It is used to gain an understanding of underlying reasons, opinions, and motivations. It provides insights into the problem or helps to develop ideas and hypotheses for potential quantitative research.

Qualitative research will be conducted with the help of primary and secondary sources. Firstly, primary sources may be in the form of books, articles, case laws, treatics and other relevant research material. Secondly sources of information may include research papers magazines and electronic media. The methodology adopted for this research work will be evaluative and an analytical method of study. Thirdly, the researcher will discuss the modern developments made in this era. The researcher will also study in detail the relevant statutes, regulations and case laws available on this issue in different countries.

Hence, in this research command responsibility and liability of using autonomous weapons during warfare will be discussed under IHL. This research will also address concerns of lethal self-directed arms system, their implications for the principles of distinction and proportionality; and the challenge they present to accountability and enforcement.

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[16] Ibid

ISSUES FRAMED

Following are the legal issues:

1. What is definition of robots and autonomous robotic weapon system?
2. What are ethical issues and deficiencies in lethal autonomous robotic weapon system in perspective of IHL?
3. Whether autonomous weapons follow principle of distinction under IHL?
4. Whether law of armed conflict applies to Robots, or is there any legal Justification on issue of lethal autonomous robotic weapons system used during armed conflict?
5. Who will be responsible for acts of autonomous weapon system and robots or what is legal correspondence between actors and tools during armed conflicts?
6. Can individual criminal responsibility is established in context of autonomous robots?
7. Whether a person activating a fully autonomous weapon system be considered as person directly participating in hostilities?
8. Whether robotic warfare falls under the domain of command responsibility?
9. How liability of military personnel can be determined for acts of machines?
10. Whether system of IHL shall be updated in context of robotic weapon system?
11. Whether use of lethal autonomous robotic weapons system creates the gap of accountability?
12. Whether it is possible to assess and regularize the lethal autonomous robotic weapons system under IHL?

OUTLINE OF THE THESIS

This thesis contains introduction, three substantive chapters, recommendation and conclusion. The brief outline of the chapters include following materials.

Chapter one focused on the basic concept of robotic weapon system and future of weapon system under IHL. It also gives deep insight to challenges faced by IHL concerning the use of the Robots in the warfare mainly inability of the fully autonomous weapons to follow the principles of distinction, proportionality and humanity. Even they cannot discriminate between a fighting soldier and a *hors-de-combat.*

So far as the issue of the semi-autonomous or remote controlled robotic weapon systems is concerned, the presence of human supervision may help the robots to follow these principles to some extent but in case of fully autonomous weapons this compliance does not seem feasible. Despite of all these challenges, the development or acquiring of the robotic weapon systems has not yet been explicitly banned by any law or treaty but legal framework order puts restriction on use of these weapon system and the element of the human supervisions and presence in the chain of operation of the robotic weapon systems must be considered in order to work on the laws and regulations for regulating the robotic warfare.

Chapter two discussed the legality of autonomous robotic weapon system. There is no clear international law on this very issue, even no explicit treaty or convention is formulated to address this issue. IHL clearly demonstrated acceptable means and methods of warfare but practically implementation and regulation of ethics of warfare did not change throughout the entire history. Technological advancements are being adopted as

new war tactics. Issue of legality and compliance of robotic warfare with basic principles of IHL must be assessed to avoid unethical issues caused by autonomous robotic weapons system.

Chapter three demonstrated that transformation of the traditional warfare into the robotic warfare is quite evident from the circumstances and it is going to the biggest challenge to the IHL and international criminal law (ICL). It is concluded that the compliance of the autonomous weapon systems and combatant robots entirely depends on the person deploying them as it is the duty of the person deploying these systems to do it after a careful assessment of the circumstances. The basic principles of "proportionality' and "discrimination" may be used as the standards to gauge the capability of the autonomous weapons systems to comply with the basic principles of IHL.

Although there is no human in the loop in the operation of the fully autonomous weapon systems but still the criminal liability, in case of war crimes, may lie on the humans deploying them as it is his duty to deploy a robot after proper assessment of the functioning of the robot in context of the place it is being deployed. So far as the issue of command responsibility is concerned, it may be resolved by evaluating the criminal liability of the sub-ordinate in accordance with the elements of "reason to know" and "information" available to the commander. The more appropriate method to assess the command responsibility is in the light of "due care" and "appropriate precautions" measures.

CHAPTER ONE: SYSTEM OF KILLER AUTONOMOUS ROBOTIC WEAPONS

INTRODUCTION

With the emergence of the concept of robotic warfare, it has become a necessary phenomenon to discuss the future of IHL in robotic warfare. Among many of the challenges being faced by the IHL regarding the use of the Robots in the warfare the most critical one is the inability of the fully autonomous weapons to comply with the rules of distinction, proportionality and humanity. It has been argued that the robots cannot discriminate between a fighting soldier and a *hors de combat*. The systems of discrimination which are being used in the autonomous weapon systems and the robots are not sufficient to make an effective distinction e.g. The Israeli Harpy[17] is a "loitering munitions" that is used for detection of the radar signals. When harpy catches a signal it looks into it database to find out whether it is friendly one or not, if it is found not to be friendly, it simply bombs the radar. This type of system is really not able to comply with the rules and regulations of IHL as harpy cannot detect whether the caught radar is at some military target or at some protected place [18]

1.1 WHAT ARE ROBOTS?

Machines which carry out their activities with certain degree of autonomy via remote control or the systems fed up in them, without certain degree of supervision from

[17] The IAI Harpy is a loitering munition produced by Israel Aerospace Industries. The Harpy is designed to attack radar systems and is optimised for the SEAD role. It carries a high explosive warhead. The Harpy has been sold to several foreign nations, including South Korea, Turkey, India, and China.

[18] Noel Sharkey,"Cassandra or the false prophet of doom: AI robots and war," IEEE Intelligent System 23 (2008):14–17.

the human being are called robots. When such machines are used for the military purposes they are "robotic weapons" or "unmanned weapon systems".[19]

1.2 BASIC DEFICIENCIES IN ROBOTS FOR COMPLIANCE WITH IHL

For the sake of being in line with the framework of IHL, robots need three basic requisites.[20] But unfortunately, those three functions have not yet developed in the robots.

1.2.1 Unable to follow distinction

Firstly, they do not have any system to effectively distinguish the civilians and the combatants and particularly in case of "insurgent war" they cannot discriminate between the protected persons and the legalized targets, hors de combat and those taking direct participation in hostilities. All which are utilized by the robots are sensors "such as cameras, infrared sensors, sonars, lasers, temperature sensors, and radars etc".[21] These sensors may help the robots to detect that a human is a human but cannot help them to find whether that human is a combatant or a civilian especially in cases where the fighters are not bearing a proper insignia; which was seen in case of war against Taliban regime.[22] There are few systems, being used in labs, which possess the ability to deteet the faces but still this can only help in case of the signature attacks; for hunting individuals. But the issue is "how useful could they be with moving targets in the fog of war or from the air"[23]

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[19] P Lin, K Abney, GA Bekey, Robot ethics: the ethical and social implications of robotics, MIT press, 2011, 75.
[20] Ibid.
[21] Ibid.
[22] Beard, Jack M. "Autonomous Weapons and Human Responsibilities." Geo. J. Int'l L. 45 (2013): 617-681.
[23] Ibid.

1.2.2 Programming Language needs each and every bit of detail

Secondly, the data is processed by the computer in terms of "programming language". Each and every bit of detail of the target is needed to be fed in the computer for the proper launching of attack on the exact target precisely. The problem for the principle of distinction is that we do not have an adequate definition of a civilian that we can translate into computer code. It is difficult for robots to follow the principle of distinction fully as we do not have that much precise definition of civilian which could be translated into a code to feed in the systems of robots. IHL gives the definition of the civilian which could be followed by human combatants but cannot be followed by the machines as such. The 1949 Geneva Conventions reiterate for distinguishing between a civilian and a combatant whereas the 1977 Protocol Id defines civilian as a person "who is not a combatant".[24] As machines cannot rely on that much ambiguous information to follow the principle of distinction.

1.2.3 No common Sense

Third most important feature is that the machines lack "an awareness or common sense reasoning to assist in discrimination decisions" in the warfare. Hence, the machines can never operate in the warfare as the human soldiers do and it would really be a challenge for IHL to decide the issue of accountability if the human soldiers are ever replaced by the autonomous robots.[25]

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[24] Ibid.

[25] M. Shane Riza,"When Diplomacy fails? Consent, Risk and Modern Warfare," Inter Agency Journal 4(2013):3-11.

1.2.4 Autonomy of Robots

The complete definition of the autonomy of a weapon system or robot requires it to be completely self-governed and independent in choosing and attacking the target. In context of the military uses, the autonomy of weapon systems/ robots may be defined more precisely as, "the capacity of a machine to operate in the real-world environment without any form of external (human) control, once it is activated."[26] As the warzone is shifting from the traditional warfare to the robotic one so the use of autonomous and robot control weapon systems clearly means, "free warfighters from the dull, dirty, and dangerous missions that might now be better executed robotically and enable entirely new design concepts unlimited by the endurance and performance of human crews."[27]

So generally, the unmanned weapon systems being used for the military purposes simply provide an "extra human endurance" with much safer, flexible and expanded approaches [28] to combat within comparatively fewer cost than the one supposed to be spent on recruitment and training of the human soldiers to accomplishment of tough and dangerous missions.[29]

1.3 ROBOTS BEING USED IN DIFFERENT DOMAINS OF WARFARE

Varieties of robots are operating across the globe in various domains of warfare including the sea, land, air and cyberspace.

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[26] Patrick Lin et al., Robot Ethics: The Ethical and Social Implications of Robotics (London:The MIT press, 2012), 43.

[27] Wendell Wallach and Colin Allen, Moral Machines: Teaching Robots Rights From Wrong (New York:Oxford University Press, 2009), 57.

[28] Ibid.

[29] Ibid.

1.3.1 Land-based Robots

These kind of robots are called "Unmanned Ground Systems/Vehicles (UGS/V)."[30] These are used for wide variety of functions ranging from armed to unarmed ones. The functions of unarmed robots may include "observation and reconnaissance, detection and neutralization of mines, improvised explosive devices (IED)[31] and hazardous substances, wireless communications relay, as well as removal of obstacles and transport of supplies."[32] Such kind of robots have proven their value in the operations carried out in the highly risked environments as they decrease the human life risk to the substantial level. For example "in Iraq and Afghanistan, the United States deployed approximately 8,000 land-based robots of various types which, by September 2010, had been used in over 125,000 missions. Explosive ordnance teams, for instance, detected and neutralized more than 11,000 IEDs using robots, such as the "Talon Ordnance Disposal Robot[33]."[34]

On other hand the most widely used type of armed robots are "automatic weapons defense system". They are built for an automatic detection and interception of the "incoming missiles, artillery shells or mortar grenades". Such systems process and respond within matter of seconds making any reasonable human supervision and intervention almost impossible. The examples of such armed robots include "Counter

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[30] Alex Leveringhaus and Gilles Giacca,"Robo-Wars: The Regulation of Robotic Weapons," Oxford Martin Policy Paper (2014):3-31.

[31] An improvised explosive device (IED) is a bomb constructed and deployed in ways other than in conventional military action. It may be constructed of conventional military explosives, such as an artillery round, attached to a detonating mechanism. IEDs are commonly used as roadside bombs.

[32] Ibid.

[33] The TALON robot is mounted with up to seven cameras to provide soldiers with a comprehensive view of the ground for identification and detonation of suspicious objects from a safe distance.

[34] Drone Wars: Transforming Conflict, Law and Policy, ed. Peter L. Bergen and Daniel Rothenberg (NewYork: Cambridge University press, 2015), 98.

Rocket, Artillery, and Mortar System" (C-RAM) in U.S.A., "NBS Mantis"[35] in Germany, and "Iron Dome" in Israel. The former two are armed with machine guns whereas the later one is armed with "interceptor missiles".

In theory, there is always a human supervision on these systems but practically it doesn't seem feasible. As the United Kingdom's Ministry of Defense is of the opinion, "it can be clearly shown that there is insufficient time for a human initiated response to counter incoming fire. The potential damage caused by not using C-RAM[36] in its automatic mode justifies the level of any anticipated collateral damage."[37] Hence, it is proved that the autonomous weapon systems do not actually act under the human supervision and response within fraction of seconds making the threat to the lives of the civilians more inevitable.[38]

There are also mobile "land-based robotic weapons."[39] For example Israel is not only using "stationary sentry robots" for the border security but also using the;

> "Guardium: a remotely operated robotic vehicle which can be armed with lethal and non-lethal weapon systems. It is believed by the developers that "Gaurdium" is actually and semi-autonomous robotic weapon system which is "designed to perform routine missions, such as

[35] Nächstbereichschutzsystem (NBS) MANTIS is a very short-range air defence protection system developed for protecting the forward-operating bases of the German Army in Afghanistan. Formerly known as NBS C-RAM (counter-rocket, artillery and mortar), the 35mm fully automated air defence system has been developed by Rheinmetall Air Defence (Rheinmetall) for the German Bundeswehr.

[36] Counter Rocket, Artillery, and Mortar, abbreviated C-RAM or Counter-RAM, is a set of systems used to detect and/or destroy incoming artillery, rockets and mortar rounds in the air before they hit their ground targets, or simply provide early warning.

[37] Kenneth Anderson and Mathew Waxman, "Law and Ethics for Robot Soldiers," Policy Review (2012): 1-19.

[38] G-NIUS Unmanned Ground Systems, "Guardium UGV," product brochure, http://gnius.co.il/pdf/brochures/GuardiumUGV.pdf (accessed May 20,2017)

[39] Ibid.

programmed patrols along border routes, but also to autonomously react to unscheduled events, in line with a set of guidelines specifically programmed for the site characteristics and security doctrine".[40]

1.3.2 Sea based and Areal Robots

"Sea based robots" are known as "Unmanned Maritime Systems" (UMS).[41] Whereas Mobile Sea based robotic systems are classified as "Unmanned Surface Vehicles" (USV) and "Unmanned Underwater Vehicles" which are most of the tomes utilized for "mine-detection and neutralization" and are also used in the submarine warfare. The largely used armed sea based static robot is "Phalanx" which operates on with an "automatic weapons defense system."[42] Phalanx was one of the major contributions of US Navy in 1980s. No a days it is being used by a number of Naval forces including the UK Naval forces. It is claimed by US Navy, "Phalanx is the only deployed close-in weapon system capable of autonomously performing its own search, detect, evaluation, track, engage and kill assessment functions. And the current extended features of Phalanx are able to cover the "asymmetric threats such as speed-boats, helicopters, and drones". It is argued by the experts that the sea based robots are deployed in the areas where there are least chances to find the civilians and the sea based robotic defensive systems depict the most autonomous kinds of robots with the least human supervision and interference .[43]

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[40] Ibid.
[41] Gregory, D., "The everywhere war" The Geographical Journal, 3 (2011): 238-250.
[42] Ibid.
[43] Ibid.

1.4 IHL AND ETHICAL ISSUES WITH LETHAL AUTONOMOUS ROBOTS

The main issue with the autonomous robots is that they cannot follow the distinction as they cannot differ between the civilians and combatants and cannot really recognize the medical staff, ill and wounded soldiers and those who have surrendered as unlawful targets. There are various legal issues which are raised by the law experts when we talk about the deployment of the autonomous robots in the warfare.

1.4.1 What is the legal status of using Robotic weapon systems in warfare?

The first question arising out of the issue of use of robotic weapon systems in the warzone is about its legality and lawfulness. Various concerns are expressed relating this question these days.

1.4.2 Legality

It is alleged that robots are less costly to produce as compared to the traditional warfare aircrafts and they have the potential to spread the harms miles away from the personnel operating them. In this way the robotic technology has the ability to spread the effects of armed conflict in the whole world, which the traditional military forces cannot, therefore in my opinion, the legality of the robotic weapon systems must be taken into account as the concerned issue is really of a serious nature as it has made the whole world prone to the effects of armed conflict and warfare has not remained confined to a specific area or region only.[44] Contrary to the threats of a widespread catastrophic is also argued that the probability and chance of the civilian causalities

[44] Stephen Holmes, "What's in it for Obama," London Review of Books 14 (2013): 15-18.

would be reduced by the use of robotic technology as it would not only the target fed in but also would enable the states to achieve the targets in the dangerous environments without risking the lives of the human soldiers. And therefore, it would not violate any provision of IHL.

1.4.3 Lawfulness of Use

The opponents claim though robotic weapon systems are not prohibited by any specific law or treaty but certain aspects of its use come under the ambit of restrictions imposed by International law. For instance, it is a blatant violation of IHL to fire prohibited weapons like biological or chemical weapons from robotic weapon systems. Similarly, the states parties to cluster munitions treaties are barred to deploy robots for cluster munitions. Likewise, the use of incendiary weapons from robotic weapon systems are prohibited by international customary law and deployment of many more such weapons are barred by number of treaties and conventions. [45]

This shows that the legality or illegality of the robots depends upon the use and the type of weapon platform. So far as the permissible weapons are fired by Robots in accordance with the principles of the proportionality and distinction, it is the best mode of warfare as it causes minimum civilian casualties and hit the decided target precisely. But whenever the prohibited weapons are used by deploying robotic weapon systems, the principle of proportionality and distinction are violated along with many other rules of IHL, their use become illegal.

[45] Jelana Pejic , "Extraterritorial targeting by means of armed drone: Some legal implications," International Review of the Red Cross Winter (2015): 1-40.

1.5 WHETHER THE AUTONOMOUS ROBOTS FOLLOW THE PRINCIPLE OF DISTINCTION

The principle of distinction is one of the basic principles provided by IHL to be followed during an armed conflict. The principle of distinction claims that there must be a distinction between a military objective and the civilians thereby declaring the civilians as protected persons unless they directly participate in the hostilities. [46]

1.5.1 A detailed analysis of principle of distinction and autonomous robots

After the world has entered in the era of global war against the terrorism and with the emergence of the robotic warfare, a new debate has emerged among the International legal intellectuals; whether the robotic warfare follows the principle of distinction. It has been argued that robots lack three basic functions to show compliance with the principle of distinction;

1. Firstly, they do not have sufficient sensory and visionary programming to distinguish the civilian, the combatants, horse de combat, surrendering combatants, military and civilian objectives in the warfare. [47]
2. Secondly, each and every bit of the distinction is required to be fed in the computer in order to make it follow the principle of distinction. And due to the inadequate definition of civilian to be translated in a computer code, it is not feasible to feed a program in the drones which could distinguish the civilians.[48]

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[46] Art. 4, Convention (IV) relative to the Protection of Civilian Persons in Time of War, Geneva, 12 August 1949.

[47] Noel E. Sharkey, The evitability of autonomous robot warfare," International Review of Red Cross (2012):787.798.

[48] Ibid,789.

3. Third and most important issue is even if the machines had enough developed programming to discriminate between the civilians and combatants, they would still lack the common sense and wisdom to take emergency discrimination decisions in the warfare.[49]

Due to these reasons, we can never expect the machines to take independent decisions in accordance with the principle of distinction. Hence, the implication of principles of IHL in the robotic warfare seems a very hard job.

1.5.2 The ambiguity in the definition of protected persons and combatants; making principle of distinction more complex for robots

Autonomous robots are the part of robotic warfare and US has been using autonomous drone since long for the extraterritorial killings; which is considered as a step towards a regular robotic warfare. International policies related to the principle of distinction have been much ambiguous as they are not able to provide some standards for the combatants and civilian directly participating in hostilities. Moreover, they are unable to lay effective rules for when the civilians lose their protection, when they regain their protection and what amounts to the direct participation in hostilities. This research raises two questions which are required to be addressed here regarding the use of autonomous robots in the context of distinction;

1. What conduct falls within the category of direct participation in hostilities?
2. When individuals regain protection as civilians? [50]

[49] Ibid.
[50] Bill Boothby, "And for Such Times as: The Time Dimension To Direct Participation In Hostilities," N.Y.U.J. Int'l L. & Pol (2010): 741-768.

1.5.3 Criteria of on protected persons and direct participation in hostilities

To address these questions, international law has given some criteria;

> "(1) The harm likely to result from the act must reach a certain threshold (threshold of harm); (2) there must be direct causal link between the act and the harm (direct causation); and (3) the act must be specifically designed to support a belligerent party to the detriment of another (belligerent nexus)."[51]

The other interlinked issue is the duration for which the direct participation in hostilities amounts to the loss of protection. As per the interpretive guidance of ICRC participation includes, "both the immediate execution phase of the specific act, its preparation and the deployment and return from the location of its execution"[52] Some critics have argued that the definition given by ICRC's interpretive guide is much narrow as it does not address "pragmatic" and "tactical" realities of the military operation and military actors. Moreover, the definition of direct participation of hostilities by it seems like a "revolving door" in which the civilians have the potential to participate in the hostilities directly and they regain protection immediately after that.[53] To avoid "revolving door" approach, some scholars have given a much broader definition of direct participation of hostilities. As Brigadier General Kenneth Watkin, a military law expert, argues, "a civilian who is repeatedly involved in hostilities is

[51] Nils Melzer , "keeping the Balance Between Military Necessity and Humanity; A Response to Four Critiques the ICRC's interpretive Guidance on the Notion of Direct Participation in Hostilities, " N.Y.U.J. Int'l L. & Pol 856 (2010): 831-916.
[52] Ibid
[53] Ibid.

continuously participating, and must affirmatively disengage to retain protection. And the direct participation should include preparation for attack, not just the immediate execution phase of a specific act."[54]

1.5.4 Continuous Combatant Function

While discussing the direct participation in hostilities, we came across another controversial term being used frequently these days, "Continuous Combatant Function". The rule of distinction in non-international armed conflict allows the direct attack on the armed forces but on the other hand the non-state armed groups are not given the status of the armed forces by any conventional humanitarian law, customs or state practices and therefore, they are not given any privilege of armed forces. Now the question arises here is what would be the status of the non-state organized group's members. If they are not given the status members of armed forces so would they be dealt as civilians and consequently enjoy the protection unless they are not directly participating in hostilities? [55] To resolve this ambiguity ICRC's interpretive Guide introduced the term individuals with "*Continuous Combatant Function*". The continuous combatant function requires, "lasting integration into an organized armed group which is acting as the armed force of a non-state party to an armed conflict".[56] Lubell renowned jurist argues that "continuous combatant status" has given the states access to kill the non-state actors at any time any place as they are neither combatants

[54] Kenneth Watkin. Opportunity Lost; organized armed groups and the ICRC "Direct Participation in Hostilities" Interpretive Guidance, N.Y.U.J Int'l L. & Pol 42 (2010):640-692.
[55] Jean-Marie Henckaerts and Louise Doswald-Beck, Customary International Humanitarian Law (UK: Cambridge University Press, 2005), 6.
[56] Ibid

nor civilians and states are under no obligation to give them prisoner of war status if captured alive.[57]

The controversy over the direct participation in hostilities and the coining of term "continuous combatant status" has led to grave complications. When it is even challenging for the human brain to decide who is a protected person, who is directly participating in hostilities, who is a non- state actor and who has ceased to participate in hostilities, how could we expect the autonomous weapon systems to follow the principle of distinction during their operations.

1.6 CAN HUMANS BE HELD LIABLE FOR ACTS OF MACHINES?

With the evolution of the robotic warfare and use of the autonomous weapons, it has really become difficult to establish the command responsibility and individual criminal liability. Command responsibility means that superior is liable for not committing the acts he is bound to do by the international law. Command responsibility is not a kind of strict liability where the superior is responsible for the crime of his subordinate. It is the liability where the superior is responsible for not exercising his command properly. The superior is held liable for not exercising his duty and control being a superior or his failure to prevent and punish the sub ordinate where a war crime has been committed by the subordinate.

1.6.1 Establishing Command Responsibility and personal liability

For establishing the command responsibility, it is mandatory that the sub ordinate has committed some crime and the superior has the knowledge of such

[57] Ibid

commission and has the power to prevent and punish him and still he procrastinates or does not comply with to hold the sub ordinate accountable. The commander is required to take the reasonable measures to prevent and punish the sub ordinate under the domestic law and when he fails to do so, the international law comes into action and applies the principle of command responsibility.[58]

When there come the question of commission of war crimes by the subordinate by deploying the autonomous robotic weapons, the issue of command responsibility becomes much ambiguous as the weapon is not being operated by the sub ordinate and mere knowledge of the risk caused by the autonomous weapons does not suffice the establishing of criminal liability.[59] As it has been held by ICTY, "The knowledge of any kind of risk, however low, does not suffice for the imposition of criminal responsibility for the serious violations of IHL."[60] It further stated that the risk is required to be "clear, strong, real and serious" and is required to rise to the level of "a real and concrete likelihood" to establish a culpable state of mind.[61] When it has been established that the sub ordinate had clearly foreseen the risks of the autonomous weapons and then deployed them, there comes the question of command responsibility. It has been stated by ICTY in a case, "the commander had reason to know or had the information which should enabled him to conclude in the circumstances at that time that a subordinate was committing or was going to commit

[58] Jack M. Beard, "Autonomous Weapons and Human Responsibilities", 644.
[59] Ibid, 658.
[60] Prosecutor v. Blaskic, Case No. IT-95-14-T, Appeal judgment, 41 (Int'l Crim.Trib.for the Former Yugoslavia July 29, 2004)
[61] Ibid.

such a breach".[62] When we go through the statement by ICTY, we come to know that it is not feasible for a commander to calculate and have precise knowledge of the destruction going to be caused by the use of the autonomous robotic weapons system as the risks expected by these weapons are unpredictable and it does not seem practicable to prevent the sub ordinate before the commission of crime. Then there comes the question of punishment for commission of crime. Here we come across the issue of evidence. It is really a complicated issue to collect evidence to prove whether the civilian caused in an attack were due to personnel misconduct or the system failure.[63]

1.6.2 Rule of Appropriate Care

The establishing of the command responsibility is really a complicated a complex issue in the robotic warfare. However, US Department of Defense issued a directive in 2012 for minimizing such confusion. It illustrated the above issue by stating persons who authorize the use of, direct the use of, or operate autonomous and semi-autonomous weapon systems must do so with appropriate care and in accordance with the law of war applicable treaties , weapon system safety rules, and applicable rules of engagement." [64] This regulation put a high degree of precautionary measures on the commander to assess the situation and foresee the effects of the autonomous weapons but again the unpredictability of machines and their failure to assess in way as the human brain do makes it too much difficult for the commander to foresee the damages likely to be caused by the autonomous weapons even though he follows the

[62] Prosecutor v. Delalic , et al . (The Celebici Case), Case No. IT-96-21-A , Appeal Judgment, 241 (Int'l Crim. Trib. For the Former Yugoslavia Feb 20, 2001)
[63] Jack M. Beard, "Autonomous Weapons and Human Responsibilities", 659.
[64] Ibid.

principle of "appropriate care". Therefore, it is seems very difficult and almost impossible task to establish the mental culpability and criminal liability in presence of such vague and ambiguous pieces of evidence.

1.6.3 Criminal Liability

Let's analyze the international criminal laws and try to tackle the question of liability. In a criminal law system, one of the main requisites for establishing criminal liability is "willfulness" of the accused means mens rea for the offences. As ICTY has laid down," the notion of willfully incorporates concept of 'recklessness' and it excludes 'mere negligence'.[65] Thus the only way to impose responsibility on the persons employing the autonomous weapons is the illegality of those weapons. This illegality of weapons has been further explained by ICC statute, "weapons, projectiles and material and methods of warfare which are of a nature to cause superfluous injury or unnecessary suffering or which are inherently indiscriminate in violation of international law of armed conflict".[66] No International convention has yet banned the use of autonomous weapons but the weapon platform deployed may decide its legality and illegality.

It is a general assumption that the perpetrators of crimes cannot be prosecuted as they are machines but this thing is totally in contradiction with the rule of individual criminal liability. How the criminal liability be imposed or how the accountability may be sought if any crime or damage is done by a machine. Some jurists argue that the civil suits may be brought against the manufactures of the machines as consumer laws

[65] Ibid.
[66] Rome Statute of ICRC, entered into force 1 July, 2002.

of US and some other countries do in case of any damage inflicted by the use of a any machine. But this is neither possible nor the solution to address this grave issue of robotic warfare. The engineers, manufactures or programmers or developers of specific parts of the autonomous weapons are not aware where they are being used and for what purpose they would be deployed, so they cannot be held accountable for the crimes committed by these autonomous machines. As they are autonomous, so the decision making also done by various programs without any human guidance and a complex set of programs are linked to reach a decision. So, the responsibility lies on those who chose to employ these machines and weapons as they are not only aware of the destruction likely to be caused by these weapons but also know the purpose of such deployment. As the *mens rea* and *actus rea* both are present in case a person willfully employs an autonomous weapon with knowledge that it would cause mass destruction, he be held responsible for it.[67] So the issue of establishing the command responsibility is and individual criminal liability are one of the main challenges which would be faced by the IHL after the conversion of the traditional warfare entirely into the robotic warfare.

CONCLUSION

The emergence of Robotic warfare is leading to a new dawn of challenges to the IHL. It is really a very difficult task to feed each and every bit of information in the robots for enabling them to follow the principles of distinction and proportionality completely. These two principles are the backbone of IHL and a deviance from these rules would really bring a downfall of the laws of war and humanity. So far as the issue of the semi-

[67] Jack M. Beard , "Autonomous Weapons and Human Responsibilities,", 54.

autonomous or remote controlled robotic weapon systems is concerned, the presence of human supervision may help the robots to follow these principles to some extent but in case of fully autonomous weapons this compliance does not seem feasible. Despite of all these challenges, the development or acquiring of the robotic weapon systems has not yet been explicitly banned by any law or treaty. There is a legal discourse on the pros and cons of the use of autonomous robots which has led to the conclusion that the use of such lethal autonomous weapon systems must at least be restricted if not banned. The issue of establishing of the command responsibility and individual criminal responsibility are also among the major issues arising out of the concept of robotic warfare. The principles of individual criminal responsibility and command responsibility are interlinked to the extent of the crimes committed during a war. The principle of individual criminal liability demands the trial of the person who has committed a crime in individual capacity whereas the principle of command responsibility makes the commander of an armed force accountable for the war crimes of his sub-ordinate; working under his direct command. These both principles are designed for the accountability of the human beings. So it is really a challenging task to extend their application in the cases where the machines are committing the crimes. A fully autonomous robot is a machine which makes its decisions without human interception and supervision. Hence, it is very complicated to answer the question whether the humans can be held accountable for the deeds of the machine. The only answer available to this question is that, it is always a human being who deploys a machine at a particular place for a particular purpose. So, here comes forward the principle of precaution and due care which binds the human who is deploying a

machine to deploy it with proper care and precaution to override the chances of any war crime. But when we go in depth analysis, we find out that this principle cannot control the whole robotic warfare liability issues all alone. We really need to have a updated version of humanitarian laws as a step to keep a pace with the continuously evolving and transforming warfare.

Many states including USA, Germany, Russia and Israel etc are already using the autonomous robots in wide range of areas of border security and warfare, which is a clear indication of the evolution of traditional warfare into the robotic one. So I have concluded from this chapter that the use of autonomous weapon systems must be restricted and the element of the human supervisions and presence in the chain of operation of the robotic weapon systems must be considered in order to work on the laws and regulations for regulating the robotic warfare.

CHAPTER 2: THE LEGAL FRAMEWORK APPLICABLE ON ROBOTS; A CRITICAL ANALYSIS

INTRODUCTION

In previous chapter autonomous robotic weapons system along with extent of their deficiencies and usefulness is being discussed. In this chapter we will discussed issue of the legality of the autonomous weapons as this is hot topic these days. Many experts have expressed their views on this issue. The persons like "a military analyst and independent writer David Isenberg, and Gary Chapman, a computer scientist and former head of the public interest organization Computer Professionals for Social Responsibility" are among the most prominent figures who argue on the illegality of the robots.[68] It is also an undeniable fact that the international law has not adopted any clear and explicit verdict on the issue of the autonomous weapons and the robots as there is no explicit treaty or convention available on this very topic up till now.[69] It is evident from the history of the international law that it has prohibited the use of certain war tactics and the deployment of certain weapons from time to time but the underlying principles for regulating the warfare and the ethics of the warfare did not change throughout the entire history.[70]

It is argued that the attitude of the society changed towards the war with the advancement of the technology. For example the aerial bombing of the civilians' areas to destroy the economic ability of the adversaries with a collateral damage to the civilian property and lives was not considered as a war crime during World war II as it was not

[68] David Isenberg, "Robots Replace Trigger Fingers in Iraq, "Newspaper Asia Times, 20 August 2007.
[69] Ibid.
[70] Ibid.

punished afterwards as war crime.[71] It was also due to the reason that as that time there was no explicit treaty or convention declaring the damage to the civilian lives and populations as a war crime.[72] As with the passage of time, the technology evolved making more discriminate area bombing so the society became intolerant to the more indiscriminate attacks leading to massive collateral damages and hence the indiscriminate area bombing became a war crime.[73] Similarly the weapons which were, used in the old times, banned by the tribes and nations at that time like "feathered arrows, catapults, balloons firing projectiles, helicopters or submarines" were prohibited because they were considered to give an unfair advantage to one of the parties to the conflict. The use of those weapons does not amount to any war crime these days.[74] To see the issue of legality of the autonomous weapons and robots, we need to check their compliance with the basic principles and customs of the IHL. This is really a very complicated issue as the future of the autonomous drones and the robotic warfare's legal regime entirely depends upon the assessment of their compliance with the basic principles and ethics of the warfare.

2.1 ROBOTS AND LAW OF ARMED CONFLICT

As discussed in previous chapter "*jus in bello*" includes many treaties and conventions along with the customary rules of humanitarian law and *jus cogens.*[75] It is aimed at to prevent the sufferings of the warfare and limit the effects of the war. There are two main sets of law in "*jus in Bello*: the Hague Conventions (1899/1907) and the

[71]Calvin She et al, "Unmanned Technology-The Holy Grail for Militaries", POINTER, Journal of Singapore Armed Forces 38(2013):16-24.
[72]Ibid.
[73] Guisández-Gomez, "The Law of Air Warfare", International Review of Red Cross 323(`1998): 347-363.
[74]Larry May, War Crimes and Just War (New York: Cambridge University press, 2007), 170.
[75] Jus cogens (from Latin: compelling law; English: peremptory norm) refers to certain fundamental, overriding principles of international law, from which no derogation is ever permitted. See Ian Brownlie, Principles of Public International Law (5th ed., Oxford, 1998).

Geneva Conventions (1864/1929/1949)."[76] The Hague Conventions focus as the rights of "combatants and prohibited military practices" whereas the Geneva Conventions aims at the "rights and protection of non-combatants".[77] In addition to these two sets of Conventions there are some treaties which explicitly ban the use certain weapons and weapon systems like treaties on use of Biological and Chemical Weapons etc.[78] Furthermore, there are also geographical restraints for the conduct of war such as the prohibition to place nuclear weapons in space or on the seabed and the demilitarization of the Arctic regions. Jus in Bello is founded on three basic principles, "the principle of proportionality, the principle of discrimination (or distinction) and the principle of humanity"

2.1.1 Doctrine of Military Necessity and its limitations

The principle of military necessity says that the use of force is permissible to an extent to win a war and to target a legitimate military target.[79] Every military operation is carried out with a purpose to win a war and every tactic is used to achieve this goal while trying to comply with the rules of the laws of war as much as possible. All necessary measures taken to win a war and incapacitate an adversary, while obeying the laws of war, will fall under the ambit of the military necessity. The technology has always affected the calculations of the military necessity as it is obvious from the "Submarine war" during the World war I and World war II. During the submarine wars, "German submarines during the First World war were ordered to sink enemy vessels on sight, despite the fact that the submarines were unable to assist many survivors – many of

[76] Ibid.
[77] Ibid.
[78] Ibid
[79] Ibid

whom could be civilians"[80].Practically, no survivor was rescued as it was calculated that the it was not possible for the crew to help the survivors without losing their lives as the submarines were too much prone to the destruction.[81]And the German Commanders then pleaded the necessity for this practice. After the war no commander was prosecuted for these practices at the Nuremberg Trial). It is stated that with the emergence of the new technologies, some customs of the war were relaxed as to protect the wounded and the shipwrecked as laid down in the Geneva Conventions.[82] It is argued that the use of the autonomous weapons and the robots have become a military necessity as they can easily be deployed in the dangerous and tough areas without risking the lives of the human soldiers[83]. Hence, the robotic warfare must be regulated instead of declaring the fully autonomous weapons or robots illegal[84].

The argument advanced is that theoretically the term robotic warfare portrays that all of the wars would be waged and conducted by the robots with the humans standing and watching from the behind and the life of no human soldier would be put at the risk. If there will be no human being in the field and only the robots are the targets of other combating robots, then the principle of military necessity may be relaxed and resultantly the limitation and bar on the use of force may also be lifted provided with the targets are only machines.[85] But on the same footing, there also the anticipations that the robots are unpredictable and any the probability of disaster resulting from the unpredictable

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[80] Michael Walzer, Just and Unjust Wars: A Moral Argument with Historical Illustrations (New York: Basic Books, 2000) 67.
[81] Ibid, 77.
[82] Loring Wirbel, Star Wars: US Tools of Space Supremacy (London: Pluto Press, 2004) 57.
[83] Ibid.
[84] Armin Krishan, War as Business: Technological Change and Military Service Contracting (Newyork:Routledge, 2016), 76
[85] Ibid.

behavior of automated robots cannot be ruled out.[86] Many legal and ethical restraints of war could suddenly become ineffective with potentially disastrous consequences. It is argued that the robotic warfare would be highly destructive and fast resulting into the death of human beings as a collateral damage to the machines. Hence, it is necessray to regulate, restrict or prohibit the robotic warfare.

2.1.2 Proportionality

The doctrine of proportionality states that the force used in the warfare must be in proportionate to the military objective while the sufficient steps must be taken to protect the lives of the civilians.[87] The principle is codified in the four Geneva Conventions as, "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" must be considered illegal and disproportionate.[88] The principle of proportionality prohibits the unnecessary use of force than which is actually required to attain the military objective.[89] It clearly depicts that the soldiers must make the calculations before launching an attack whether the force they are going to use is in proportional to the anticipated military objective or not. But practically, it does not seem feasible for the human soldier to calculate precisely what quantum of force is exactly in proportional to the anticipated military objective. [90] So, the argument is put forward by the proponents of combatant automated robots that the

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[86] Ibid, 102.
[87] Ibid.
[88] 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, Art 51(5)b
[89] Armin Krishnan, Killer Robots: Legality and Ethnicity of Autonomous Weapons (New York: Ashgate, 2009), 127.
[90] Ibid, 128

robots would be able to follow the principle of proportionality in more effective way by calculating the real amount of force required for attaining the anticipated military target.[91] The computerized weapon systems may calculate the effects of the weapons used and the potential collateral damage more easily as compared to a normal human brain as it could not do that much complex calculations. It is further alleges that the autonomous weapon systems and the robots may perform the hundreds of the complex calculations and have the capability to minimize the collateral damages by following the principle of proportionality.[92] But on the other hand the critics argue that the deployment of autonomous robots may result in the disproportionate use of force in the warzone. They corroborate their point by stating that if the precise and actual information is not properly fed in the system then the robots may lead to disasters and disproportionate use of force causing a large number of civilian causalities.[93] And it has already been discussed in the previous chapter that it is not possible to feed each and every bit of information into the robots to make them precisely and independently hit the actual targets. So, the probability of hitting the wrong target and causing a disproportionate loss to the civilians' lives can never be ruled out.[94] Other than the issue of "proportionality", the more challenging issue for the robots is to distinguish between the combatants, noncombatants, protected persons and the persons directly taking part in hostilities.

2.1.3 Discrimination

The principle of discrimination is an ancient principle of war which is observed by the combatants everywhere. The Geneva Conventions have discriminated the lawful

[91] Ibid, 129
[92] D. Hambling, Weapons Grade: The Revealing History of the Link Between Modern Warfare and Our High-Tech World (London: Constable and Robinson, 2005), 98.
[93] Ibid, 107.
[94] Armin Krishnan, Killer Robots: Legality and Ethnicity of Autonomous Weapons, 140

and unlawful targets by putting them into two distinct categories: "soldiers/combatants and civilians/noncombatants, or targets and non-targets."[95] The purpose is to protect the civilian sand hors de combat during war while mitigating the effects of the war. The rationale behind discriminating the combatants and the civilians is that the combatants usually directly take part in the hostilities whereas the civilians do not take any direct participation.[96]

Although, the Geneva Conventions have reiterated the importance of the principle of discrimination at several point but the Additional protocol from 1977 especially focuses on it an rules, "in order to ensure respect for and protection of the civilian population and civilian objects, the Parties to the conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations only against military objectives."[97]

Moreover, the Hague Convention strictly prohibits the intentional and willful targeting of the civilians.[98] It is practically believed that the target for the military attack must be an military object, however, an incidental damage to the civilians lives and property is permissible as long the principle of discrimination and proportionality and followed.[99] For example if a military target is attacked and a civilian also dies as a result of that attack, it would not amount to a war crime as long as that civilian was not the

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[95] Ibid, 142.
[96] Ibid.
[97] 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, Art 48.
[98] Convention(iv) respecting the Laws and Customs of War on Land and its annex. Regulations concerning the Laws and Customs of War on Land. The Hague, 18 October 1907, Art 23.
[99]. Wirbel, Star Wars: US Tools of Space Supremacy, 75.

intentional target.[100] At same time, it is not allowed to attack any military target which is located in the civilian population for avoiding the risk to the civilians' lives and it is also the obligation of the armed forces not to have any military installation in the civilian areas. [101]

Although the principle of discrimination looks very straightforward and simple principle but it is really difficult to understand it in context of the doctrine of direct participation in hostilities and the kinds of weapons being deployed in the modern Era. Like there are some weapons which are indiscriminately in use like weapons of mass destruction. So, apparently the weapons which are indiscriminate are prohibited and the persons taking direct participation in the hostilities are the legitimate targets.[102] As it is evident from the bombing carried out during the Gulf War 1991, Kosovo air campaign and Iraq war 2003 that despite of the precautions taken by the military for the a discriminate attack there was a substantial collateral damage suffered by the civilian population and civilian property.[103] And this example clearly shows that it is almost impossible to carry out a practical discriminate attack without causing any damage to the civilians' lives and properties.

We are facing two problems at a time. The first issue is that people expect the war to strictly abide by all the rules which in turn obstructs the aim of the war and the second issue is that it is not possible to carry out any military attack without zero civilian causality and the following of the "rule of discrimination' is not possible in stricto sensu. In addition to these issues, the application of rule of "discrimination" becomes almost

[100] May, War Crimes and Just War, 170
[101] Ibid, 169
[102] Ibid.
[103] May, War Crimes and Just War, 173.

impossible in the irregular warfare; where the military objectives are merged in the civilian populations. This forces the combatants to use the heavy weapons quite often when the innocent civilians are around. Sometimes, the adversaries may use the innocent civilians as the human shields which is a war crime but this does not prohibit the launching of, military attack against them for attaining a military objective In short, it is a very complicated situation for the combatants to operate in accordance with the principle of discrimination in irregular warfare.[104]

A perfect manifestation of this dilemma was seen "in the battle of Fallujah in 2004, where US forces attacked the not completely evacuated city with massive firepower in order to drive the insurgents out" [105] So the issue is how would the autonomous weapons and robots would comply with the principle of discrimination. It is argued that the compliance of the autonomous weapons and the robots depends upon how sophisticated and advanced system of artificial intelligence is being used in them. The proponents of robotic warfare argue, "precision ammunition like the GPS-guided Joint Direct Attack Munitions (JDAMs) are generally praised as a moral progress toward humanizing warfare, as they are more discriminate, allow better targeting and minimize overall collateral damage"[106]. So they think that replacement of human soldiers by the robots will make the application law of the war easier. But the critics raise one more issue by stating that in the areas where the civilians take up arms and start to directly participate in the warm it really becomes a difficult thing to discriminate between the combatants and noncombatants e.g levée en masse. As it has already been discussed that

[104]Bing West et al., No True Glory: A Frontline Account of the Battle of Fallujah (New York: Bantam Dell, 2005), 157.
[105] Ibid.
[106] West et al., No True Glory: A Frontline Account of the Battle of, 155.

it is also a very difficult issue for the robots to decide when a person is losing his protection n due to direct participation in hostilities and when he is resuming back his status.

2.2 WHO WILL BE RESPONSIBLE FOR THE ACTS OF AUTONOMOUS WEAPONS AND ROBOTS?

It is said that the crimes are committed by humans not the entities and it is also claimed that humans cannot be punished for the acts of the machines.[107] Therefore the issue of human accountability in case of crimes committed by the autonomous combatant robots is really a complicated issue. The principle of individual criminal responsibility and the command responsibility are the core of the Nuremberg trial and in turn the backbone of the International Criminal law.[108] All international courts and tribunals like, (ICTY), the International Criminal Tribunal for Rwanda (ICTR), the Special Court for Sierra Leone, and the International Criminal Court (ICC) enshrine the principle of individual criminal responsibility and command responsibility in their statues.[109] It is argued that all the systems of criminal law, domestic or international, are ineffective without the doctrine of liability and penalty.[110]

2.2.1 Need of Penalty in International Criminal law

There are various reasons behind the concept of penalty in domestic criminal law including "retribution, condemnation, and correction, special public control over persons disposed to commit crimes, rehabilitation, deterrence, and promotion of respect for the

[107] Jack M. Beard, "Autonomous Weapons and Human Responsibilities," Georgetown Journal on International Law 45(2014): 618-681.
[108] Ibid.
[109] Ibid.
[110] M.Beard, "Autonomous Weapons and Human Responsibilities, 642.

law's authority" and all of them are aimed at promoting tranquility in the society and protecting the lives of the citizens.[111] On other hand, the criminal law operates in entirely different aspect, in international law, while covering a broader range of community. Where domestic criminal legal is focused at maintaining a healthy society during peacetime, International Criminal law provides remedies during the armed conflict or the violent situations and covers the broader community with an objective to protect the international security.[112] For Instance the preamble of Rome Statute of ICC states, "grave crimes threaten the peace, security and well-being of the world" and "the most serious crimes of concern to the international community as a whole must not go unpunished."[113] Unlike the domestic criminal law, the international criminal law relies on the legal culpability than the moral one.[114]It is argued that the International Criminal law has introduced the principle of individual criminal responsibility and command responsibility because it is almost an impossible task to make each and every combatant in the war accountable and with the advent of the autonomous robots the issue of accountability will become even more complicated.[115] So it is really a very crucial question to rise for that would be accountable for the crimes committed by autonomous weapon systems and combatant robots.[116]

[111] Jhon Lewis, "The case for regulating the Fully Autonomous Weapons", The Yale Law Journal 124(2015):1309-1325.
[112] Lewis, ""The case for regulating the Fully Autonomous Weapons",1319
[113] Rome Statue of International Criminal Court (Rome statute) entered into force on 1 July, 2002.
[114] M.Beard, "Autonomous Weapons and Human Responsibilities, 648.
[115] M.Beard, "Autonomous Weapons and Human Responsibilities, 650.
[116] Gray E. Marchant et al, "International Governance of Autonomous Military Robots," The Columbia Science and Technology Law Review 12 (2011): 272-315.

2.3 CONCEPT OF INDIVIDUAL CRIMINAL LIABILITY IN CONTEXT OF AUTONOMOUS ROBOTS

When we try to discuss the issue of criminal liability under the international criminal law, we come across two sets of problems regarding the issue. The first problem is determining and deciphering the complex relationship between the principle of liability and modern autonomous weapon systems and second problem is related to the application of the legal framework of International Criminal law on the autonomous weapon systems and robots.[117] This first set of problems is not limited to military systems. The issue related to the responsibility in case of misuse of autonomous weapons is more complicated as compared to the traditional war weapons.[118] The second set of the problem relates to the framework of international criminal law itself, which lags behind the technology and does not have any regulation to curb the issue of criminal responsibility and penalty in case of use of autonomous weapon systems and robots.[119] These issue suggest that there is difficult to find out any theory for making the operators of the autonomous robots liable in case of any war crime committed by these robots ad their behavior might be drastically unpredictable quite often.[120]

2.3.1 Requisites of Principle of Criminal Liability

The principle of criminal liability demands the coexistence of both *actus rea* and *mens rea.* The presence of mental element implies that an offence is committed willfully.[121] As ICTY states, "must have acted consciously and with intent."[122] While in

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[117] Ibid.
[118] Ibid.
[119] Ibid.
[120] P.W Singer," Military Robots and Laws of Wars," The New Atlantis Journal of Technology and Society 27 (2009):27-47
[121] Ibid.

the other case ICTY rules, "the notion of 'willfully' incorporates the concept of recklessness," and it does not include "mere negligence."[123] And it clearly shows that holding the operator of an autonomous weapons system accountable for a crime on account of his mere negligence is neither legal nor just under the International Criminal law.[124]Negligence on behalf of a military operator is either dealt under the domestic law or the military regulations of concerned forces.[125].Hence, the criminal liability of a person deploying the autonomous weapons entirely depends upon the type of weapon being used. If the weapon being deployed is itself illegal *per se* then the criminal liability of the person deploying it can easily be established. As the jurisdiction of the International Criminal clearly covers the offences committed by "weapons, projectiles and material and methods of warfare which are of a nature to cause superfluous injury or unnecessary suffering or which are inherently indiscriminate in violation of the international law of armed conflict."[126] But unfortunately no explicit list of such weapons is annexed with the Rome statue. Although we have some separate treaties which explicitly ban the use of some indiscriminate weapons but the rule which may be used for assessing whether it is legal or illegal is exclusively linked with capability the damages it cause.[127]

The International Conventions banning certain indiscriminate weapons are not backed by any effective and sufficient penalty as state parties always hiding their mistakes under the veil of state sovereignty.[128] Hence, in the absence of any universal

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[122] Prosecutor v. Galic, Case No.IT-98-29-T ICTY (5 Dec, 2003).
[123] Ibid.
[124] Singer, "Military Robots and Laws of Wars," 32.
[125] Ibid.
[126] Rome Statue of International Criminal Court (Rome statute) entered into force on 1 July, 2002, Art. 8(b)(x).
[127] M. Beard, "Autonomous Weapons and Human Responsibilities, 652.
[128] Ibid.

weapon related treaty of international law, the issue of autonomous weapons and combatant robots might be resolved by relying on the general regulations of IHL.[129]

2.3.2 Joint Criminal Enterprise (JCE) liability Doctrine

The problem of criminal liability is also addressed in context of joint liability as the ICTY statue says, "person who planned, instigated, ordered, committed or otherwise aided and abetted in the planning, preparation or execution of a crime [within the jurisdiction of the tribunal] . . . shall be individually responsible for the crime."[130] The same provision can also been seen in Rome statue as well.[131] This provision enshrines that the criminal liability of an offence under International Criminal Law is not only confined to the person committed it but also extends to the one who has abetted and conspired it. This provision may be extended to the concept of the group criminal liability, however no statue of any Ad Hoc tribunal, ICTY statute and ICTY statue explicitly and generally provided for the concept of group liability.[132] However, a term, "Joint Criminal Enterprise" is coined by the Ad Hoc tribunal but this term has not been explained clearly yet.[133]Rome statute states, on the issue of criminalizing a group, "by a group of persons acting with a common purpose" and "made with the aim of furthering the criminal activity or criminal purpose of the group," or "made in the knowledge of the intention of the group to commit the crime."[134] This concept of criminalizing a group is

[129] M. Beard, "Autonomous Weapons and Human Responsibilities, 655.
[130] Statue of the International Criminal Tribunal for the Former Yugoslavia (ICTY Statute) adopted on 25 May, 1993, Art.7 (1).
[131] Rome Statue of International Criminal Court (Rome statute) entered into force on 1 July, 2002, Art.25.
[132] M. Beard, "Autonomous Weapons and Human Responsibilities, 650.
[133] Ibid.
[134]Rome statute, Art.27 (2)(d).

an ambiguous and limited idea in International Criminal law but it may be developed further to take cognizance of the crimes committed by the autonomous weapons in future.

2.3.3 The Future of Criminal Liability Doctrine and Autonomous Weapon Systems/Robots

It is claimed that if the offender of a crime is not published for the reason that it is a machine , it would not only be detrimental to the fundamental principle of law but also to," more visceral human desire to find an individual accountable."[135] The doctrine of holding the individuals accountable for the acts of the individuals is found in the civil law of the domestic legal systems.[136]In the developed states like U.S.A, there is the consumer protection law with product liability holding the manufactures liable for not only the default in the object but also for the damage occurred to the individual by using that product. These law suits are usually brought cause of the negligence on behalf of the manufactures or for not following the principle of due care and precaution while manufacturing and selling a machine in the market.[137] Some law experts suggest the same principle for setting the law for autonomous weapon systems and robots but this suggestion gives rise to many complicated issues.

2.3.4 Complications for extending rule of 'product liability 'to cover autonomous weapon systems/Robots

There are many complications for extending the rule of 'product liability 'for covering the accountability issues arising out of the use of autonomous weapon systems and combatant robots. First and foremost argument to explain this complication is how

[135] Darren Stewart, "New Technology and the law of armed conflict: Technological Meteorites and Legal Dinosaurs?" Journal on International Law Studies (2011) 275.
[136] Ibid.
[137] Ibid.

the manufacturers can be held criminally liable when there are the governments which decide the deployment and use of these robot and specially when manufacturers already disclosing the risks and potential malfunctions to the consumers (government and the military authorities).[138] And it is also an undeniable fact that no company is supposed to manufacture and sell the lethal and indiscriminate weapons and it may make them "strictly liable" for the violation of the International Law Conventions.[139] The second most important argument is that the principle of product liability is the principle of civil law and even though it is supposed, for the time being, to be applicable in case of combatant robots then how would it be possible for the victims of civil or other barbaric wars to go to the foreign countries for suing the manufactures and recover damages.[140] So, this argument alleges that application of 'product liability' in this case is really a naïve and vague suggestion.

One of the main reason behind the inapplicability of the rule of 'product liability' on the autonomous weapon systems/robots is that the International Criminal law deals with the accountability of a natural person and does not extend to the accountability of juristic persons(corporations).[141]However, International law has provided with some rule which was applied in the execution of the 'Nazi Industrialist' after World war II.[142] They were executed for "planning and execution of the Nazi slave labor program and the plunder of private and public property" and the top officials of the corporations which

[138] Doug Cassel, "Corporate Aiding and Abetting of Human Rights Violations: Confusion in the Courts," Northwestern Journal of Human Rights 6(2008):303-326.
[139] Ibid.
[140] Ibid.
[141] Mathew Lippmann, "The Other Nuremberg: American prosecution of Nazi War Criminals in Occupied Germany," Indiana International and Comparative Law Review 3(1992):1-100.
[142] Ibid.

manufactured and sold "Zyklon B"[143] for applying it in the "Nazi gas chambers ' were tried by the British military courts as a abettors to the war crime.[144]But the Nuremberg trials has recognized it as individual criminal responsibility later on and applied it for accountability of the natural persons, "accomplices participating in the formulation or execution of a common plan or conspiracy to commit a crime enumerated within the Charter".[145]

2.3.5 Actus Rea and Mens rea test

The U.S Supreme court has defined the two requisites for a crime; *Actus rea* and *mens rea. Actus rea* and *mens rea* are defined as "an evil-meaning mind with an evil-doing hand" by U.S. Supreme Court.[146] *Actus rea* is also considered as a component of a crime in international criminal law as it is states in International Criminal law as, "practical assistance, encouragement, or moral support which has a substantial effect on the perpetration of the crime."[147] The *mens rea* is put into the 'knowledge test' by ICTY' which states, "The *mens rea* required is the knowledge that these acts assist in the commission of the offence."[148] Furthermore, ICC added the 'purpose test' for precisely explaining the concept of mens rea in International Criminal law. The 'Purpose test' is defined in Rome statute as,"[f]or the purpose of facilitating the commission of such a crime, aids, abets, or otherwise assists in its commission or its attempted commission, including providing the means for its commission."[149] So it is established from all above

[143] Zyklon B was the trade name of a cyanide-based pesticide invented in Germany in the early 1920s. It consisted of hydrogen cyanide, as well as a cautionary eye irritant and one of several adsorbents such as diatomaceous earth.
[144] Ibid.
[145] Charter of International Military Tribunal (Nuremberg Charter) 8 August, 1945, Atr.7.
[146] Morissette v. United States, 342 U.S. 246 (1952).
[147] Prosecutor v. Furundzija, Case No.IT-95-17/I-T ICTY (10 Dec.1998)
[148] Ibid.
[149] Rome Statute, Art.25.

rules and principles that the knowledge of the crime is mandatory for constituting the offence of abetment, aid or conspiracy of a crime under International Criminal law. So it is very difficult and challenging to apply the rule of 'mens rea' to the manufacturers of the autonomous weapons systems/robots unless those weapon systems are explicitly banned or declared as illegal weapons *or* when they can as clearly be related through 'causation' to the war crimes committed as 'Zyklon B' was connected to the mass murder of the civilians in the Nazi Germany.[150]. Moreover, they are the military personnel who use these weapons in the warzone so it is not just to put the liability on the manufacturers. The use of legal weapons becomes illegal when used against the civilians. For example Neplam is a weapon which is strictly prohibited to be used against the civilians but may be used against the military camps which are not located in the civilian's areas.[151] So, I am of the view that the deployment of the autonomous weapons systems/ combatant robots in the civilian's areas or areas where there is potential threat to civilian's lives and properties is disproportionate to the military objective may be used to extend the principle of accountability to the person deploying it.

2.3.6 Intelligent Decision-making Techniques and issue of liability

"Intelligent Decision-making Techniques (IDTs)" of the autonomous robots and weapon systems are unpredictable in various environments and they may lead to an indiscriminate damage in various cases.[152] The unpredictability of the autonomous weapon systems and robots will make it almost impossible to decide the question of the

[150] Lippmann, "The Other Nuremberg: American prosecution of Nazi War Criminals in Occupied Germany", 55.
[151] Stewart, "New Technology and the law of armed conflict: Technological Meteorites and Legal Dinosaurs?", 278.
[152] Ibid.

criminal liability and to find out element of knowledge, purpose and *mens rea.*[153]It is claimed that even the autonomous weapons are designed to target only the military objectives but any loss caused to the civilians due to the unpredictability and abnormality in the systems of those robots is an issue to be considered.[154] The autonomy of the robots implies that the result of outcome of the weapon systems is not necessarily same in all the circumstances and they can never behave like a human being to respond to the different situations by using common sense.[155] As the machines process the date fed in it by its own by a series of programs and calculations for the decision making and there is not even a single human calculation at any stage leading to the decision making of a machine.[156]And these complications in the system's analysis may not be dealt as an entire system failure and therefore it is not possible to hold the designer, developer or the manufacturer accountable for it.[157] Hence, it is not possible to make the developers accountable in case of any crime. Moreover, the places where the autonomous weapons systems are deployed, the environment in which they are chosen to operate and the method in which they are used are also the basic reasons which emancipate the developers from any accountability. So, the only person which may be held accountable are the people deploying these weapon systems in the unfavorable environments as they can easily foresee the potential damages to be caused and loss to be suffered.[158]

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[153] Ibid.
[154] Krishnan, Killer Robots: Legality and Ethnicity of Autonomous Weapons, 142.
[155] Ibid.
[156] Merry Ellen O'Connel,"21st Century Arms Control Challenges: Drones, Cyber Weapons, Killer Robots, AND WMDS", WASH. U.GLOB. STUDIES L. REV. 515 (2015): 515-533.
[157] Ibid.
[158] Ibid.

2.4 "MILITARY PERSONNEL" AND AUTONOMOUS WEAPON SYSTEMS/ROBOTS

It is a clear fact that the armed personnel are required to comply with the rules of IHL in deploying the weapons including the autonomous weapon systems. But several challenges are being faces in establishing individual accountability in case of these weapons systems. First thing is that they are not under the direct human control as it is a fact that when they deployed in the warfare, they are independent in decision making and are out of human control.[159]So it is argued that the military personnel who have ordered to deploy these weapon systems and the personnel actually deploying it may be held accountable in case of any war crime caused.[160] Secondly, it is stated that if a specific autonomous weapon system is not declared illegal by international law and is still used in the warfare leading to a lot of civilian causalities then the person ordering its use would be dealt in accordance with the principle of International Criminal for the establishing the accountability. The causation principle will be applied to his/her role and the damaged cause along with an assessment of the elements of *actus rea* and *mes rea*.[161]The mental element of the military officer will be assessed by his/her link and the understanding of that autonomous weapon system or robot.[162] It is the duty of the officer deploying an autonomous weapon system/robot to have a reasonable understanding of the system along with an appropriate assessment of the circumstances and the environment in context with the capabilities of the system. Since it is not possible to make the robots which would be able to comply with all the rules of the IHL so it is suggested the role of

[159] Niklas Schoming , Robot Warriors: why the Western Investment into Military Robots Might Backfire (Frankfort: Peace Research Institute Frankfort, 2010), 20.
[160] Ibid.
[161] Dr. Gregory et al, "The Debate over Autonomous Weapon Systems," Case Western Reserve Journal on International Law 47(2015):25-35
[162] Ibid.

the killer combatant robots should be confined to attacking other robots and machines than killing the human combatants[163].It is however up to the military officer deploying a robot to deploy it in the situations where they are able to work properly and do not deviate from the rules of the IHL. It is an obligation of the parties to the war to, "take all feasible precautions in attack" which demands that the officers must deploy the robots before a proper assessment of the operation so as the lives on non-combatants are not put at risk.[164]

2.4.1 Command Responsibility for autonomous weapon systems

There exists a concept of command responsibility in IHL which, in contrast with the individual criminal responsibility, is not linked directly with the commission of the offense.[165] The liability of commander for the offences committed by his subordinates is a unique liability of its own kind which is actually 'liability of omission .This liability is invoked as soon the crime has been committed by the subordinate where the superior has knowledge of it prior to the commission and could not take proper measures from abstaining the subordinate from the commission of that crime.[166] The commander is also responsible if the act has already been committed and he fails to punish the subordinate. Although the command responsibility is a personal culpability but still it is not a strict liability of the commander for the act of his subordinate.[167] It has been held by ICTY appeal chamber that in case of command responsibility, "an accused is not charged with the crimes of his subordinates but with his failure to carry out his duty as a superior to

[163] Ibid.
[164] Bradley Jay Strawser, Killing by Remote Control :The Ethics of and unmanned Military(New York: Oxford University Press, 2013), 105.
[165] Ibid.
[166] Gregory et al, "The Debate over Autonomous Weapon Systems", 28.
[167] Ibid.

exercise control."[168] It clearly shows that the commander is not punished for the crimes committed by the subordinates but he is punished for not taking reasonable measures to abstain the subordinate from the commission of the crime or has failed to punish him after the commission of the crime provided with the fact that he is having the knowledge of the commission of the crime. The statute of ICTY has also defined the responsibility of the commander in words, "failed to take the necessary and reasonable measures to prevent such acts or to punish the perpetrators thereof".[169] So issue is when an autonomous weapon system is being used or a combatant robot is being deployed whether the element of the knowledge of the commander may be established by the mere statement of the facts that a particular weapon system may give unpredictable results? Only a milder awareness of the potential risk is not sufficient to establish command responsibility. As held by ICTY Appeal Chamber, 'the knowledge of any kind of risk, however low, does not suffice for the imposition of criminal responsibility for serious violations of IHL.'[170] Hence, the risk is required to be clear, visible, strong and foresecable for establishing the command responsibility. The provisions in the Additional protocol II define that a commander is liable when he "had reason to know" or "had information which should have enabled them to conclude in the circumstances at the time" of the commission of the crime on behalf of his subordinate.[171] However, the expressions "have reason to know" and "information which should have enabled him" are the terms which have not yet been defined clearly by international law. The issue of the command responsibility is directly linked with the issue of individual criminal

[168] Prosecutor v. Krnojelic , Case No.IT-97-25-A ICTY (17 SEP. 2003).
[169] ICTY Statute, Art. 7 (3).
[170] Prosecutor v. Blaskic, Case No. IT-95-14-T ICTY (29 JUL. 2004).
[171] Additional Protocol II, Art.86.

responsibility of the sub-ordinate. It is also a very complicated issue to establish whether the war crimes committed are due to the personal conduct of the subordinate or the system failures.[172] Hence no clear rule is present for the establishing of the command responsibility though. However, a "DoD directive approved in 2012" has tried to resolve this issue by stating,"persons who authorize the use of, direct the use of, or operate autonomous and "semi-autonomous weapon systems must do so with appropriate care and in accordance with the law of war, applicable treaties, weapon system safety rules, and applicable rules of engagement."[173] Henceforth, the commander responsibility may be recognized in case of the use of autonomous weapon system when he has deliberately unsuccessful to avert or punish the subordinate in case of his failure to fulfill the directions, rules and applicable treaties of the warfare. The rules laid down in that directive may be used as a recommendation to make a treaty or achieve and conclude a Treaty or Convention on the use of the autonomous weapons systems along with an advanced doctrine of commander responsibility.

CONCLUSION

In a nut shell, it may be concluded that the transformation of the traditional warfare into the robotic warfare is quite evident from the circumstances and it is going to the biggest challenge to the IHL and ICL. There are arguments found both for and against the use of the fully autonomous weapon systems according to their ability to comply with the IHL. It is concluded that the compliance of the autonomous weapon systems and combatant robots entirely depends the person deploying them as it is the

[172] Cassel, "Corporate Aiding and Abetting of Human Rights Violations: Confusion in the Courts, 320.
[173] M. Beard, "Autonomous Weapons and Human Responsibilities, 654.

duty of the person deploying these systems to do it after a careful assessment of the circumstances. The basic principles of "proportionality' and "discrimination" may be used as the standards to gauge the capability of the autonomous weapons systems to comply with the basic principles of IHL.

The challenges being faced by the International Criminal law, in robotic warfare, are the issues of individual command responsibility and Command Responsibility. It is one of the more complicated matters of the regulation of robotic warfare to establish the human liability as the fully autonomous weapons make their own independent decisions after they have been deployed once. Moreover, the unpredictability of the autonomous weapons/ robots cannot lead to the liability of the engineers or manufacturers as they are not making decisions for how to use them. Although there is no human in the loop in the operation of the fully autonomous weapon systems but still the criminal liability, in case of war crimes, may lie on the humans deploying them as it is his duty to deploy a robot after proper assessment of the functioning of the robot in context of the place it is being deployed. So far as the question of commander responsibility is concerned, it may be resolved by evaluating the criminal liability of the sub-ordinate in accordance with the elements of "reason to know" and "information" available to the commander. The more appropriate method to assess the command responsibility is in the light of "due care" and "appropriate precautions" measures.

It is concluded that using combatant robots against the combatant robots is really a revolutionary step as it would minimize the causalities of the war. Moreover, the use of fully autonomous weapons and combatant robots must not be prohibited but it must be restricted and regulated in accordance with the principles of International Law.

CHAPTER THREE: CASES UNDER IHL AND EXTENSION OF COMMAND RESPONSIBILITY: COMPARATIVE CASE STUDY

INTRODUCTION

In chapter one and two we have discussed autonomous robots and their legality in detail now we will discuss practical examples of their applicability in battlefield and command responsibility while using this autonomous weapon system. Command responsibility is generally a superior-subordinate relationship where commander should have knowledge about the actions of subordinate as he is ultimately in charge on the battlefield. He would be held liable, if he issue illegal order in battlefield, then he will be answerable for the subordinate's action regardless of fact that the order was executed in true sense. Hence, in twenty first century question of strict responsibility arises with the emergence of robotic warfare in case of blatant violation of laws of warfare. Commander would not be responsible for acts unknown to him. Few case laws and their trial are discussed for better understanding of concept for robotic warfare. Individual responsibility was promulgated in World war II for the best interests of humanity by withholding unnecessary arms and protecting civilians. International Law commission and subsequent law tribunals established principle for command responsibility. Hence Tokyo and Yamashita trials gave new concept and stated that, if commander is ignorant for the atrocities committed by the subordinates without taking proper steps to prevent them are also liable. Courts applied soft brush by creating new standards for assuming commander's stricto senso responsibility, in which atrocities 'should have known', 'had reason to know' or 'must have known' to him. However, commander who actually issued illegal order would be directly responsible but other might be responsible for his

negligence. Furthermore, Nuremberg trial chamber did not insert any provision for the indirect responsibility.

3.1 DOGMA OF COMMAND RESPONSIBILITY

The doctrine of command responsibility evolved through writings of the early jurists Sun Tzu and Hugo Grotius.[174] Command responsibility is rule establish for the liability of commander for his actions and responsibility in battlefield. It is generally a legal doctrine of hierarchical accountability for war crimes.[175] Standard for the command responsibility is clearly recognized in Yamashita case,[176] the Tokyo trail or subsequent war crime trials. This is well explained under Article 6 of Rome Statute:

> "Art. 6(3), The fact that any of the acts referred to in articles 2 to 4 of the present Statute was committed by a subordinate does not relieve his or her superior of criminal responsibility if he or she knew or had reason to know that the subordinate was about to commit such acts or had done so and the superior failed to take the necessary and reasonable measures to prevent such acts or to punish the perpetrators thereof."[177]

Further it states,

> "Art. 6(4), The fact that an accused person acted pursuant to an order of a Government or of a superior shall not relieve him or her of criminal

[174] I. Bonafè, Beatrice, The Relationship Between State and Individual Responsibility for International Crimes 173 (2009)
[175] E. Mahle, Anne, Command Responsibility - An International Focus.
[176] Lael, Richard L, The Yamashita Precedent: War Crimes and Command Responsibility 83-84 (1982);
[177] Article 6(3) of Rome Statute

responsibility, but may be considered in mitigation of punishment if the International Tribunal for Rwanda determines that justice so requires."[178]

In general, command responsibility is based on following principles, firstly, existence of commander-subordinate relationship for effective control between the accused and perpetrator of the crime. Secondly, the knowledge or constructive knowledge of the accused that the crime was being, or had been committed. Thirdly, the failure of the accused to take the necessary and reasonable measures to prevent or stop the crime, or to punish the perpetrator. Hence it is clear that commander is responsible for two types of actions first is direct responsibility, where commander constructively delivered an illegal order which actually illegal. Other is indirect responsibility or command responsibility, where commander is criminally responsible for the actions committed by subordinate as commander is having sufficient control over them.[179]

3.2 CASE LAWS FOR DEVELOPMENT AND EXTENSION OF COMMAND RESPONSIBILITY

3.2.1 The Yamashita Case

The Yamashita case is the first ever case on the commander responsibility. Tomoyuki Yamashita, former Commander General of the 14th Army Group of the Japanese Army assigned duties in the Philippine Islands, was later on indicted before a U.S Military Commission with unlawfully turning a blind eye and failing to discharge his duties by allowing members of his command to commit war crimes.[180] Case was quite

[178] Article 6(4) of Rome Statute

[179] Mitchell, Andrew D., 'Failure to Halt, Prevent or Punish: The Doctrine of Command Responsibility for War Crimes', 22 Sydney L. Rev. (2000) pp, 381

[180] Lael, Richard L., The Yamashita Precedent: War Crimes and Command Responsibility, Scholarly Resources Inc., 1982, pp.81-82 "The more particular charges included thekilling and mistreatment of

controversial as prosecution was unable to prove the knowledge of Yamashita. Prosecution argued that Yamashita knew or must have known the fact of committing crimes by his subordinates under his command. Crimes included plunder, looting, devastation, rape, massacre and shooting of guerrillas without trial. One of the argument against him was that he did not take essential steps to prevent them from committing such an atrocities as necessitated under International law.

Defense counsel contested that General cannot be penalized for something which he has not done rather he will be punished for having been something.[181] In rebuttal, Major Kerr argued using affirmative indifference and said that the massacre was so notorious and so blatant and massive that it did not fall under the category of humanity, and he recklessly ignored such acts which were notorious, widespread, repeated, and constant.[182] Yamashita himself repudiated the knowledge of any atrocity committed by his subordinate. He said that he would have punished if he had knowledge of intentions for brutal actions by his subordinates. In his further arguments, he said that in my position as commander, it was very difficult to control and supervises all actions of his men.

Trial was concluded by setting a principal and rule of 'should have known' for any commander. It was elucidated that this norm must be under consideration by the commander as he should control all the actions of subordinates. One of the basic trait of

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over thirty-two thousand Filipino civilians and captured Americans, the rape of hundreds of Filipino women, and the arbitrary devastation of individual own property,''

[181] AG 000.5 (9-24-45) JA Before the Military Commission Convened by the Commanding General United States Army Forces, Western Pacific: Yamashita, Tomoyuki, pp. 86-87.

[182] Ibid pp. 100

commander is vigilance but under the command of Yamashita, number of brutalities, and high command crimes were placed against People residing in United States.

Similarly, commission concluded that Yamashita failed to hold effective control over his troops.[183] Yamashita was not tried for his personal acts but was charged guilty and sentenced to death for the actions committed by his subordinates.[184] 'Clarke appealed the sentence to General MacArthur, who upheld It.' Same decision was appealed in the Supreme Court of the Philippines and the Supreme Court of the United States, both of which declined to review the judgment.[185]

3.2.2 The Nuremberg Trial

The UN War Crime Commission was set up with the Announcement of St James mentioning through Allied powers[186] keep in mind the end goal to lead examinations and get confirmation of war crimes.[187] On October 1, 1946, an international tribunal in Nuremberg, Germany, sentenced 12 high-ranking Nazis to death for war crimes. Explore 10 surprising facts about what has been called the "greatest trial in history. No specific conclusion was drawn from these trials even though they discussed command responsibility at length.

Obtained information from Nuremberg Trial and Tokyo Trial for command responsibility was used in subsequent trials related to war crimes. These findings were not binding on Tokyo and Nuremberg trial although they were used as precedent in later

[183] Bassiouni Crimes n3 above 427.
[184] United States v. Yamashita, 327 U.S 1,at el 16 (1946)
[185] Ibid
[186] Hendin, Stuart E, 'Command Responsibility and Superior Orders in the Twentieth Century- A Century of Evolution', (2003) 10 Murdoch University Electronic journal of Law, para. 38;
[187] Ibid page 196, para. 38.

trials.[188] No decision was made with regard to command responsibility and commission was failed to bring it to some conclusion. Although the facts and figures were quoted in later stages by numerous administrations in ensuing accusations of war criminals, it was not imposing over Nuremberg Trial and Tokyo Trial.[189]

After some time Allied forces issued a declaration on German Atrocities in Europe which emphasized on the accountability of German officers and on Nazi Party members but not on the commander.[190] 'Section 2 of Article II of Control Council No. 10' enacted to establish a uniform legal procedure of indictment for war culprits and other comparative guilty parties i.e. war criminals and others who were tried by IMT.

During Nuremberg trial, scope of command responsibility was narrowed. Hence, commander was not held liable for acts done by subordinates. Several orders of Hitler were implemented whereas, Wilhelm von Leeb tried hard to escape from liability through arguments of inability to refuse commander's orders.[191] IMT denied the plea of superior order defence by considering it injustice to the commander as he is not directly responsible for acts committed by subordinates. They were the opinion that mere passing of orders didn't constitute liability on commander, there should be direct responsibility of commander for committing war crime.

Article 6 of the Charter did not charge individual for indirect responsibility.[192] Similarly, Article 7 of the charter deprived of the immunity of the responsible personnel.

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[188] Ibid
[189] Ibid
[190] Allied Control Council Law No. 10 (20 Dec. 1945)
[191] Trial of Wilhelm von Leeb and Thirteen Others (German High Command Trial) (United States Military Tribunal, Nuremberg) 1-2 (Dec. 30, 1947-Oct. 28, 1948), Law-Reports_Vol-12.
[192] Article 6, of the Nuremberg Charter, (As seen, there is no mention of indirect responsibility).

Article 6 of the charter provided that any person directly involved in committing crime is liable for accountability. Hence, this Article also emphasized on importance of direct involvement in crime. The Tribunal carefully selected a narrow brush, lowering the bar post-Yamashita. Throughout its analysis, Nuremberg trial entails Individual criminal responsibility and lessens the scope of command responsibility. It also pose stress that there could be mens rea for the establishment of command responsibility. Commission gave the idea of "de-centralization" of contemporary war.[193] It will also examines that criminal responsibility could not be deprived of "personal dereliction".[194] Thus, the court began to trim back of the scope of command responsibility by adjusting its requisite mens rea.

3.2.3 The High Command case

High Command Trial was held on 30th December 1947-28th October 1948. Similarly, High Command generals were tried for committing offenses such as crimes against humanity and peace, conspiracy and other related war crimes.[195] It is most important trial among others which discussed command responsibility at times and length. General Von Leeb, the commander who was tried for such directives but he refused and took a plea that crimes committed were different from the orders given to them. His order was changeable with commissioner's order so he enforced Von Brauchitsch to convince Hitler for withdrawal of orders.

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[193] Reitinger, Nathan. "Algorithmic Choice and Superior Responsibility: Closing the Gap between Liability and Lethal Autonomy by Defining the Line between Actors and Tools." Browser Download This Paper (2015) p. 27

[194] Ibid; p. 45-47 (discussing the court's refusal to permit a strict liability offense—mere authority mixed with commission of crimes derives liability—Parks displays how the court only permitted liability for Leeb based on personal dereliction and direct traceability).

[195] Ibid; p.38-39.

He had instantly taken steps to avert mass killing at Kowno,[196] and protested in rebellious manner against those orders which causes offenses of heinous nature. Tribunal was of the view that criminality is not attached to every superior in the chain of command. Tribunal was of the view that, notion 'should have known' used in Yamashita case should not be measured as standard to decide the matter of command responsibility. There must be an individual negligence that might happen where action is done by commander himself and he could not prevent his subordinates due to his negligence. His personal dereliction amounts to malicious, immoral actions in battlefield by subordinates amounts to consent.[197]

Two issues rose over here; one is act directly traceable to commander and second is personal neglect for controlling his subordinates. Personal neglect tantamount to mens rea which is established when crime committed without actual knowledge of the commander by a person under his authority. Tribunal was of the view that 'immoral disregarding' amounts to consent.

Nevertheless, as to the question related to 'charged knowledge', tribunal rebutted and said that we cannot draw assumption for the knowledge of any commander. For that we have to go through some evidence affecting to the several defendents.[198] In this case von Leeb was considered to be guilty of Count III and crime against humanity.[199] Notion of negligence was considered valid plea in High Command case taken by von Leeb. Yamashita was having the knowledge

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[196] Crowe, Christopher N. "Command Responsibility in the Former Yugoslavia: The Chances for Successful Prosecution." U. Rich. L. Rev. 29 (1994): 191.

[197] Ibid

[198] United Nations War Crimes Commission. Law Reports of Trials of War Criminals. Vol. 13. United Nations War Crimes Commission, 1949. pp. 79.

[199] Ibid. p. 94.

about crime but in this High Command case Leeb was under charge of ordinary criminal negligence. This negligence was not that much serious as in the Yamashita's case.[200] Hence, High Command case revolved around simple negligence.

3.2.4 The Hostage Case

The Hostage Case[201] is also called as Southeast case held from July 1947 to February 1948. In this case, Military Tribunal was created for the purpose to punish the twelve German high ranking officers were charged of killing of citizens from different countries such as; Greece, Norway, Yugoslavia and Albania. This Tribunal was formed by US Military Government. Different duties were assigned to commanders in Hostage. Those duties were to retain peace and order in their zone punish wrongs and protect civilians and their property. It is limited to extend to their own troops and subordinates.[202] Tribunal resolved the query regarding justification in case commander did not have any knowledge regarding commission of the crime.

Tribunal was of the view that Commander cannot abstain from his knowledge of reports received at his headquarter. Neither will he permitted to disagree from knowledge of whatever happened in his area of command.[203] Actions of juniors must be considered as first and foremost evidence of knowledge of the commander of the occupied territory. Commander will be liable for the actions of the subordinates committed within the

[200] Ambos, Kai, and Steffen Wirth. "The current law of crimes against humanity: An analysis of UNTAET regulation 15/2000." In Criminal Law Forum, vol. 13, no. 1, Springer Netherlands, 2002. pp.433.

[201] United States v. List (The Hostage Case), Trial of the War Criminals before the Nuremberg Tribunal 1228, 1238 (1950) and United Nations War Crimes Commission, 8 Reports of Trials of War Criminals, The United Nations War Crimes Commission, 1949, .66-79.

[202] United States v. Wilhelm List et al., (The Hostage Case), Trial of the War Criminals before the Nuremberg Tribunal 1228, 1238 (1950) and United Nations War Crimes Commission,8 Reports of Trials of War Criminals, The United Nations War Crimes Commission, 1949, pp.69-70.

[203] Ibid, pp-70

occupied territory as he is commanding the said territory. Dereliction of duties rest upon him, as he is accountable for his subordinate's actions. In this regard he cannot take dereliction as his plea for defense. Time being absence from the occupied territory or headquarter cannot relive him of his responsibility though acts committed are in accordance with his policy.[204] Trial concluded that defense plea of superior order is only valid if commander is well acquainted with the policy followed by lower-ranked superior. Similarly, commander should be aware of happening under his territory and command. Prime concern of every commander is to follow international law and abstain from the violation of legal commandments.

3.2.5 Tokyo trial

The International Military Tribunal for the Far East (IMTFE), also known as the Tokyo Trials or the Tokyo War Crimes Tribunal is action taken by Allied forces after World war II.[205] This trial remained for two and half years and widely affected the psyche of Japanese people. It was not totally parallel to Nuremberg trial, but differs in many ways. It was clear that Nuremberg trial deals with direct responsibility of the commander, on the other hand Tokyo trial dealt with indirect responsibility of commander. Particularly, Japanese soldiers mistreated Prisoners of war without actual orders of the commander against those atrocities, trial was initiated.[206]

Twenty eight Japanese were tried and held liable and found guilty for crimes committed against humanity, crimes of joint conspiracy and war crimes along with

[204] Ibid pp-1271

[205] Minear, Richard H., p.1-5 Victor's Justice: The Tokyo War Crimes Trial. Princeton, (1971), New Jersey: Princeton University Press.

[206] Tojo answered his failure as follows: 'it is Japanese custom for a commander of an expeditionary army in the field to be given a mission in the performance of which he is not subject to specific orders from Tokyo, but has considerable autonomy'. Ruling no. 94

'conventional' atrocities. This includes genocide, slaughter, enslavement, and exile, other ruthless and harsh acts committed against any civilian population or persecutions on political or racial grounds.[207] In fact, no provision for individual responsibility was found in Tokyo trial but Article 5 of Tokyo Charter explained in detail that anyone who committed or was accomplice in commission or execution of offence is considered to be offender and guilty of such crime.[208] Article 6 of the Tokyo Charter refused to give any sort of protection to one who takes commander's responsibility as defense plea.[209]

In contrast with Nuremberg Trial, Tokyo Trial dealt with indirect responsibility of commander. Tokyo Trial elaborated the norm of should have knowledge as discussed in Yamashita case. Negligence by the commander is not acceptable in any case as he is responsible for the acts done by the subordinates. Yamashita case was concluded in 1946 but Tokyo trial was initiated in 1946 and lasted until 1948. Hence, 'should have known' was acknowledged by Tokyo trial soon after Yamashita doctrine. Still criteria to examine knowledge of the commander for any atrocity remain ambiguous until ICTY. Similarly, Tokyo Trial is considered as the foundation for the command responsibility in subsequent trials.

3.2.6 First Case law of ICTY for Command responsibility, The Celebici Case

The Celebici case is first case law dispensed in with command responsibility since the World World II trials.[210] Person who were charged for committing war crimes were, Esad Landzo who was guard, Zejnil Delalic, Zdrako Mucic and Hazim Delic were

[207] Minear, Richard H. Victor's Justice: The Tokyo War Crimes Trial. Princeton, New Jersey: Princeton University Press. (1971). p. 180
[208] Article 5 of the Tokyo Charter.
[209] Article 6 of the Tokyo Charter.
[210] Report of the Secretary-General Pursuant to Paragraph 2 of Security Counsel Resolution 808 (1993), U.N.S.C. Doc. S/25704 (1993) Mitchell n3 above 400.

commander and incharge of troops during the atrocities and violations. United Nations Security Council Resolution was quoted by Trial Chamber with regard to command responsibility, affirming that person who actually participated in the instigation, planning, or pledging of serious violation of IHL are responsible. These commanders didn't issue illegal orders still they were liable for acts done by their subordinates, in this regard Chamber held that military officers and different persons possessing places of commander may be considered criminally liable for the illegal actions of their dependents is a established standard of customary and conventional international law.

Hence, commander would not only be responsible for crimes committied by subordinates but also not to prevent or preclude subordinates for commission of such offences 'Following elements must be fullfilled for commander's responsibility, firstly there should be commander-subordinate relationship, secondly, superior knew or had reason to know that the criminal act was about to be or had been committed; and thirdly, the superior failed to take the necessary and reasonable measures to prevent the criminal act or punish the perpetrator thereof.'[211]

Concept of control through de jure and de facto position of commander were widely discussed.[212] Prosecution argued that individual who is in position to command whether civilian or military may sustain criminal responsibility.[213] If commander would be absent for time being even then he will not be presumed to prevent from his criminal responsibility for acts done by subordinates.[214] Tribunal was of the view that 'the doctrine

[211] Prosecutor v. Delalić et al. (Čelebići case), Judgement, Case No. IT-96-21-T, T. Ch. IIqtr, 16 November 1998 (ICTY). para. 346.
[212] Ibid para 354
[213] Ibid
[214] Ibid para. 354

of superior responsibility does not create any strict liability for commander, in case he failed to punish or prevent his subordinates from the crimes committed by them.[215] By concentrating this norm, the Tribunal addressed the mens rea which is prerequisite of command responsibility, which encompassed firstly, he should have actual knowledge of direct or circumstantial knowledge. Secondly if he has at least noticed of risk caused by criminal act of such offences and it is needed for further investigation to reach original crime whether that is committed or not.[216]

The Tribunal, however, set standards to measure the possibility of indirect command responsibility. The Tribunal held that IHL cannot bound commander to accomplish impossible. Commander may only be held liable for criminal acts done under his supervision and his failure to take measures to prevent them.[217] Mucic as commander of camp was found guilty of atrocities related to command responsibility which is principle of IHL. Reason thereby for his responsibility is that, subordinates were under the effective control of Mucic and his failure to preclude them for doing so.[218] The Chamber did not follow the principle requirements of command responsibility for two defendants namely Delalic and Landzo.[219] Delalic abstained from being guilty of all charges as he was not considered incharge or commander of camp, in order to avoid criminal responsibility still found guilty for other accounts and was punished for twenty years. Similarly Landzo was also sentenced for fifteen years as found guilty.

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[215] Ibid para 383
[216] Ibid
[217] Ibid. para.395.
[218] Article 5 of the 1995 Draft Code of Crimes Against the Peace and Security of Mankind.
[219] Prosecutor v. Delalic. No. IT-96-21-T., International Criminal Tribunal for the former Yugoslavia, Nov. 16, 1998 (1999) 93 American Journal of International Law, p. 517.

After World war II, This become first ever case applying the doctrine of command responsibility. The concept of indirect responsibility was also discussed in the statute. Chamber confirmed that commander may be responsible for acts done by subordintaes as he failed to take reasonable measures to prevent them although he as a commander had formal authority to prevent possible atrocities.

Trial Chamber also extended the authority of commander for protection of civilians. Nevertheless, the Chamber clearly repudiated the concept of strict liability by declaring that a commander should not to be held liable for any atrocities, where it was materially impossible. Chamber held that there must be circumstantial evidence to prove the knowledge of the commander; it should not be based on presumption.

3.3 COMPARATIVE ANALYSIS FOR ESTABLISHMENT OF COMMAND RESPONSIBILITY IN ROBOTIC WARFARE

With the changing time two principles or elements are formed; one is responsibility of commander's order and second is responsibility for omission of commander to act properly.[220] First ever case of command responsibility is discussed above as Yamashita Case in which commander was not having knowledge of commitment of crime. Its decision was controversial as no knowledge of commander was established but in its decision' broad brush of responsibility was used'.[221] Reason behind responsibility is that commander was most appropriate person to regulate the conduct of subordinates.

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[220] Ronen, Yäel, 'Superior Responsibility of Civilians for International Crimes Committed in Civilian Settings', 43 Vand. J. Transnat'l L. 313, 315 (2010). Allison Marston Danner & Jenny S. Martinez, Guilty Associations: Joint Criminal Enterprise, Command Responsibility, and the Development of International Criminal Law, 93 Cal. L. Rev. 75, 120 (2005).

[221] Yamashita v. Styer, 327 U.S. 1 (1946); William H. Parks, Command Responsibility for War Crimes, 62 Mil. L. Rev. 1, 22 (1973) (discussing the controversial issues sprung from Yamashita).

Yamashita agreed and surrendered with the requisition that heinous war crimes were committed by troops but he could not be held liable for such carnage because of two reasons, i.e. firstly he did not had knowledge, secondly, soldiers were not under his control and command at particular time during commitment of atrocities. [222] General's alleged failure to regulate the troops, his assumed knowledge stimulated confirmatory duty to provide control, for which General was unable to do so.[223] Here 'should have known' standard was formulated for commander's responsibility. Similarly, in robotic warfare it become very important for commander to have knowledge about probable atrocities and failure of robots to act needful.

Moreover, Nuremberg trial narrowed down the scope of command responsibility. In this case it was decided that mere passing of orders cannot hold commander responsible for acts committed under his supervision. This trial lower the bar post-Yamashita. The tribunal was of the view that 'criminality does not attach to every individual in the command....there must be personal dereliction.'[224] Acts should be directly constituted by the person in the chain of command otherwise he would not be responsible. 'Personal dereliction' is very important without this there would not be any criminal liability.[225] Hence commander would not be responsible if atrocities committed under his supervision were without his own dereliction. Yamashita and Leeb in Nuremberg trial laid the foundation for the modern tribunal such as, the International

[222] A. Frank, Reel, The Case Of General Yamashita 17 (1949) (discussing the General's main defense, which was that the United States military impeded his ability to control his troops, displacing his chain of command and therefore negating his responsibility).
[223] Procucutor v. Yamashita, 327 U.S. at 17.
[224] Trial of Wilhelm von Leeb and Thirteen Others (German High Command Trial) (United States Military Tribunal, Nuremberg) at 76 (Dec. 30, 1947-Oct. 28, 1948), [hereinafter Leeb] Military Law Reports, Vol-12.
[225] Ibid also Parks, supra note 91, at 45-47.

Criminal Tribunal for the Former Yugoslavia (ICTY)[226] and the International Criminal Tribunal for Rwanda (ICTR).[227]

International Criminal Law has imposed heavy responsibility on commanders to strictly follow the standard established for commander responsibility in Yamashita Case and in subsequent war crime trials. Reason behind their liability is that, they are the most responsible in the chain of command to avoid violation of IHL. They could punish subordinates and formulate policies to prevent heinous crimes in battlefield. But here in case of robots, regulation and restriction must be imposed on use of limited extent of robots. As they are in position and power so burden of duty lies where they has a choice to stop, it means that when violation was committed or about to commit, they had authority over subordinates or had reason to prevent but failed to stop.[228]

Commander would not be punished for any violation or fault not committed under his knowledge and supervision. Doctrine can be regarded to excuses made in childhood as 'someone made me to do it' or 'I was not involved'. IHL (IHL) never shifts guilt of one person on another rather it gave some principle to observe such as proportionality, distinction, humanity and necessity should be observed. These are widely discussed in previous chapters. Similarly in the case of autonomous weapon system these principles of IHL and ICL must be followed. IHL tried hard to balance basic humanitarian concerns

[226] Statute of the International Criminal Tribunal for the Former Yugoslavia, adopted by S.C. Res 827, U.N. Doc. S/RES/827 (May 25, 1993)

[227] Statute of the International Criminal Tribunal for Rwanda, adopted by S.C. Res. 955, U.N. Doc. S/RES/955 (Nov. 8, 1994)

[228] Procecutor v. Celebici Appeal Judgment para 239.

during warfare and gave baseline principles for robotic warfare. [229] IHL may be defined as the body of norms that regulates the conduct of those who are involved in armed conflicts, regulates the use of armed force and robots, including the prohibition of certain ways and means of warfare, and protects certain categories of persons and property from harm."[230]

Hague Convention provided laws of humanity in 1907 which recognized customary international law in this respect. Four Geneva Conventions of August 12, 1949 and two Additional Protocols of 1977 become base liner conventions for IHL.[231] These laws were practically discussed in above said cases and become vertebrate shaping for autonomous weapons system.[232] Actus reus and mens rea are also very important element as discussed in previous chapters for establishment of strict liability. In the matter of autonomous weapon system, prove of actus rea is ascertained through establishment of effective command, authority or control over subordinates. Question arises over here who is responsible when machine commits war crime? Commander cannot be responsible for acts committed by autonomous robotic weapon system. Robotic weapon performing with full autonomy acts in own accord, and it disunites the series of command. Similarly, if a

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[229] Sassòli Marco, Antoine A. Bouvier & Anne Quintin, Icrc, How Does Law Protect In War? Cases, Documents And Teaching Materials On Contemporary Practice In International Humanitarian Law 1 (3d Ed. 2011).

[230] BASSIOUNI, Supra note 69, para 4.1, page 280; see also SASSÒLI, BOUVIER & QUINTIN, supra note 71, at 1 (deriving, among others, the principles of distinction, necessity, and proportionality).

[231] Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, Aug. 12, 1949, 6 U.S.T. 3114, 75 U.N.T.S. 31; Geneva Convention for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces at Sea, Aug. 12, 1949, 6 U.S.T. 3217, 75 U.N.T.S. 85; Geneva Convention Relative to the Treatment of Prisoners of War, Aug. 12, 1949, 6 U.S.T. 3316, 75 U.N.T.S. 135; Geneva Convention Relative to the Protection of Civilian Persons in Time of War, Aug. 12, 1949, 6 U.S.T. 3516, 75 U.N.T.S. 287; Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts, June 8, 1977, 1125 U.N.T.S. 3.

[232] supra note 20 and accompanying text (debating whether LAWS would fail based on an inability to adhere to these principles);

commander has knowledge of atrocities then presence of mens rea would be proved and commander will be responsible for criminal liability.

CONCLUSION

Robotic warfare is expanding day by day with the evolution of technology. This advancement leads towards the autonomy of robotic weapons in battlefield, which is real challenge and threat to IHL as well as to other international treaties and conventions. Non-compliance of principle of distinction during robotic warfare is up surging and is issue of greater concern. Presence of human supervision may help the robots to cope up this issue to some extent to follow these principles but on the other hand when these weapons become fully autonomous than their supervision become impossible. Liability and responsibility arises over here according to attribution of human or tools.

Autonomous robotic weapon system is deployed and manufactured by human for extra territorial killings of enemies but they are characterized as fully autonomous after installation in the war zone. No international covenant explicitly banned these lethal autonomous robotic weapon but its legality and illegality may be judged by the nature of weapon being fired from it. Furthermore, it is really hard job to classify whether it obeys the principle of distinction as the targets of these robots neither fall in the domain of combatants nor the civilians. Along with this issue it is a complicated issue to decide criminal liability of the individuals or command responsibility, which needs to be addressed by the humanitarian law to cope with the threats of the robotic warfare. Along with these issues, the matter of liability of the persons operating the drones and robotic weapons from faraway places to be categorized as the combatants is also one of the main issues being faced by the robotic era of IHL.

This doctrine of command responsibility lays the foundation for adhering to the conventions of IHL by allowing a commander to serve as a bridge between accountability and "use." First and foremost argument to explain this complication is how the manufacturers can be held criminally liable when there are the governments which decide the deployment and use of these robot and specially when manufacturers already disclosing the risks and potential malfunctions to the consumers (government and the military authorities). And it is also an undeniable fact that no company is supposed to manufacture and sell the lethal and indiscriminate weapons and it may make them "strictly liable" for the violation of the International Law Conventions. The second most important argument is that the principle of product liability is the principle of civil law and even though it is supposed, for the time being, to be applicable in case of combatant robots then how would it be possible for the victims of civil or other barbaric wars to go to the foreign countries for suing the manufactures and recover damages. So, this argument alleges that application of 'product liability' in this case is really a naïve and vague suggestion. Advance legislation and treaty making is required with the wake of new challenging era of technology. Importantly, there should be accountability for use of autonomous weapon system and norm of 'should have known' and criminally liable for knowledge of atrocities must be under consideration.

It is thereforeconcluded that using combatant robots against the combatant robots is really a revolutionary step as it would minimize the causalities of the war. Moreover, the use of fully autonomous weapons and combatant robots must not be prohibited but it must be restricted and regulated in accordance with the principles of International Law. Tribunals maintained direct responsibility by considering that there should be planning,

instigating and ordering as well as indirect responsibility by contemplating to acts performed by subordinates. Similarly, the Rome Statute of the International Criminal Court (ICC) amplifies responsibility in the context of omission through requirements of failed mens rea. If commander do not have knowledge of violation caused by autonomous weapon, than he will not be responsible.

This research focused on foundation of command responsibility and its practical value during different war trials. Fulfillment of three basic elements of IHL elucidated the command responsibility in regard to the presence of a commander-subordinate relationship and commanders responsibility in case not to punish or prevent due to presence of mens rea. Hence it is thereby proved that subordinate should effectively under control of commander and should have knowledge of illegal acts. Most important of all is accountability for use of autonomous weapon system. Every case discussed in this research state the norm of 'should have known' or knowledge of atrocities for being criminally liable.

RECOMMENDATIONS:

i. The robotic warfare must be regulated instead of declaring the fully autonomous weapons or robots illegal.

ii. The use of robots during warfare must be restricted or prohibited to some extent, if not banned.

iii. The robots would be able to follow the principle of proportionality in more effective way by calculating the real amount of force required for attaining the anticipated military target. The computerized weapon systems may calculate the effects of the weapons used and the potential collateral damage more easily as compared to a normal human brain as it could not do that much complex calculations. It is further alleges that the autonomous weapon systems and the robots may perform the hundreds of the complex calculations and have the capability to minimize the collateral damages by following the principle of proportionality.

iv. The compliance of the autonomous weapons and the robots depends upon how sophisticated and advanced system of artificial intelligence is being used in them.

v. All the systems of criminal law, domestic or international law are ineffective without the doctrine of liability and penalty. System of penalty for non-compliance with principles of IHL should be effectively implemented.

vi. Rome statute states, on the issue of criminalizing a group, "by a group of persons acting with a common purpose" and "made with the aim of furthering the criminal activity or criminal purpose of the group," or "made in the knowledge of the intention of the group to commit the crime." This concept of criminalizing a

group is an ambiguous and limited idea in International Criminal law but it may be developed further to take cognizance of the crimes committed by the autonomous weapons in future.

vii. Deployment of the autonomous weapons systems/ combatant robots in the civilian's areas or areas where there is potential threat to civilian's lives and properties is disproportionate to the military objective may be used to extend the principle of accountability to the person deploying it. So, the only person which may be held accountable are the people deploying these weapon systems in the unfavorable environments as they can easily foresee the potential damages to be caused and loss to be suffered.

viii. It is an obligation of the parties to the war to, "take all feasible precautions in attack" which demands that the officers must deploy the robots before a proper assessment of the operation so as the lives on non-combatants are not put at risk.

ix. The commander responsibility may be established in case of the use of autonomous weapon system when he has consciously failed to prevent or punish the subordinate in case of his failure to comply with the rules and applicable treaties of the war.

x. The rules laid down in that directive may be used as a guideline to make a new treaty or conclude a convention on the use of the autonomous weapons systems along with an advanced doctrine of commander responsibility.

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