

**Investigating the regulation of autonomous weapon systems under the  
existing provisions of International Law of Occupation**

By

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## List of Abbreviations

ACHPR	African Charter on Human and Peoples' Rights
CIA	Central Intelligence Agency
C-RAM	Counter-Rocket, Artillery, Mortar Systems
DRC	Democratic Republic of Congo
ECHR	European Court of Human Rights
ICCPR	International Covenant on Civil and Political Rights
ICRC	International Committee of the Red Cross
ICTR	International Criminal Court for the Rwanda
ICTY	International Criminal Court of the Former Yugoslavia
ICTY	International Criminal Court of the Former Yugoslavia
UDHR	Universal Declaration of Human Rights
UN	United Nations

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## Dedication

*This work is dedicated to all human soldiers that sacrifice their family lives to commit to protecting millions of people living in South Africa or any other parts of the world.*

**CHAPTER 1:**  
**THE IMPORTANCE OF HUMAN  
CONTROL OR JUDGEMENT**

## 1.1 Introduction

The international community, experts and other international organisations are actively participating in the debate of whether the development and use of autonomous weapon system will comply with the existing provisions of International Humanitarian Law, specifically the International Law of Belligerent Occupation. This Mini-Dissertation will discuss the importance of requesting human control and judgement to play a role in the use of autonomous weapon systems during an event of occupation, as most of the decisions proposed to be taken by autonomous weapon systems are very subjective in nature. It will of importance to examine whether the use of these machines with autonomy will be able to comply with the specific provisions under Article 27 of the *Geneva Convention (1949)* during an occupation, namely the right to human honour and the lives of persons, the right to humane treatment during an occupation and lastly the right to life. Also this Mini-Dissertation will try to discuss by illustrations ways in which machines with autonomy might lead to a better compliance with the law and reflect on the means forward with regards to the development and use of autonomous weapon systems.

It is very difficult to foresee the development and use of autonomous weapon systems complying with the rules of International Humanitarian Law without any involvement of human control or judgement. Before looking at this issue with regards to control, this chapter will firstly discuss the types of current technology available which have some form of autonomy in their functions. It will also examine the legislative requirements which encourages new invented and developed weapon systems to perform a weapons review to determine their legality with international law.

Military technology is advancing at an incredible speed. States are constantly engaging in creating and developing weapons systems to better their own protection and the maintenance of peace and security. As evidence from the past, we have witnessed a shift in the kind and use of weapon systems during warfare and law enforcement, weapons which aim at achieving massive casualties and serious injuries to the enemy. In 1914 - 1918 during the World War I, the world witnessed the development and use of poisonous gasses and biological weapons systems by States involved in the conflict, targeting not only combatants but also the civilian



population.<sup>1</sup> During World War II the kind of weapons systems used shifted. The World witnessed States making use of aerial bombs and most shocking atomic bombs, which caused massive deaths and serious injuries.<sup>2</sup>

Nowadays the world is witnessing States constantly engaging in the development of military technology which does not rely on human control or judgment to perform certain functions.<sup>3</sup> Such weapons can select and engage targets on their own after activation.<sup>4</sup> Some of the leading reasons for the development of autonomous weapons systems, drones or any robot system with limited control include replacing human fighters to spare lives, the lack of emotions which enables them to undertake dull, dirty and dangerous functions, and also that they will be faster at sensing and processing data.<sup>5</sup> However, on the other hand there are some who are against the development and use of such weapon systems, which argue that their use will generally result in a number of threats. The value of human life will be diminished if the decision to kill human beings is taken only by machines; as such it is important to note that these machines lack the necessary human emotions, such as mercy and compassion.<sup>6</sup> A machine may be imperfect and may also malfunction at times.

## **1.2 Current technology**

Currently there is no formal presented definition of what is an autonomous weapon system. In order to understand what an autonomous weapon system is, it is important to distinguish autonomous from automated weapons.

Automated weapons systems also referred to as semi-autonomous weapon systems execute their function after they have initially being deployed or directed by a human

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<sup>1</sup> Jones, E (2008) 38 Psychological Medicine 1419-1426. Available at <http://www.kcl.ac.uk/kcmhr/publications/assetfiles/cbrn/Jones2008-psychologicaleffectsofchemicalweapons.pdf>.

<sup>2</sup> As above.

<sup>3</sup> Geneva Academy (2014) "Autonomous Weapon System under International Law \_Academic Briefing No 8", available at [http://www.geneva-academy.ch/docs/publications/Briefings%20and%20In%20breifs/Autonomous%20Systems%20under%20International%20Law\\_Academy%20Briefing%20No%208.pdf](http://www.geneva-academy.ch/docs/publications/Briefings%20and%20In%20breifs/Autonomous%20Systems%20under%20International%20Law_Academy%20Briefing%20No%208.pdf).

<sup>4</sup> Report of the Special Rapporteur on extrajudicial, summary or arbitrary execution, Christof Heyns, UN doc. A/HRC/23/47, 9 April 2013, Available at: [http://www.ohchr.org/documents/hrbodies/hrcouncil/regularsession/session23/a-hrc-23-47\\_en.pdf](http://www.ohchr.org/documents/hrbodies/hrcouncil/regularsession/session23/a-hrc-23-47_en.pdf).

<sup>5</sup> Geneva Academy (2014) "Autonomous Weapon System under International Law \_Academic Briefing No 8", available at [http://www.geneva-academy.ch/docs/publications/Briefings%20and%20In%20breifs/Autonomous%20Systems%20under%20International%20Law\\_Academy%20Briefing%20No%208.pdf](http://www.geneva-academy.ch/docs/publications/Briefings%20and%20In%20breifs/Autonomous%20Systems%20under%20International%20Law_Academy%20Briefing%20No%208.pdf).

<sup>6</sup> As above.

operator.<sup>7</sup> They perform actions or sequence which have been selected already. A good example of an automated weapon system is the C-RAM (Counter-Rocket, Artillery, Mortar systems) which is a highly automated defensive systems used on warships or land to counter attack rockets.<sup>8</sup> It is understandable that this system operate under human supervision or control.

Drones systems are also considered as automated weapon, as they are remotely piloted aircraft which may operate and be controlled by a crew located in an area far away from the combat zone.<sup>9</sup> This system requires a human operator to select targets, activate, direct and fire the target concerned.<sup>10</sup> Drones are considered lawful, however there are concerns about their use. A good example of a drone weapon system is the predator, used by the United State government during armed conflicts in Afghanistan,<sup>11</sup> the MQ-9 Reaper or the Bae Systems Mantis program.<sup>12</sup>

On the other hand, fully autonomous weapon systems are highly sophisticated weapons, which are capable of selecting and engaging any target on their own once activated.<sup>13</sup> These weapon systems are considered as a continuation of decision making by a machine as opposed to human control or judgment. It is believed that currently such weapon systems do not exist, but there is uncertainty about their development. There is however, existing technology which illustrate some form of autonomous in its design, one good example is the X-47B aircraft used by the United State Army which is capable of taking off and landing on an aircraft carrier without any form of human control or judgment.<sup>14</sup>

### **1.3 New weapons review**

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<sup>7</sup> ICRC, "Fully autonomous weapon systems", available at <http://www.icrc.org/eng/resources/documents/statements/2013/09-03-autonomous-weapon.htm>.

<sup>8</sup> As above.

<sup>9</sup> ICRC, "Fully autonomous weapon systems", available at <http://www.icrc.org/eng/resources/documents/statements/2013/09-03-autonomous-weapon.htm>.

<sup>10</sup> As above.

<sup>11</sup> Naiden, F.S (2013) "Heroes and Drones" The Wilson Quarterly. Available at [http://archive.wilsonquarterly.com/sites/default/files/articles/27\\_Naiden\\_Autumn13.pdf](http://archive.wilsonquarterly.com/sites/default/files/articles/27_Naiden_Autumn13.pdf).

<sup>12</sup> Military Factory, available at [www.militaryfactory.com/aircraft/unmanned-aerial-vehicle-uav.asp](http://www.militaryfactory.com/aircraft/unmanned-aerial-vehicle-uav.asp).

<sup>13</sup> Report of the Special Rapporteur on extrajudicial, summary or arbitrary execution, Christof Heyns, UN doc. A/HRC/23/47, 9 April 2013, Available at: [http://www.ohchr.org/documents/hrbodies/hrcouncil/regularsession/session23/a-hrc-23-47\\_en.pdf](http://www.ohchr.org/documents/hrbodies/hrcouncil/regularsession/session23/a-hrc-23-47_en.pdf).

<sup>14</sup> Northrop Grumman, 'X-47B UCAS'. At: <http://www.northropgrumman.com/Capabilities/X47BUCAS/Pages/default.aspx>.

Additional Protocol I to the Geneva Conventions (1977) encourages that new invented and developed weapon systems, should be submitted for a weapons review to determine their legality with International Law.<sup>15</sup> It is therefore important for any autonomous weapon system created, developed or adopted to be subjected to a legal review before it is employed.

According to Article 36, any High Contracting Party is under an obligation to perform a weapons review to determine whether its use in any given situation would not be prohibited by the current Protocol or any other rules of international law applicable.<sup>16</sup> Suggested purposes for performing a legal review are considered to be fundamental rules of International Humanitarian Law, which seek to determine whether the weapon system has a nature to cause superfluous injuries or unnecessary suffering, whether they are indiscriminate, and lastly whether these new weapon systems are aimed at causing a widespread or long-term damage to natural environment.<sup>17</sup>

Not only should a weapons review be based on the rules of international law, but it should also be guided by the principles of humanity, equity and public policy. According to the International Committee of the Red Cross (ICRC) all states have an obligation to perform a legal review on any new developed weapon systems, whether or not they are parties to the Additional Protocol I.<sup>18</sup> Marco Sassoli suggests that new weapon systems should be reviewed at their earliest stage of development or design, to prevent difficulties at a later stage once they have been developed, because of great expenses invested.<sup>19</sup>

#### **1.4 The Importance of human control or judgment**

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<sup>15</sup> Geneva Academy (2014) "Autonomous Weapon System under International Law \_Academic Briefing No 8", available at [http://www.geneva-academy.ch/docs/publications/Briefings%20and%20In%20breifs/Autonomous%20Systems%20under%20International%20Law\\_Academy%20Briefing%20No%208.pdf](http://www.geneva-academy.ch/docs/publications/Briefings%20and%20In%20breifs/Autonomous%20Systems%20under%20International%20Law_Academy%20Briefing%20No%208.pdf).

<sup>16</sup> Art. 36 Additional Protocol I to the Fourth Geneva Convention (1977).

<sup>17</sup> ICRC, "Review of new weapons" (2011). Available at <http://www.icrc.org/eng/war-and-law/weapons/new-weapons/overview-review-of-new-weapons.htm>.

<sup>18</sup> As above.

<sup>19</sup> Geneva Academy (2014) "Autonomous Weapon System under International Law \_Academic Briefing No 8", available at [http://www.geneva-academy.ch/docs/publications/Briefings%20and%20In%20breifs/Autonomous%20Systems%20under%20International%20Law\\_Academy%20Briefing%20No%208.pdf](http://www.geneva-academy.ch/docs/publications/Briefings%20and%20In%20breifs/Autonomous%20Systems%20under%20International%20Law_Academy%20Briefing%20No%208.pdf).

A great speaker once said humans should master technology and should not allow technology to master him, because he might be killed by it.<sup>20</sup> With the world actively inventing and developing machines which do not rely on human control, we are definitely heading to a foreseeable future where man are being mastered by technology.

Most of the decisions proposed to be taken by autonomous weapon systems are very subjective in nature, like for example the decision to kill a human being (use of force). An experienced human being in the same situation will be capable of applying the exact amount of proportionality required by the rules of international law, namely because a human can provide reasons for any decisions he proposes. If during an event of an occupation of a foreign territory an autonomous weapon system is authorised to terminate a military object, such a weapon system will not take a decision such as the proportionate use of force required in that circumstances, like an experienced human commander who is capable through reasoning to balance civilian lives and protected property in targeting such a military object.<sup>21</sup> It is important for human control to play a role in the decision making of any action proposed to be taken by an autonomous weapon system, a drone or any robot system.

International Humanitarian Law provides minimum requirements for any weapon systems which do not rely on human control or judgment to comply with.<sup>22</sup> The following are a few of such requirements;

- Such a weapon system should be able to distinguish between combatants, military objects and the civilian population
- Use the required level of proportionality when apply force
- Determine the legitimacy of selected targets
- And deal with other weapon systems on the field controlled by the enemy

It is very difficult to imagine such requirements being complied with without any form or level of human control. With an experienced commander involved the action of

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<sup>20</sup> As above.

<sup>21</sup> ICRC experts report, "Autonomous Weapon Systems: Technical, Military, Legal and Humanitarian Aspects. Available at <http://www.icrc.org/en/document/report-icrc-meeting-autonomoua-weapon-system-26-28march-2014>.

<sup>22</sup> As above.

distinguishing a military person and non-military person would be appropriately made. With human reasoning for any choices taken, the use of force would be compatible with International Humanitarian Law rules of proportionality.

Some States known for developing autonomous weapon systems have acknowledged the importance of human control and have taken necessary actions. The United Kingdom Minister of Defence provided that the country has no intention of inventing and developing weapon systems which will not rely on human control.<sup>23</sup> During the House of Lords debate the Secretary of State, Lord Astor of Hever stated that fully autonomous weapon systems will always be under human control.<sup>24</sup> The United States Department of Defence published policy guidelines on autonomous weapon systems, ensuring that this weapon system will be developed to allow appropriate personnel to exercise levels of human control with regards to the use of force.<sup>25</sup> It is important for other States designing autonomous weapon systems to acknowledge the importance of subjecting these weapon systems to some level of human control, in order to prevent an unpredictable future.

It is generally known that robots, machines or even computers are easily susceptible to failures, errors or even faults.<sup>26</sup> Errors such as;

- Jamming
- Malfunctions
- Spoofing
- Communication faults
- Enemy cyber-attacks
- Or other enemy countermeasures

If these errors occur during an armed conflict or an occupation, the sending State will be held liable for any damages such caused. It is again important for humans to exercise control in any action to be taken by autonomous weapon systems in order

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<sup>23</sup> Article 36 (2013) “Killer Robots: UK Government Policy on Fully Autonomous Weapons”. Available at [www.article36.org/weapons-review/killer-robots-uk-government-policy-on-fully-autonomous-weapons-2/](http://www.article36.org/weapons-review/killer-robots-uk-government-policy-on-fully-autonomous-weapons-2/).

<sup>24</sup> ICRC experts report, “Autonomous Weapon Systems: Technical, Military, Legal and Humanitarian Aspects. Available at <http://www.icrc.org/en/document/report-icrc-meeting-autonomoua-weapon-system-26-28march-2014>.

<sup>25</sup> As above.

<sup>26</sup> ICRC experts report, “Autonomous Weapon Systems: Technical, Military, Legal and Humanitarian Aspects. Available at <http://www.icrc.org/en/document/report-icrc-meeting-autonomoua-weapon-system-26-28march-2014>.

to supervise against such errors. With a human involved, if any of these errors materialize during a conflict or an occupation, he would then take the appropriate decision under such circumstances.<sup>27</sup>

With all this in mind, the most important question to pay attention to is to understand what is meant by the appropriate level of human control or judgement as required. The United Nation Special rapporteur on extrajudicial, summary and arbitrary executions, in his presentation at the informal expert meeting in Geneva provides that, it is difficult to see how autonomous weapon systems could be able to comply with human rights laws without any form of human control or judgement.<sup>28</sup> According to him the next step in the debate on the development and use of autonomous weapon systems is to try and develop a clear understanding of what appropriate human control or judgement would be required.<sup>29</sup>

Some legal scholars have suggested a list of what might be considered as the appropriate level of human control or judgment required. Such a list helps to clarify the roles of both autonomy and human control with regards to a particular action or decision, and as a result this will help draw a clear picture of accountability.<sup>30</sup> The following is a list of what might constitute an appropriate level of human control or judgement;

- A position where humans reason about a selected target before any attack
- A weapon systems suggest a list of targets and a person selects from the target so provided
- The weapon system provides a selected target and a human is authorized to approve such a target
- The weapon systems selects and engages a target, while a human is authorised within a limited period to veto such a decision

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<sup>27</sup> ICRC experts report, "Autonomous Weapon Systems: Technical, Military, Legal and Humanitarian Aspects. Available at <http://www.icrc.org/en/document/report-icrc-meeting-autonomoua-weapon-system-26-28march-2014>.

<sup>28</sup> Report of the Special Rapporteur on extrajudicial, summary or arbitrary execution, Christof Heyns, UN doc. A/HRC/23/47, 9 April 2013, Available at: [http://www.ohchr.org/documents/hrbodies/hrcouncil/regularsession/session23/a-hrc-23-47\\_en.pdf](http://www.ohchr.org/documents/hrbodies/hrcouncil/regularsession/session23/a-hrc-23-47_en.pdf).

<sup>29</sup> As above.

<sup>30</sup> ICRC experts report, "Autonomous Weapon Systems: Technical, Military, Legal and Humanitarian Aspects. Available at <http://www.icrc.org/en/document/report-icrc-meeting-autonomoua-weapon-system-26-28march-2014>.

- The weapon systems selects and engages a target without any form of human control or judgement

With regards to level 1, 2, and 3 applied, it would be very practical for actions taken by autonomous weapon systems to comply with the existing provisions of International Humanitarian Law. An action or function performed under level 4 would also be in a better position to comply with the law, provided sufficient time is allocated to a human operator. However, it is very difficult to foresee how level 5 would comply as there is no human control proposed.

According to the above set of facts, for any action or function proposed to be taken by a machine with autonomy to be capable of complying with the existing provisions of the International Humanitarian Law, it will be important for human control or judgement to play a role in the decision making process.

**CHAPTER 2:**

**INVESTIGATING THE REGULATION  
OF AUTONOMOUS WEAPON  
SYSTEMS WITH THE EXISTING  
PROVISIONS PROHIBITING  
AGAINST INHUMANE TREATMENT**



## 2.1 Introduction

This chapter will investigate the regulations of autonomous weapon systems with reference specific provisions of Article 27 of the *Fourth Geneva Convention (1949)*, whether these proposed machines with autonomy will be able to comply namely with the right to human honour and lives of persons, and most importantly the prohibition against in humane treatment during an event of occupation. It will first discuss the framework of the international law of occupation and applicable laws. The approach to be adopted here is to first state the applicable legal provisions, and then conduct a legal analysis of those stated provisions to the question at hand.

## 2.2 An event of occupation

The international law of occupation forms a significant part of the international humanitarian law, which can be found in *The Hague Regulations (1907)*, *The Fourth Geneva Convention (1949)*, and *Additional Protocol I (1977)* to The Four Geneva Conventions, as well as provisions of Customary International Humanitarian Law.

*The Hague Regulations of 1899 and 1907* are the first codifications of the international law of occupation.<sup>31</sup> Article 42 of *The Hague Regulation* states the beginning of an occupation that the international law of occupation is applicable where there is actual control exercised by the occupying armed forces on such a territory.<sup>32</sup> *The Fourth Geneva Convention (1949)* provides that in situations of partial or complete occupation the event is still considered as an occupation, even if it is not met by an armed resistance.<sup>33</sup> According Article 6, an event of occupation ceases the moment the occupying armed forces are driven out of the territory or have evacuated it.<sup>34</sup> It is then important that a situation of occupation should not be confused with an invasion or annexation by an armed force, as an invasion or annexation does not amount to an occupation.<sup>35</sup>

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<sup>31</sup> ICRC, "*The Law of Armed Conflict, Belligerent occupation*", available at [http://www.icrc.org/eng/assets/files/other/law9\\_final.pdf](http://www.icrc.org/eng/assets/files/other/law9_final.pdf).

<sup>32</sup> Art. 42 of the Hague Regulation (1907).

<sup>33</sup> Common Art. 2 to the Four Geneva Convention (1949).

<sup>34</sup> Art. 6 of the Fourth Geneva Convention (1949).

<sup>35</sup> ICRC, "*The Law of Armed Conflict, Belligerent occupation*", available at [http://www.icrc.org/eng/assets/files/other/law9\\_final.pdf](http://www.icrc.org/eng/assets/files/other/law9_final.pdf).

*The Fourth Geneva Convention (1949)* codifies some important parts of the modern international law of occupation. Most of the lessons drawn from the crimes committed during the occupations that took place around Europe and the Far East were substantially incorporated into *The Fourth Geneva Convention (1949)* during the eras of the Second World War.<sup>36</sup> *The Fourth Geneva Convention (1949)* supplements *The Hague Regulations (1907)* and the relationship between the two regulations is clarified under Article 154 of *The Fourth Geneva Convention (1949)*.<sup>37</sup> According to Article 6, the Convention would cease to apply one year after the termination of all military operations in the occupied territory. However, the foreign power will be bound, for the duration of the occupation, as far as it exercises governmental functions in the occupied territory.<sup>38</sup>

The Convention provides rights and obligation to the civilian population, the occupied power and also the occupying forces. No protected persons rights may be taken away in any circumstances, and protected person cannot renounce or waive their rights or parts of them during an event of occupation regardless of how damaging the situation might be.<sup>39</sup> In terms of *The Fourth Geneva Convention (1949)* protected persons are persons who at any given moment or under any circumstances find themselves in an event of occupation or conflict, in the hands of persons who are on the side of the occupying power of which they are not nationals to such an occupied territory.<sup>40</sup>

The title of my Mini-dissertation is investigating the regulations of autonomous weapon systems with the existing provisions of the international law of occupation. In this regard my aims are to explore the development and use of autonomous weapon systems, drones or any robotic weapon with limited human control, using the international law of occupation as my tool. Specific provisions which I am employing to challenge the use and development of robotic weapon system are based on Article 27 of *The Fourth Geneva Convention (1949)* that is the right to lives of persons, respect to honour and most importantly the prohibition against inhumane treatment.

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<sup>36</sup> As above.

<sup>37</sup> ICRC, "*The Law of Armed Conflict, Belligerent occupation*", available at [http://www.icrc.org/eng/assets/files/other/law9\\_final.pdf](http://www.icrc.org/eng/assets/files/other/law9_final.pdf).

<sup>38</sup> Art. 6 of the Fourth Geneva Convention (1949).

<sup>39</sup> As above, Art. 8.

<sup>40</sup> Art. 4 of the Fourth Geneva Convention (1949).

## **2.3 The right to human honour and lives of persons**

*The Fourth Geneva Convention (1949)* in its article 27 provides for essential rights for the benefits of protected persons. According to the ICRC, Article 27 is the basis of the *Fourth Geneva Conventions (1949)*, namely of its main focus to the individuals rights given to the civilian population.<sup>41</sup> My attention is on the first sentence of article 27 which makes provision for the respect of their persons, honour, family rights, religious convictions and practices, manners and their customs.<sup>42</sup> *The Hague Regulations (1907)* also provided for such a similar provision in its Article 46 which lead to the development of Article 27 in *The Fourth Geneva Convention (1949)*.

### **2.3.1 Specific Fundamental rights**

#### **2.3.1.1 Right to person**

The respect for the right to person should be understood in its ordinary meaning, that it involves the right to physical, moral and intellectual integrity. The primary focus here is on the right to physical integrity, which must be understood to mean prohibiting any acts which have consequences of impairing individual life or health. This provision complements the second paragraph of Article 27, which is the prohibition against humane treatment.

Based on the above point, any use of force by a robotic weapon system against a human being would inherently violate the right to physical integrity of a person, mainly because robots and human beings are not the same. This implies that the level of force by both will not be the same, as human beings are vulnerable to suffer pain and injuries, but robots on the other hand will not feel anything, because of the lack of positive human emotions, such as compassion and mercy. It is inherently difficult under any circumstances for autonomous weapon systems, drones or any robots with limited human control to comply with these provisions of Article 27 of the Convention. The lack of control in the decision making processes of autonomous weapon systems also imposes a great deal of noncompliance with the Convention. If an experienced human being in the same situation would be employed to control the force applied by a robot, he will be capable of achieving the exact amount of

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<sup>41</sup> See Commentaries Art.27 of the Fourth Geneva Convention, page 199. Available at <https://www.icrc.org/eng/resources/documents/publication/p0206.htm>.

<sup>42</sup> Art. 27 of the Fourth Geneva Convention (1949).

proportionality required by the rules of international law, namely because a human can provide reasons for any decisions he made.

### 2.3.1.2 The Respect for honour

The respect for honour involves acts affecting another person's reputation, moral or social qualities. According to the Convention protected persons cannot be subjected to humiliating punishments or works by the occupying power. Just because protected persons are regarded as the enemy by the occupying power, this does not justify or mean that protected persons should be insulted, slandered or subjected to any actions which are considered against the respect for honour.

Humans are invested with the right to the respect of their honour, mainly because they are capable of reasoning and they have a conscience.<sup>43</sup> A machine on the other hand lacks reasoning and a conscience, therefore it is understood that it is not entitled to any respect of honour, and as a result it would be very difficult for a machine to understand and respect honour, or specifically human honour as required by the Convention. As explained above the respect for honour involves moral and social qualities invested in a human being, that his / her reputation should be respected at all times, and that he / she should not be subjected to insults, slander or any other actions as prohibited by the Convention with regards to the right to honour.

It is then important to establish whether autonomous weapon systems are capable of respecting and understanding the right to honour as protected. It will be inherently difficult for these machines to be able to respect human honour as requested by the Convention, and to justify this conclusion two arguments can be upheld. Firstly the right to respect for honour is invested in human beings as they possess reasoning and a conscience.<sup>44</sup> Autonomous weapon systems are machines which are incapable of reasoning or having any conscience, thereof it is inherently difficult for them to respect something which not only do they have, but also that it lies in the essence of being a human being.

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<sup>43</sup> See commentaries to Art. 27 of the Fourth Geneva Convention (1907), p202, par1. Available at <https://www.icrc.org/eng/resources/documents/publication/p0206.htm>.

<sup>44</sup> As above.

Secondly because autonomous weapon systems are machine or robots, they are designated to only perform certain actions or functions which are initially programmed to perform. They fulfil a function or an action by completing some sort of a 'checklist'. For example if an autonomous weapon system is programmed to terminate combatants during a conflict, in doing so it will first perform a 'checklist' before terminating the target, that is he is a human being, carrying a gun openly, wearing military clothes with the State representing code of arms. To conclude on the second argument one can assume that respecting the right to human honour is not listed as some of the functions or actions proposed to be taken by autonomous weapon systems during an event of occupation or an armed conflict, well not explicitly. The right to honour is genetic to human beings, which it relates largely in being a human, therefore it is impossible to imagine a state of machines understanding and respecting the right to human honour.

#### **2.4 The provision prohibiting against inhumane treatment**

*The Fourth Geneva Convention (1949)* strictly prohibits against any form of cruelty, inhumane or brutal treatment or punishment to protected persons. According to its Article 27 no person shall be inhumanely treated under any circumstances or be subjected to any form of violence or threat thereof.<sup>45</sup>

On the other hand *The Hague Regulations (1907)* makes no explicitly provisions for humane treatment, however, one can interpret humane treatment as being implied in its Section III of the regulation.<sup>46</sup> Section III provides for rights and responsibilities for the civilian population, the occupied State and the occupying power during an event of occupation. *The International Covenant on Civil and Political Rights (1966)* (hereinafter 'ICCPR') also provides for the same provision as Article 27 of *The Fourth Geneva Convention (1949)*. Article 7 provides that no person shall be imperilled to torture, cruel, inhumane, degrading treatment or any form punishment. Article 7 continues regulating against subjecting human beings to any form of medical treatment or scientific experimentation without his/her consent.<sup>47</sup> The last part of article 27 contains an exception clause, according to the Convention the occupying forces can subject protected persons to acts prohibited by the article,

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<sup>45</sup> Art. 27 of the Fourth Geneva Convention (1949).

<sup>46</sup> See Section III of the Hague Regulation (1907).

<sup>47</sup> Art. 7 of the International Covenant on Civil and Political Rights (1966).

provided such a measure was taken for purposes of security and control with regards to the protected person as it is rendered necessary.<sup>48</sup>

#### 2.4.1 Definition and Interpretation

The obligation to grant civilians humane treatment should be understood in its ordinary sense that it aims at prohibiting any acts exposing individuals to dangers of cruelty, degrading treatment or punishments. The Convention refers to the word humane treatment, which in its ordinary sense means the correct manner to behave towards a human being, who himself wishes to receive such humane treatment and who, therefore, also give it to other fellow human beings, taking into account compassion, sympathy and consideration.<sup>49</sup> The drafters of the convention refused to provide a list of factors which might be considered to constitute an inhumane treatment during an event of occupation, namely for fear of not wanting to limit those factors.<sup>50</sup> However, what can be adduced from the second paragraph of Article 27 is that the drafter's aims were to regulate any act of violence or intimidation which was not a result of taking a military measure in terms of the exception provided in the last paragraph of Article 27.<sup>51</sup>

#### 2.4.2 Threatening Inhumane treatment

Article 27 of the Convention does not only prohibit against actual acts which cause pain and suffering, but also rules against threat of physical violence and harm against protected persons to the Convention.<sup>52</sup> Acts such as intimidation or a promise of physical violence inflicted on a human being can constitute inhumane treatment, or any acts which render someone to sufficient amount of fear or mental suffering. This was confirmed by the European Court of Human Rights (herein referred to as ECHR) in its *Gafgen v Germany* judgment, where the court had to decide on a matter concerning threat of physical violence which might result to inhumane treatment in terms of Article 3 of the *Convention for the Protection of*

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<sup>48</sup> Art.27 of the Fourth Geneva Convention (1946).

<sup>49</sup> See Commentaries to the Fourth Geneva Convention (1949), p204.par2. Available at <https://www.icrc.org/eng/resources/documents/publication/p0206.htm>.

<sup>50</sup> See Commentaries to the Fourth Geneva Convention (1949), p204.par2. Available at <https://www.icrc.org/eng/resources/documents/publication/p0206.htm>.

<sup>51</sup> As above.

<sup>52</sup> Art. 27 of the Fourth Geneva Convention (1949).

*Human Rights and Fundamental Freedoms*. Article 3 of the Convention prohibits any acts of torture, inhumane or degrading treatments.<sup>53</sup>

The applicant was arrested for suffocating an 11 year old boy and hiding his body near a pond, later he was arrested by the police. During the interrogation, one of the officers threatened the applicant with physical violence and calling someone specifically trained to torture humans if the applicant did not divulge the whereabouts of the body. The applicant revealed the body and was convicted by the Regional Court. The ECHR held that the police officers threat of physical violence during the interrogation proceedings amounted to inhumane treatment, which is prohibited in terms Article 3 of the Convention.<sup>54</sup>

According to the court, the police officer in question had been ordered on several occasions by his Superior to threaten the applicant or if it was necessary to even inflict violent force against him. To the knowledge of the court the orders of the Superior could not be regarded as impulsive acts, but as premeditated.<sup>55</sup> According to the court during the interrogation proceedings the applicant was handcuffed and in a very vulnerable state, in the courts opinion, the threat he had received caused him substantial fear and mental suffering.<sup>56</sup> Based on the above reasons the court ruled that Article 3 of the Convention was indeed infringed, which might result in a heavy penalty to be imposed to deter future offenders and reflect the seriousness of the nature of Article 3.<sup>57</sup>

#### 2.4.3 Other provisions of human treatment

According to the ICRC, the Convention does not only limit itself in prohibiting acts of inhumane treatment or intent to only incriminate them, but also extends to preventative measures.<sup>58</sup> That State and appropriate International Organisations need to take all measures and precautions in their ability to prevent such acts in occurring, providing awareness to the general population about what is prohibited

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<sup>53</sup> Art. 3 of the Convention for the Protection of Human Rights and Fundamental Freedom (as amended 2010).

<sup>54</sup> *Gafgen v German* 2010 (ECHR).

<sup>55</sup> As above.

<sup>56</sup> *Gafgen v German* 2010 (ECHR).

<sup>57</sup> As above.

<sup>58</sup> See Commentaries to Art. 27 of the Fourth Geneva Convention (1949), p204, par2. Available at <https://www.icrc.org/eng/resources/documents/publication/p0206.htm>.

and assisting the victims.<sup>59</sup> The ECHR in *Gafgen v Germany* took the issue of preventing inhumane treatment seriously by rejecting punishment imposed on the police officer by the Federal Constitutional Court. According to the court the punishment were disproportionate to a breach of one of the core rights of the Convention, such that it would not have the sufficient deterrent effect to prevent future offenders from violating the provision.<sup>60</sup>

Article 27 prohibits the development or planning of acts which might potentially have the impact of violating the Convention. In criminal law this is referred to as incriminating acts which conspire and incite against committing a violation of a provision. One of the important elements provided by the provision against inhumane treatment is that the convention does not only relate to acts which as stated above can cause physical pain or injuries, but also prohibits acts which have the effect of causing mental suffering to protected persons during an event of the occupation. For example causing trauma, or emotional shock<sup>61</sup>

According to the Convention, the obligation to afford humane treatment and the respect to other fundamental human rights during an occupation extends to person also in prison, or to any one whose liberty has been taken away. The fact that a person's liberty has been taken away or that she / he is considered as being an enemy to the occupying force, as such fails to justify any violation to Article 27 of the Convention.<sup>62</sup> The drafters of the Convention intended to afford protection during an occupation or conflict to vulnerable, non-participating people. The term protected person in the Convention is afforded a wide interpretation to include the civilian population reluctant to participate in the conflict, and combatants who are no longer taking part in the conflict.

#### 2.4.4 Taking a military measure under Article 27

The obligation prohibiting against in any form of inhumane treatment forms part of the primary bases of the *Fourth Geneva Conventions (1949)*, which is concerned

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<sup>59</sup> As above.

<sup>60</sup> *Gafgen v German* 2010 (ECHR).

<sup>61</sup> University of Minnesota, Human Rights Committee, Compilations of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies, U.N.Doc.HRI/GEN/1/Rev.1 at 30 (1994). Available at <http://www1.umn.edu/humanrts/gencomm/hrcom20.htm>.

<sup>62</sup> See Commentaries to Art. 27 of the Fourth Geneva Convention 91949), p201. Available at <https://www.icrc.org/eng/resources/documents/publication/p0206.htm>.



with providing rights to protected person to the Convention, as opposed to previous Geneva Conventions, the *First Geneva Convention* which is with regard to the wounded and sick in armed forces in the field, *Second Geneva Convention* which focuses on the wounded and sick shipwrecked members of the armed forces at sea and lastly the *Third Geneva Convention* which is concerned with the issue of prisoners of war. The drafters of the Convention intended Article 27 to be the central point to which all other provisions of the Convention are to be considered.<sup>63</sup>

Parties to the conflict may take measures of control or security with regards to protected person which they consider necessary as a result of the occupation.<sup>64</sup> Questions which may arise in the reader's mind when approaching this part of the Convention is whether the drafters intended to create an exception to Article 27, and whether fundamental human rights rules can really be ignored and violated because there exists justification. To start up with, there can never exist a sufficient justification for violating the provisions of Article 27, as earlier stated, this provision is fundamental to the *Fourth Geneva Convention (1949)*, and forms part of the fundamental human rights laws regulated by most international human rights Conventions, and domestic laws. However, not forgetting that during an event of occupation there exists some level of intensive fighting between the foreign forces and on the other side the occupied forces of that territory.<sup>65</sup> Like a situation of armed conflict, during an occupation a lot of rights are disregarded. However, that doesn't mean they are not protected under certain circumstances, as the law of occupation obligates the foreign forces to also maintain order and security under that occupied territory.<sup>66</sup>

However, parties to an event of occupation are given the authority to ignore certain rights which might be considered prejudicial to protected person in terms of Article 27 of the Convention, mainly because those actions are considered necessary as a result of such occupation. The Convention fails to disclose a list of what might be

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<sup>63</sup> As above.

<sup>64</sup> Art.27 of the Fourth Geneva Convention (1949).

<sup>65</sup> See the last paragraph to Art. 27 of the Fourth Geneva Convention (1949), which makes refers to an event of occupation as a conflict, as a result this suggest there exists some level of intensive fighting.

<sup>66</sup> Art. 64 of the Fourth Geneva Convention (1949).

considered a security measure, it merely provides us with a general provisions. The following are security or control measure which parties to a conflict may take <sup>67</sup>

- Prohibiting entry to certain area on the occupied foreign territory.
- The carrying of identification or certain documents as authorised by the parties to the occupation.
- Periodically registering and reporting to the police authority
- Prohibiting against moving from one area to another
- And lastly the carrying of fire arms.

Such acts may be considered as necessary to the occupation concerned. Article 41 suggests an assignment of residence or internment, as the most severe control measure parties to an occupation authorised to make with regards to protected persons, according to Article 41 assigned residence and internment may only be taken as a measure of last resort.<sup>68</sup> However, Article 27 provides parties to an occupation a discretion to consider what may be a security and control measure.<sup>69</sup> But such action proposed to be taken must not under any circumstances violate any fundamental rights provided by the Convention to protected persons, these rights should be respected under any circumstances.<sup>70</sup>

#### 2.4.5 Grave breaches to the prohibition against inhumane treatment

The drafters of the Convention did not try to make a list of actions taken by parties to an event of occupation which may be considered as inhumane. To find a better explanation of what might be considered inhumane treatment we refer to the international human rights laws, to get a better understanding of this provision.

Starting with the *ICCPR (1977)* which provides a further explanation of what kind of treatment is prohibited, than just to provide us with a general provision.<sup>71</sup> According to Article 7 no protected person may be subject to cruelty, inhumane or degrading

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<sup>67</sup> See Commentaries to Art. 27 of the Fourth Geneva Convention (1949), p207.par4. Available at <https://www.icrc.org/eng/resources/documents/publication/p0206.htm>.

<sup>68</sup> As above.

<sup>69</sup> Art. 27 of the Fourth Geneva Convention (1949).

<sup>70</sup> See Commentaries to Art. 27 of the Fourth Geneva Convention (1949).p207.par4. Available at <https://www.icrc.org/eng/resources/documents/publication/p0206.htm>.

<sup>71</sup> Take note: International Human Rights provisions on this Mini-Dissertation will be used for purposes of interpreting provisions concerning International Humanitarian Law provisions, in particular the prohibition against inhumane treatment and the right to life.

treatment or punishing.<sup>72</sup> The provisions continue by also prohibiting any scientific or medical experiment without the necessary consent from protected person.<sup>73</sup> The same list of prohibited treatment is also to be found in other International human rights instruments, namely Article 5 of the *Universal Declaration of Human Rights*, Article 3 of the *Convention for the Protection of Human Rights and Fundamental Freedoms (1950)*. Most importantly *The Convention against Torture and other Cruel, Inhumane or Degrading Treatment or Punishment (1987)* and its *Optional Protocol to the Convention against Torture and other Cruel, Inhumane or Degrading Treatment or Punishment (2003)*. What can be gathered from all these provisions is that cruelty, inhumane and degrading treatment is prohibited under any conditions.

Article 32 of the Conventions extends the list of what may be considered as inhumane treatment. According to Article 32 parties to the Convention are prohibited under any circumstances to subject protected persons to torture, corporal punishment, murder mutilation and any medical or scientific experimentation.<sup>74</sup> The provisions of this article are considered to be in the extreme nature of inhumane treatment, they are referred to as grave breaches of the fundamental human rights.<sup>75</sup> The drafters of the Convention's emphasis on Article 32 reflects that the discretion provided to Contracting Parties to take action which might violate these fundamental rights by taking security measures or control does not apply to these extreme forms of inhumane treatment. It is only reasonable that the Convention does not provide justification for example to acts of murder or torture of protected persons.

#### 2.4.6 Legal Analysis

My main focus on this Mini-dissertation is to investigate the regulations of autonomous weapon systems with the existing provisions of the international law of occupation. In this regard I aim to explore the development and use of autonomous weapon systems, drones or any robotic weapon system with limited human control, using the international law of occupation as my tool.

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<sup>72</sup> Art. 7 of the International Covenant on Civil and Political Rights (1966).

<sup>73</sup> As above.

<sup>74</sup> Art. 32 of the Fourth Geneva Convention (1949).

<sup>75</sup> See Commentaries to Art.27 of the Fourth Geneva Convention (1949).p204.par2. Available at <https://www.icrc.org/eng/resources/documents/publication/p0206.htm>.

If the occupying forces or foreign forces in an occupied territory are employing autonomous weapon systems, drones or any robotic weapon system with limited human control to perform certain acts, will these weapon systems be capable of complying with the provisions of the Convention prohibiting cruelty, inhumane, degrading treatment or punishment?

The above statement of law from paragraph 2.4.1 to 2.4.5 serves as a legal explanation of what might constitute inhumane treatment as according to the international law of occupation. It is important to first understand the concept of inhumane treatment before employing it as a tool to challenge the development of autonomous weapon system in an event of occupation. It is then important to focus our attention on the legal analysis of whether these robotic weapon systems with limited human control can comply with the prohibited acts of cruelty, degrading, inhumane treatment or punishments.

One can argue rationally and with common sense that any use of force by a robotic weapon system to any human being would constitute inhumane treatment, mainly because they are not of the same kind. Any use of force applied by an autonomous weapon system against another person would be violating Article 27 and other fundamental human right laws protected. A human being is made up of soft tissue skin, meat and bones, whereas it is generally accepted that a robot is made up on steel, which suggests that the level of force applied by both will not render the same amount of power or force.

It is also generally accepted that human beings face consequences for their actions, for example going to prison for committing an offence like murder, or suffering mental effects like trauma for abusing another human being. Consequences do not apply to robots because of their lack of conscience. Nothing will be achieved by incarcerating a robot for an offence committed, they will not even be affected mentally for any actions that they have committed, and that is to say robots are not susceptible to mental stress or trauma. Based on the above set of facts, any treatment by an autonomous weapon system, drone or robotic system with limited human control will inherently violate the provisions under Article 27 and other important fundamental human rights applicable.

The Special Rapporteur on Extra-Judiciary, Summary or Arbitrary Execution, Christof Heyns supports this argument of force applied by autonomous weapon systems against human being inherently constituting inhumane treatment. He explains the issue of inhumane treatment by autonomous weapon systems to human beings by employing trained animals as an example. According to Christof Heyns if animals such as a dog would be trained and used against human beings with limited human control that would by definition constitute a violation of Article 7 of the ICCPR (1977).

According to *The Hague Regulations (1907) The Fourth Geneva Convention (1949)* and Customary International Law, in an event of occupation foreign forces exercises the authority with regards to the day to day activities in that occupied territory. With this authority there is also an obligation on the foreign forces for example to restore and ensure as far as possible the law, order and public safety in that occupied territory, allow that territory to be administered the same way as before the occupation, respecting all laws in force.<sup>76</sup> An ordinary meaning can be applied to the above set of facts to interpret it to mean that the foreign forces in an occupation control all human beings in that territory. In a situation where autonomous weapon systems constitute the foreign forces or part of them, this would suggest that they are authorised to control all human beings in that occupied territory.<sup>77</sup>

One can ask whether it is good for humans to be controlled by robots. Autonomous weapon systems lack positive human emotions such as compassion or mercy, they are vulnerable to abuse or misuse by their programmers or other hackers, and the value of human beings will be diminished if autonomous weapon systems control humans.<sup>78</sup> Not to say human forces are perfect or that they do not make mistakes, but human forces are in a better position to control human beings than robots in an event of occupation. Human forces reason for their actions and functions, they learn from their previous actions, that is to say they are not programmed so they are not susceptible to producing the same result. And lastly human forces can later be punished or prosecuted for committing prohibited actions. Base on the above, it would be potentially dangerous for humans to be controlled by robots as opposite to

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<sup>76</sup> Art. 43 of The Hague Regulations (1907).

<sup>77</sup> As above.

<sup>78</sup> Geneva Academy (2014) "Autonomous Weapon System under International Law \_Academic Briefing No 8", available at [http://www.geneva-academy.ch/docs/publications/Briefings%20and%20In%20breifs/Autonomous%20Systems%20under%20International%20Law\\_Academy%20Briefing%20No%208.pdf](http://www.geneva-academy.ch/docs/publications/Briefings%20and%20In%20breifs/Autonomous%20Systems%20under%20International%20Law_Academy%20Briefing%20No%208.pdf).

human forces that can reason for their actions and be punished for, than programmed robots without compassion, mercy or conscience.

Human control or judgment as explain in Chapter one plays a very vital role in this context. According to Christof Heyns, if autonomous weapon system decides to use force against a human being directly, that is to say without any level of human control or judgment, this will violate the prohibitions against inhumane treatment.<sup>79</sup> If an experienced human being in the same situation would be employed to control the force applied by a robot, he will be capable of achieving the exact amount of proportionality required by the rules of international law, namely because a human can provide reasons for any decisions he made. During an event of an occupation of a foreign territory, an autonomous weapon system would not take a decision such as the proportionate use of force required in particular circumstances, like an experienced human commander who is capable through reasoning to balance civilian lives and protected property in targeting such a military object.<sup>80</sup>

Any use of force by a machine with autonomy to any human being would inherently violate the right to physical integrity of a person, based on the fact that human beings are more susceptible to suffer pain and injuries, whereas machines because of being emotion free will not feel anything. It is then important to request control to play a role in the decision making of any action proposed to be taken by an autonomous weapon system, a drone or any robotic system, as the lack of control in the decision making of machines with autonomy might impose a great deal of noncompliance with the Convention.

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<sup>79</sup> As above.

<sup>80</sup> ICRC experts report, "Autonomous Weapon Systems: Technical, Military, Legal and Humanitarian Aspects. Available at <http://www.icrc.org/en/document/report-icrc-meeting-autonomoua-weapon-system-26-28march-2014>.

**CHAPTER 3:**  
**INVESTIGATING THE REGULATION  
OF AUTONOMOUS WEAPON  
SYSTEMS WITH THE EXISTING  
PROVISION PROTECTING THE  
RIGHT TO LIFE**

### 3.1 Introduction

This chapter will investigate the regulations of autonomous weapon systems with reference to specific provisions of Article 46 of the *Hague Regulations (1907)* and Article 27 of the *Fourth Geneva Convention (1949)*, whether will these proposed machines with autonomy be consistent with international humanitarian law, specifically with provisions aiming to protect the right to life during an event of occupation. It will also reflect on the international law instruments which acknowledge the right to life during armed conflict and an occupation as an interest worthy of serious protection.

### 3.2 The Provisions

In protecting the right to life during a conflict or an event of occupation, *The Hague Regulations of (1907)* promotes the right to respect lives of human beings. According to its provision, every human being has a right to his or her life as a human being respected and protected by the law.<sup>81</sup> The obligation to respect the lives of persons forms the primary bases of the Hague Regulations, mainly because these provisions are concerned with providing the necessary protection to the civilian population.

Unlike *The Hague Regulations of (1907)*, *The Fourth Geneva Convention (1949)* aims at protecting life during an occupation not expressly, but in a way in which it can be implied to the Convention. According to the Convention all human beings are entitled to the respect of their persons.<sup>82</sup> If a broader interpretation is applied to Article 27 this would include all individual's rights which are protected, namely the right to physical, moral and intellectual integrity.<sup>83</sup> As previously stated the right to physical integrity normally involves the prohibition of any acts which might cause harm or injuries to an individual's life or health. After careful evaluating the provision contained in Article 27 one will be able to draw the conclusion that also the Geneva Convention treats life as an interest worthy of serious protection. To supplement this conclusion, Article 32 expressly prohibits High Contracting Parties from taking measures which might have the effect or character of causing one to die.<sup>84</sup>

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<sup>81</sup> Art 46 of The Hague Regulations (1907).

<sup>82</sup> Art 27 of the Fourth Geneva Convention (1949).

<sup>83</sup> See commentaries to Art.27 of the Fourth Geneva Convention (1949), p201, par1. Available at <https://www.icrc.org/eng/resources/documents/publication/p0206.htm>.

<sup>84</sup> Art 32 of the Fourth Geneva Convention (1949).



Not only is life considered an interest worthy of serious protection during an occupation by International Humanitarian Laws, but also International Human Rights Laws explicitly prohibits the killing of human beings. Two of the most important documents under human rights laws, namely *The International Covenant on Political and Civil Rights (1966)* and *The Universal Declaration of Human Rights* expressly prohibit against the killing of human beings. According to Article 6 a human being has an inherent right to life, of which shall be protected by laws.<sup>85</sup>

Distinct from the international humanitarian provisions which aims at applying only during conflicts or an occupation, human rights provisions are said to apply always unless there is a conflict created. Such a conflict may be easily resolved by applying the *Lex Specialis* doctrine. According to the doctrine, whenever there is a fragmentation of the law, in a situation having two legal regimes or provisions of law regulating on the same matter, but importantly creating a conflict, a specific or more particular provision should apply as oppose to a general provision.<sup>86</sup> To put this into context, International Human Rights laws are regarded as general provisions which are said to apply always. However, during an occupation or an armed conflict, International Humanitarian laws are considered more specific. As there is a lot of uncertainty regarding the position of the *Lex specialis* doctrine, on this chapter the view is not to adopt a position regarding the doctrine.

### **3.3 The Decision to Kill**

After careful reading on international law instruments and articles written by leading legal scholars, it is reasonable to conclude that there exists a silent language which entail that it is only acceptable for human beings to kill each other. On this section my main focus is to try and understand whether autonomous weapon systems, drones or other robotic weapon system with autonomy are reasonably entitled to kill human beings.

Up to this point we now understand that there are States currently inventing and developing autonomous weapon systems and other robotic systems to better their

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<sup>85</sup> Art 6 of the International Convent on Civil and Political Rights (1966).

<sup>86</sup> Lindroos, A (2005)74 Nordic Journal of International Law 35. "Addressing Norn Conflicts in a Fragmented Legal System: The Doctrine of *Lex Specialis*". Available at 0-heinonline.orginnopac.up.ac.za/HOL/Page?handle=hein.journal/nordic74&div=8&start\_page=27&collection=journals&set\_as\_cursor=2&men\_tab=srchresults.

own protection and the maintenance of peace and security. These autonomous weapon systems are going to be capable of performing certain actions and functions, such as taking decisions independently during an occupation or an armed conflict, without any control or judgement, decisions involving killing human beings.<sup>87</sup> However, the value of human life will be diminished if the decision to kill human beings is taken by machines with autonomy.<sup>88</sup> This determination of life and death taken by machines is inherently arbitrary, based on the fact that the International Human Rights Law provides a silent assumption that the decision to use force on human beings must be reasonable and should be taken only by a human being.<sup>89</sup> Autonomous weapon systems are unable to reason for every action or function they perform, namely because of lack of positive human emotions such as compassion, mercy or a conscience.<sup>90</sup> Machines are vulnerable to abuse or misuse by programmers or hackers, and as such this would increase the risk of injuries and death to civilians during an occupation or an armed conflict if such a decision to kill human beings is taken independently by machines.<sup>91</sup>

To justify the above statement that autonomous weapon systems should not be allowed to take the final decision unaided to use lethal force to kill human beings, Article 1 of *The Universal declaration of Human Rights* declares that only human beings can deliver reasons for their actions.<sup>92</sup> With the lack of human reasoning and a conscience, the determination of life and death proposed to be made by robotic systems with autonomy is inherently arbitrary and would render it difficult to comply with International Humanitarian provisions. Autonomous weapon systems are machines, so they cannot reason like human beings, and as a result it will be difficult for them to take reasonable decisions, especially with no human control or judgement.

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<sup>87</sup> ICRC, (2013) "Fully autonomous weapon systems". Available at <http://www.icrc.org/eng/resources/documents/statements/2013/09-03-autonomous-weapon.htm>.

<sup>88</sup> See commentaries to Art.27 of the Fourth Geneva Convention (1949), p201, par1. Available at <https://www.icrc.org/eng/resources/documents/publication/p0206.htm>.

<sup>89</sup> Report of the Special Rapporteur on extrajudicial, summary or arbitrary execution, Christof Heyns, UN doc. A/HRC/23/47, 9 April 2013, Available at: [http://www.ohchr.org/documents/hrbodies/hrcouncil/regularsession/session23/a-hrc-23-47\\_en.pdf](http://www.ohchr.org/documents/hrbodies/hrcouncil/regularsession/session23/a-hrc-23-47_en.pdf).

<sup>90</sup> As above.

<sup>91</sup> Human Rights Watch. "Losing Humanity" (2012). Available at <https://www.hrw.org/report/2012/11/19/losing-humanity/case-against-killer-robots>.

<sup>92</sup> As above.

### **3.4 Taking life for purposes of an occupation**

An occupation is largely considered to be a situation like an armed conflict, where there is an intense fighting between the occupied forces and the occupying foreign forces. Can it be said that there is a substantial difference between a human killing another human and a machine killing a human in an occupation?

Human beings are very complex, they think, consider and are aware of grey matters along the execution of an action or function. Human beings concern themselves with morals and ethical issues and they provide or are affected by reasons before deciding to kill other human being. On the other hand, machines are not that complex as compared to humans, that is to say they only perform acts or functions which were initially inserted into their programmes. Machines concern themselves with selecting and engaging targets independently. Machines cannot think nor consider issues such as ethics and morals.

#### **3.4.1 The Doctrine of Distinction**

According to the doctrine of distinction, only military objects and combatants can be targeted, however, civilian objects and people are expressly excluded from being targeted.<sup>93</sup> In other words anything which does not fall under military object or combatants cannot be targeted. Human beings generally comply with the distinction principle in the battle field, successfully distinguishing between civilian objects, persons and military objects and military persons. To the question whether machines will comply with this doctrine will depend on their recognition technology and the environment in which they will be used.<sup>94</sup> It is reasonable to think or believe that there can exist machines capable of distinguishing between military objects, combatants and civilian's objects and persons, such machines have a lower level of recognition.

However, the key issue arises when the situation involves *hors de combat* (people who are no longer participating in the conflict) and combatants who are pleading

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<sup>93</sup> Art. 48 of Additional Protocol I to the Geneva Convention (1977).

<sup>94</sup> ICRC, (2013) "Fully autonomous weapon systems", Available at <http://www.icrc.org/eng/resources/documents/statements/2013/09-03-autonomous-weapon.htm>.

mercy.<sup>95</sup> With the lack of positive human emotions such as fear or mercy, it is difficult to imagine how a machine would be able to recognize a person who is hurt, wounded or injured and has no intentions of continuing fighting.<sup>96</sup> To make matters worse, will a machine be able to make accurate distinction before killing a combatant in a populated area, where civilians and combatants are close, intermingling with one and another, in a situation of distress and chaos?<sup>97</sup> In such a situation it will be important for machines to possess a very high complex recognition technology before initiating any lethal force.

It is inherently difficult for a machine to be able to recognize a situation of doubt, which will cause a human combatant to hesitate before initiating an attack and decide not to proceed.<sup>98</sup> Machines as previously stated only concern themselves with completing the function as programmed. There are no grey matters to think about, it is just black and white.

#### 3.4.2 The Doctrine of Necessity

To support the view that there is a difference between humans killing other humans and machine killing humans is the doctrine of necessity. Human beings would kill other human beings in an occupation because there exists a state of necessity to prevent any harm which is imminently threatening. For a machine to be able to kill a human because there exist a state of necessity, the following conditions need to be complied with:<sup>99</sup>

- Necessity is only available in restricted situations where exists a clear and imminent peril, which renders compliance with the law evidently Impossible.
- The harm inflicted is proportionally less than the harm which is aimed to be avoided.

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<sup>95</sup> Art. 41(2) of Additional Protocol I to the Geneva Conventions (1977).

<sup>96</sup> ICRC experts report, "Autonomous Weapon Systems: Technical, Military, Legal and Humanitarian Aspects. Available at <http://www.icrc.org/en/document/report-icrc-meeting-autonomoua-weapon-system-26-28march-2014>.

<sup>97</sup> As above.

<sup>98</sup> Geneva Academy (2014) "Autonomous Weapon System under International Law \_Academic Briefing No 8", available at [http://www.geneva-academy.ch/docs/publications/Briefings%20and%20In%20breifs/Autonomous%20Systems%20under%20International%20Law\\_Academy%20Briefing%20No%208.pdf](http://www.geneva-academy.ch/docs/publications/Briefings%20and%20In%20breifs/Autonomous%20Systems%20under%20International%20Law_Academy%20Briefing%20No%208.pdf).

<sup>99</sup> As above.

- Necessity in context of human right is available to instances where force is a matter of last resort.<sup>100</sup>

As explained in previous chapters autonomous weapon systems are machines which have some level of autonomy, enabling them to act independently from their programmers, performing certain actions or functions without the need for human control or judgement. It is then difficult or even impossible to provide an illustration where there might exist an imminent threat of violence to machines caused by human beings during an occupation, which will cause machines to react violently to humans.

It is inherently difficult for a human being to pose an imminent threat to a machine, mainly because its core existence “life” is impractical to be measured to that of human life. An autonomous weapon system is a machine made from materials, which is very possible to bring it back to operation if it were to suffer an attack by a human being during an occupation. The principle of necessity also requires a balancing of interests to evaluate whether is the interest threatened greater than the interest harmed.<sup>101</sup> The interest which is threatened in context to autonomous weapon systems during an event of occupation is only limited to financial matters, for example the financial losses to be suffered by the occupying State employing autonomous weapon systems. Such financial losses can never be greater than human life itself, regardless of how many billion US dollars or Euros the occupying State invested in inventing and developing such autonomous machines.

### 3.4.3 The Principle Self-Defence

Sometimes humans kill other humans with the intention of protecting their own life, by defending themselves from violent acts caused by other humans during an occupation. Unlike necessity it will be prejudicial to provide a list stating all the conditions to which self-defence may materialize to protect one’s life, as this practice

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<sup>100</sup> Report of the Special Rapporteur on extrajudicial, summary or arbitrary execution, Christof Heyns, UN doc. A/HRC/23/47, 9 April 2013, Available at: [http://www.ohchr.org/documents/hrbodies/hrcouncil/regularsession/session23/a-hrc-23-47\\_en.pdf](http://www.ohchr.org/documents/hrbodies/hrcouncil/regularsession/session23/a-hrc-23-47_en.pdf).

<sup>101</sup> Galloway, D (1986) 10 Dalhousie Law Journal 163. “Necessity as a justification: A Critique of Perka”. Available at O-heinonline.org.innopac.up.ac.za?HOL/Print?collection=journals&handle=hein.journals/dalholwj10&id=162.

might cause limitations to situations in which self-defence may be relied on.<sup>102</sup> It is then very difficult to foresee all instances which might require one to use intentional force to repeal against a threatening harm which is still pending.<sup>103</sup>

It cannot be stated that a machine may kill a human being based on self-defence on the premises that it was merely trying to protect its existence. One of the important conditions to apply to the doctrine of self-defence is the fact that there should exist a reasonable ground to believe that life is imperilled.<sup>104</sup> To be successful, machines need to prove that they possess life which is worthy of protection and that there are reasonable grounds of believing that its existence “life” is imperilled.<sup>105</sup> Christof Heyns address this matter in a very strict manner, providing that a deadly return of lethal fire initiated by an autonomous weapon system can never be justified as self-defence, namely for the reason that any intentional deadly force is available only to protect human life, and not objects.<sup>106</sup>

### **3.5 Conclusion**

This chapter serves to illustrate that the use of autonomous weapon systems would not be consistent with the international belligerent law of occupation, and that it will increase the risk of death to the civilian population during an occupation or even an armed conflict.<sup>107</sup> Autonomous weapon systems lack the human qualities essentially to meet international humanitarian rules, for example human beings are capable of considering morals and ethical values, and they are affected by reasons before initiating an action.<sup>108</sup> Those rules are said to be very complex and entails subjective decision making, which will compulsory require human control or judgement. By

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<sup>102</sup> Ashworth, A.J (1975) 2 Cambridge Law Journal 282-307. “Self-defence and the right to life”. Available at [Heinonline.org/HOL/Print?collection=journals&handle=hein.journals/comblj34&id=298](http://heinonline.org/HOL/Print?collection=journals&handle=hein.journals/comblj34&id=298).

<sup>103</sup> As above.

<sup>104</sup> Report of the Special Rapporteur on extrajudicial, summary or arbitrary execution, Christof Heyns, UN doc. A/HRC/23/47, 9 April 2013, Available at: [http://www.ohchr.org/documents/hrbodies/hrcouncil/regularsession/session23/a-hrc-23-47\\_en.pdf](http://www.ohchr.org/documents/hrbodies/hrcouncil/regularsession/session23/a-hrc-23-47_en.pdf).

<sup>105</sup> Yale Law Journal. (1902) 11. “The right of self-defence” at page 127. Available at [Heinonline.org/HOL/Print?collection=journals&handle=hein.journals?ylr11&id=129](http://heinonline.org/HOL/Print?collection=journals&handle=hein.journals?ylr11&id=129).

<sup>106</sup> Report of the Special Rapporteur on extrajudicial, summary or arbitrary execution, Christof Heyns, UN doc. A/HRC/23/47, 9 April 2013, Available at: [http://www.ohchr.org/documents/hrbodies/hrcouncil/regularsession/session23/a-hrc-23-47\\_en.pdf](http://www.ohchr.org/documents/hrbodies/hrcouncil/regularsession/session23/a-hrc-23-47_en.pdf).

<sup>107</sup> Human Rights Watch. “Losing Humanity” (2012). Available at <https://www.hrw.org/report/2012/11/19/losing-humanity/case-against-killer-robots>.

<sup>108</sup> ICRC, (2013) “Fully autonomous weapon systems”. Available at <http://www.icrc.org/eng/resources/documents/statements/2013/09-03-autonomous-weapon.htm>.

allowing machines with autonomy to kill human beings, the core value of human life will be diminished.

**CHAPTER 4:**  
**A CALL FOR A NEW TREATY**  
**REGULATING THE USE AND**  
**DEVELOPMENT OF**  
**AUTONOMOUS WEAPON**  
**SYSTEMS**



## 4.1 Introduction

This Chapter will firstly examine the motives as to why States view it necessary to develop autonomy in weapon systems, and try to discuss by means of illustrations ways in which machines with autonomy might lead to a better compliance with the law. Most importantly this Chapter will reflect on the way forward with regards to the development and use of autonomous weapon systems, looking at recommendations by leading legal scholars, Institutions and international organizations on this subject.

## 4.2 Reasons for the development of autonomy in weapons

The main reason for the development of autonomy in machines was to be able to remove human combatants from the loop, replacing them with a computer system which is capable of performing complex task at an incredible speed, without the need for sleep, hunger or tiredness.<sup>109</sup>

To consider the development of first generation of weapon systems, or as commonly known, armed drones. These are systems which are unmanned with some level of autonomy, but they are remotely controlled by a human operator.<sup>110</sup> The use of armed drones is said to be the new game in town according to Central Intelligence Agency (CIA) Leon Panetta.<sup>111</sup> States deploying armed drones aim to remove human combatants from the field, looking to avoid deaths, injuries or even worse capture by the enemy forces. On the other hand fighting the enemy forces with very complex, fast machines capable of operating half way around the world, deploying them for weeks in such locations to gather intelligence and to eliminate any threat with an element of surprise, and as a result suffering no loss.

The use of drones in the occupied territory of Pakistan and in particular Afghanistan has proved to be very successful, most importantly resulting in the killing of a high rank member of Al-Qaeda, Anwar Al-Awlaki and other Al-Qaeda members.<sup>112</sup> The United States President Barack Obama publicly confirmed the use of armed drones

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<sup>109</sup> Geneva Academy (2014) "Autonomous Weapon System under International Law \_Academic Briefing No 8", available at [http://www.geneva-academy.ch/docs/publications/Briefings%20and%20In%20breifs/Autonomous%20Systems%20under%20International%20Law\\_Academy%20Briefing%20No%208.pdf](http://www.geneva-academy.ch/docs/publications/Briefings%20and%20In%20breifs/Autonomous%20Systems%20under%20International%20Law_Academy%20Briefing%20No%208.pdf).

<sup>110</sup> Naiden, F.S (2013) "Heroes and Drones" The Wilson Quarterly. Available at [http://archive.wilsonquarterly.com/sites/default/files/articles/27\\_Naiden\\_Autum13.pdf](http://archive.wilsonquarterly.com/sites/default/files/articles/27_Naiden_Autum13.pdf).

<sup>111</sup> As above.

<sup>112</sup> Naiden, F.S (2013) "Heroes and Drones" The Wilson Quarterly. Available at [http://archive.wilsonquarterly.com/sites/default/files/articles/27\\_Naiden\\_Autum13.pdf](http://archive.wilsonquarterly.com/sites/default/files/articles/27_Naiden_Autum13.pdf).

by the United State and defended their employment, providing that their use in conflicts resulted in precious strikes and was kept on a tight leash.<sup>113</sup>

Autonomous weapon systems just like armed drones are unmanned, but are uncontrolled weapon systems which require no human beings on or in the loop, and replacing them with a computer system which is capable of acting independently.<sup>114</sup> On this regards the aim was to spare lives of human combatants by employing machines instead of human beings, and on other hand demanding to have an advantage on the field by using these fast weapon systems which are capable of counter attacking the enemy forces independently. Fully autonomous weapon systems are not yet in existence, but there is uncertainty regarding their development.<sup>115</sup> With this said it would be difficult to predict their success rate during an occupation or a conflict.

#### **4.3 Events which might lead to better compliance with international humanitarian law if machines with autonomy are employed.**

Currently there are international debates between Governments officials, International Organizations and leading experts regarding the invention, development and use of autonomous weapon systems for purposes of law enforcements and participation in conflicts. Some take the notion that the decision to kill human beings should not be taken by a machine independently, while others believe that if machines are used to fight wars life will be spared.<sup>116</sup>

Autonomous weapon systems are invented and developed for purposes of replacing police officers or combatants during conflicts. By employing machines to substitute human fighters during armed conflicts and in an occupation a lot of life will be spared, with no casualties or injuries suffered. In this way machines will be fighting battles for human beings as opposed to situation where humans fight in the fields.

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<sup>113</sup> BBC News, Drones: What are they and how do they work? Available at [www.bbc.com/news/world-south-asia-10713898](http://www.bbc.com/news/world-south-asia-10713898).

<sup>114</sup> ICRC. "Fully Autonomous Weapon systems" (2013). Available at <https://www.icrc.org/eng/resources/documents/statement/2013/09-03-autonomous-weapons.htm>.

<sup>115</sup> Geneva Academy (2014) "Autonomous Weapon System under International Law \_Academic Briefing No 8", available at [http://www.geneva-academy.ch/docs/publications/Briefings%20and%20In%20breifs/Autonomous%20Systems%20under%20International%20Law\\_Academy%20Briefing%20No%208.pdf](http://www.geneva-academy.ch/docs/publications/Briefings%20and%20In%20breifs/Autonomous%20Systems%20under%20International%20Law_Academy%20Briefing%20No%208.pdf).

<sup>116</sup> ICRC experts report, "Autonomous Weapon Systems: Technical, Military, Legal and Humanitarian Aspects. Available at <http://www.icrc.org/en/document/report-icrc-meeting-autonomoua-weapon-system-26-28march-2014>.

Also proceeding to the position where human combatants are being assisted by machines to fight during an occupation or conflict, life will be protected due to the fact that machines are much faster than human combatants, they are able to counter-attack the enemy force at an intense flexible speed, they can operate at long range for extended periods while in the process protecting life.

With the lack of human emotions, machines are capable of operating at locations or environments humans cannot operate in or where it is likely to impair their ability to participate in the occupation or conflict. Machines are also competent to undertake dangerous tasks which might be harmful to human combatants. With that held, life will be spared and wars will be effectively won.

Not only can life be better protected by the use of autonomous weapon systems during conflicts, but also the use of these machines will be competent to comply with other provisions of international humanitarian law, for example the prohibition of violence against women and children, and serious discriminations suffered during events of an occupation or an armed conflict. During an occupation or a conflict women are said to suffer a lot against their honour and also against any form of indecent assault. With the use of autonomous weapon systems during an occupation, such atrocities will be diminished and considered a thing of the past. The violence against women obtained an international audience during the last World War, when women of all ages including children were compelled to some of the worst treatments, forced prostitution, rape committed in the occupied territories, and also brutal treatment.<sup>117</sup> Most of this incidents were caused by enemy combatants said to be stationed at a particular area or enemy forces which were merely passing through.<sup>118</sup>

The world later was shocked by the atrocities suffered by women in certain parts of the Democratic Republic of Congo. According to the former UN Special Rapporteur on Sexual Violations in Conflict Margot Wallstrom, the DRC is the rape capital of the world. She urges the United Nations Security Council to punish perpetrators as she believes the issue is not that there is no laws, but that the mechanism to enforce

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<sup>117</sup> See commentaries to Art.27 of the Fourth Geneva Convention (1949), p201, par3. Available at <https://www.icrc.org/eng/resources/documents/publication/p0206.htm>.

<sup>118</sup> ICRC Guidance Document. "Addressing the Needs of Women Affected by Armed Conflict". Available at [http://www.icrc.org/eng/assets/files/other/ihl-women\\_icrc\\_002\\_0840.pdf](http://www.icrc.org/eng/assets/files/other/ihl-women_icrc_002_0840.pdf).

such laws are ineffective, due to the fact that a lot of women and children are still suffering from sexual violations.<sup>119</sup> It is estimated about more than 200 000 women were raped during armed conflict in the DRC alone, whereas in Sierra Leone about more than 60 000 cases reported and between 100 000-200 000 in Rwanda.<sup>120</sup> Rape continues to be a dominant feature of the on-going conflict in certain parts of the DRC, with impunity being the law rather than the exception.<sup>121</sup> The International Criminal Tribunal for the former Yugoslavia (ICTY, 1993), classified sexual violations against women and children during armed conflicts as a crime against humanity, alongside other international crimes like torture and extermination, of which were confirmed by the International Criminal Tribunal for the Rwanda (ICTR, 1998).<sup>122</sup> Even after the ending of armed conflicts there still exists sexual violence, including unwanted pregnancy and sexual transmitted infections.<sup>123</sup>

There is a study suggesting that sexual violence can be used as a method of warfare during an occupation or an armed conflict, specifically when human combatants in an occupation subject women to torture, injure, extract information, degrade, threaten or punish in relation to an armed conflict.<sup>124</sup> Such violence aimed at women can amount to a method of warfare, having being caused by factors such as during an occupation women are usually unarmed, which makes them vulnerable to an attack, and also that women are always left alone during armed conflicts, while their male relatives have left the area or have been detained by the occupying forces.<sup>125</sup>

The drafters of the Geneva Conventions saw it as necessary to protect the rights of women during an occupation or a conflict, intending to prohibit certain serious violation specifically against women in an event of occupation. Article 27 is one of the most important provisions on the convention, as it forms the basis of the

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<sup>119</sup> BBC. UN Officials calls DR Congo 'rape capital of the world'. Available at [news.bbc.co.uk/2/hi/africa/8650112.stm](http://news.bbc.co.uk/2/hi/africa/8650112.stm).

<sup>120</sup> United Nations. Outreach programme on the Rwanda Genocide and the United Nations 'Background information on Sexual Violence used as a tool of war'. Available at [www.un.org/en/preventgenocide/rwanda/about/bgsexualviolnce.shtml](http://www.un.org/en/preventgenocide/rwanda/about/bgsexualviolnce.shtml).

<sup>121</sup> BBC. UN Officials calls DR Congo 'rape capital of the world'. Available at [news.bbc.co.uk/2/hi/africa/8650112.stm](http://news.bbc.co.uk/2/hi/africa/8650112.stm).

<sup>122</sup> United Nations. Outreach programme on the Rwanda Genocide and the United Nations 'Background information on Sexual Violence used as a tool of war'. Available at [www.un.org/en/preventgenocide/rwanda/about/bgsexualviolence.shtml](http://www.un.org/en/preventgenocide/rwanda/about/bgsexualviolence.shtml).

<sup>123</sup> As above.

<sup>124</sup> As above.

<sup>125</sup> ICRC Guidance Document. "Addressing the Needs of Women Affected by Armed Conflict". Available at [http://www.icrc.org/eng/assets/files/other/ihl-women\\_icrc\\_002\\_0840.pdf](http://www.icrc.org/eng/assets/files/other/ihl-women_icrc_002_0840.pdf).

convention that is to protect the civilian population, and anyone who is defenceless.<sup>126</sup> According to Article 27, women of all ages must be protected against any form of attack on their honour, in particular against rape, enforced prostitution or any form of incident assault.<sup>127</sup> Just like *The Fourth Geneva Convention (1949)*, Article 75 also aims at prohibiting acts taking place during an occupation, whether they are committed either by military combatants or civilians. According to Article 75 sexual violence is prohibited under any circumstances during an event of occupation or an armed conflict.<sup>128</sup> Also importantly Article 76 specifically addresses measures in favour of women and children, according to this provision women must be the object of special respect and should not be subjected to any sexual assault.<sup>129</sup> The provisions prohibiting serious violations specifically to women and children do not only end with the Geneva Conventions and their Additional Protocols, some provisions are contained in *the Declaration on the Protection of Women and Children in Emergency and Armed Conflicts (1974)*, *The UN Declaration on the Elimination of Violation against Women (1997)* and lastly *The Inter-American Convention on the Protection, Punishment and Eradication of Violence against women (1994)*.<sup>130</sup> The Inter-American Convention expressly covers physical, sexual and psychological violence against women.<sup>131</sup> While Africa has witnessed some of the most shocking violations against women and children, it was then appropriate for African leaders to adopt a Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa (2003).

With a large number of provisions prohibiting violence to women's rights' during an occupation or an armed conflict, it is evident that violations against women and children are a serious issue, one which needs our attention immediately. With the proposed use of autonomous weapon system during an occupation, such violation will be avoided, in particular indecent assaults to women. As generally known autonomous weapon systems are machines, they lack human emotions such as desire or feelings, with this said, autonomous weapon systems are only concerned

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<sup>126</sup> Art. 50 of Additional Protocol I to the Geneva Convention (1977).

<sup>127</sup> Art. 27 of the Fourth Geneva Convention (1949).

<sup>128</sup> Art. 75(2) (b) of Additional Protocol I to the Geneva Convention (1977).

<sup>129</sup> Art. 76 of Additional Protocol I to the Geneva Convention (1977).

<sup>130</sup> ICRC Guidance Document. "Addressing the Needs of Women Affected by Armed Conflict". Available at [http://www.icrc.org/eng/assets/files/other/ihl-women\\_icrc\\_002\\_0840.pdf](http://www.icrc.org/eng/assets/files/other/ihl-women_icrc_002_0840.pdf).

<sup>131</sup> As above.

with fulfilling actions or functions as initially programmed. Christof Heyns is in support of this view that machines would be in a better position to comply with the requirements of the Geneva Conventions and their Addition Protocol during an event of occupation or a conflict.<sup>132</sup>

Not only is the use of autonomous weapon system during an occupation or conflict be in a better position to comply with some of the International Humanitarian provisions prohibiting against serious violation to women, but also the issue of discrimination will too be diminished. According to the Geneva Convention, protected persons in an occupied territory shall be treated equally without any adverse distinction with regards to their gender, on race, religion or their political opinions by the Party to the conflict on whose powers they are.<sup>133</sup> With the use of machines, machines are unable to differentiate on race, or on people belonging to two different kinds of religions. Also machines lack the desire to prefer things over others, for example not treating humans equally because of their different political opinions. In conclusion to this, the issues of discrimination during an occupation will be diminished if autonomous weapon systems would be employed.

#### **4.4 Recommending a new treaty regulating autonomous weapon systems**

Fully autonomous weapon systems do not yet exist, however, there is an uncertainty regarding their development, as evident by States already deploying precursors that demonstrate the drive towards greater autonomy in machines. A good example is illustrated by the United State leading the development of autonomy, including China, Germany and the United Kingdom.

Although Article 36 of *Additional Protocol I* to the *Geneva Conventions (1977)* explicitly requires States to perform a weapons review for any new developed weapon systems to determine if it is capable of complying with International Humanitarian Law already existing.<sup>134</sup> There is a need for a totally new treaty dedicated to regulate the use and development of weapon systems with some level of autonomy, including semi-autonomous weapon systems which are capable of

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<sup>132</sup> Report of the Special Rapporteur on extrajudicial, summary or arbitrary execution, Christof Heyns, UN doc. A/HRC/23/47, 9 April 2013, Available at: [http://www.ohchr.org/documents/hrbodies/hrcouncil/regularsession/session23/a-hrc-23-47\\_en.pdf](http://www.ohchr.org/documents/hrbodies/hrcouncil/regularsession/session23/a-hrc-23-47_en.pdf).

<sup>133</sup> Art. 27 of the Fourth Geneva Convention (1949).

<sup>134</sup> Art. 36 of Additional Protocol I to the Geneva Convention (1977).

being subjected to control and fully autonomous weapon systems which are totally free from human interventions and can perform acts independently. This new treaty will provide provisions applicable to the use of lethal machines, their development, and most importantly to what extent can they be independent. The new treaty will also be vital as the increase of development in technology will upsurge the risk of death or injuries to the civilian population during armed conflicts or an occupation, and also there is a possibility of an inherent non-compliance with law if such weapons are deployed. It is important to take note of the fact that as evident above, there are certain provisions which machines will find it relaxed to comply with, for example the provision prohibiting discrimination and sexual violations during an event of occupation. The proposed new treaty should also regulate such situations, but address instances in which they may be used in this regards, taking control into consideration.

In support of this, the Human Rights Watch and Harvard International Human Rights Clinic, also see it necessary to call for a new treaty with regards to autonomous weapon systems, however, their suggestion is that such a treaty should absolutely prohibit the use and development of machines with autonomy.<sup>135</sup> According to them individual States should also pass laws or adopt policies to prevent the development, production and use of such machines even at a domestic level.<sup>136</sup> The Convention on Certain Conventional Weapons seeks to prohibit or regulate on weapon systems which aimed at excessive injuries or whose effects are discriminative.<sup>137</sup> There is a general believe by some that the topic regarding the use and development of autonomous weapon systems already fit in under the focus and missions of this Convention, that there isn't much a need for a new treaty. Nevertheless, the Convention on Certain Conventional Weapons is silent on the issue of autonomy in neither weapons nor machines. The Convention focuses on the results or effects of what such a weapon might cause, like for example it prohibits weapons which aim at

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<sup>135</sup> Human Rights Watch. "Ban 'Killer Robots' before it's too late" (2012). Available at <https://www.hrw.org/news/2012/11/19/ban-killer-robots-its-too-late>.

<sup>136</sup> As above.

<sup>137</sup> See the preamble to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to be Excessively Injuries or to Have Indiscriminate Effects (2003). Available at [https://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&sqi=2&ved=0CBsQFjAAahUKEwjypKW8IOPIAhVBsRQKHYE4D7U&url=https%3A%2F%2Fwww.icrc.org%2Feng%2Fassets%2Ffiles%2Fother%2Ficrc\\_02\\_0811.pdf&usg=AFQjCNEWmlbGSxXKYxp6lw1-M34rDOXmYQ&sig2=7ILX5psoaL1nASQqVl-meg&bvm=bv.105841590,d.bGQ&cad=rja](https://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&sqi=2&ved=0CBsQFjAAahUKEwjypKW8IOPIAhVBsRQKHYE4D7U&url=https%3A%2F%2Fwww.icrc.org%2Feng%2Fassets%2Ffiles%2Fother%2Ficrc_02_0811.pdf&usg=AFQjCNEWmlbGSxXKYxp6lw1-M34rDOXmYQ&sig2=7ILX5psoaL1nASQqVl-meg&bvm=bv.105841590,d.bGQ&cad=rja).

excessive injuries.<sup>138</sup> What is important and of which needs serious attention is the issue of autonomy in weapons, we need to regulate the issue of giving robots or machines too much power to perform acts independently.

It is vital to address the matter concerning the responsibility or liability of autonomous weapon systems failing to comply with the law, as this discussion will aid in the need for a new treaty. As is evident from the fact that such a weapon can select and engage a target on its own, it then creates a problem of responsibility if something wrong were to happen. The general believe is that the responsible parties include the commander who had deployed the weapon, the programmer who installed the software in such a systems or the manufacturer.<sup>139</sup> However, the above suggestions of party's liable result in a dissatisfactory conclusion, and the direct perpetrator "the machine" can never be held liable as it is impractical to punish a machine.<sup>140</sup>

There are many international organizations dedicated to fight against the development and use of weapon with autonomy, one leading the fight is an international organization titled Campaign to Stop Killer Robots. They seek to prohibit weapon systems that are capable of performing functions without the need for human control and of which cannot achieve legal control.<sup>141</sup> Under their mission, they aim to urge to ban the development and use of these weapons by urgently calling for a new treaty dedicated to regulate fully autonomous weapon systems, also they call upon countries to consider and publicly elaborating on their policies regarding autonomous weapons systems, more specifically issues such as ethical, legal, technical and other issue which have been raised.

The Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions Christof Heyns, during his report made certain recommendations regarding this topic, he unlike most parties urges States to pause in the development of fully autonomous

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<sup>138</sup> See the preamble to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May be Deemed to be Excessively Injurious or to Have Indiscriminate Effects (2003). Available at [https://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&sqi=2&ved=0CBsQFjAAahUKEwjypKW8IOPIAhVBsRQKHYE4D7U&url=https%3A%2F%2Fwww.icrc.org%2Feng%2Fassets%2Ffiles%2Fother%2Ficrc\\_02\\_0811.pdf&usq=AFQjCNEWmlbGSxXKYxp6lw1-M34rDOXmYQ&sig2=7LX5psoaL1nASQqVImeg&bvm=bv.105841590,d.bGQ&cad=rja](https://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&sqi=2&ved=0CBsQFjAAahUKEwjypKW8IOPIAhVBsRQKHYE4D7U&url=https%3A%2F%2Fwww.icrc.org%2Feng%2Fassets%2Ffiles%2Fother%2Ficrc_02_0811.pdf&usq=AFQjCNEWmlbGSxXKYxp6lw1-M34rDOXmYQ&sig2=7LX5psoaL1nASQqVImeg&bvm=bv.105841590,d.bGQ&cad=rja).

<sup>139</sup> Thurnher, J, S (2011) "Examining Autonomous weapon Systems from a Law of Armed Conflict Perspective" Available at <http://dx.doi.org/10.2139/ssrn.2271158>.

<sup>140</sup> Human Rights Watch. "Ban 'Killer Robots' before it's too late" (2012). Available at <https://www.hrw.org/news/2012/11/19/ban-killer-robots-its-too-late>.

<sup>141</sup> Campaign to stop Killer Robots. "The Solution". Available at [www.stopkillerrobots.org/the-solution/](http://www.stopkillerrobots.org/the-solution/).



weapon systems and recommends that studies be conducted under this topic to get a better understanding of what the position would be if these weapons are developed.<sup>142</sup> He also declares that all States need to abide by International Humanitarian Laws and Human Rights Laws in all activities regarding robotic weapons and that full reviews need to be conducted to determine their compliance.<sup>143</sup> He also like the Campaign to Stop Killer Robots urges international debates and forums to discuss and exchange best practices regarding fully autonomous weapons systems.

Here in Africa there is a saying which is shared by many that pronounces that it is better to deal with an issue while it is still small rather than letting it grow. After careful examination of the use of autonomous weapon systems during an event of occupation, it is safe to conclude that these proposed machines with autonomy will lead to noncompliance of the International Humanitarian Law, specifically the right to honour and lives of persons, the provision prohibiting inhuman treatment during an occupation and lastly the right to life.<sup>144</sup> Also on the other hand there are certain provisions which the use of machines with autonomy may lead to compliance, for example provisions prohibiting discrimination and sexual violence against women and children during an occupation. It is, however, important to have a body of laws or rules regulating the development of these machines now rather than later, specifically with regards to what extent of autonomy should be allowed in a weapon system in the future. Failure to do so, might lead to a foreseeable future where it is impossible to deter violation on International Humanitarian Laws and most shockingly not be possible to provide victims with meaningful retributive justice.

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<sup>142</sup> As above.

<sup>143</sup> Campaign to stop Killer Robots. "The Solution". Available at [www.stopkillerrobots.org/the-solution/](http://www.stopkillerrobots.org/the-solution/).

<sup>144</sup> Art. 27 of the Fourth Geneva Convention (1949).

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