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New Weapons and Old Law: Can International Humanitarian Law Treaties Deal Adequately with Modern Technologies?

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Abstract

Military technology is developing incredibly fast. Drones, Autonomous Weapon Systems (AWS), and Cyberwarfare instruments have been resorted to by states and non-state actors in warfare. Yet, the developments and emerging challenges have not resulted in formal amendments to the existing regulatory framework of International law. Some believe that the current regime is required to be amended in accordance with developing technologies. Others support the idea that the rules and principles of the existing International Humanitarian Law regime need to be re-evaluated and re-interpreted according to changing conditions on the ground that a formal amendment process does not seem to be a feasible option because of the resistance of the powerful international actors. At this point, formidable questions arise: What are the challenges to interpreting the existing rules and standards of the IHL regime amidst the increasing developing technologies? What levels of autonomy will be permissible for AWS to ensure compliance with international law principles, i.e., the principle of distinction in warfare? Which technologies or certain weapons can/should be restricted and outlawed? This article aims to come up with satisfying answers to these and further questions.

Key Words: Autonomous Weapons System, Drones, Amendments, Re-interpretation of the Existing Regime

Yeni Silahlar ve Eski Hukuk: Uluslararası İnsancıl Hukuk Metinleri Modern Teknolojiler ile Yeterli Düzeyde Başa Çıkabilir mi?

Öz

Askeri teknoloji son derece hızlı bir şekilde gelişmekte. Dronlar, Otonom Silah Sistemleri (AWS) ve Siber savaş araçlarına devletler ve devlet dışı aktörler tarafından başvurulmaktadır. Ancak bu gelişmeler ve bunlara bağlı olarak ortaya çıkan sorunlar, henüz uluslararası hukuk metinlerinde herhangi bir değişikliğe sebebiyet vermedi. Bazı yazarlar, Uluslararası hukuk rejiminin gelişen teknolojiye ayak uydurularak değiştirilmesi gerektiğini iddia etmekteler. Diğerleri ise güçlü aktörlerin uluslararası hukuk normların değiştirilmesine direnç göstereceği gerekçesine dayanarak uluslararası hukuk normlarının değiştirilmek yerine daha makul bir çözüm olan yeniden yorumlanması gerektiğini ileri sürmektedirler. Bu aşamada, cevap bulması güç olan bazı sorular ortaya çıkmaktadır. Örneğin; gelişen teknoloji ışığında uluslararası hukukun kural ve standartlarının yorumlanmasında ne gibi güçlüklerle karşılaşılabilir? Yahut uluslararası hukukun prensipleri ile uyumlu olabilmesi için otonom silah sistemlerine hangi dereceye kadar otonomluk verilmelidir? Son olarak hangi teknolojiler veya spesifik silahlar yasaklanmalıdır? Yazar, makalede bu ve buna benzer sorulara yanıt bulmayı amaçlamaktadır.

Anahtar Kelimeler: Otonom Silah Sistemleri, Dronlar, Norm Değişikliği, Normların Yeniden Yorumlanması.

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Introduction

This is the age of technology. Today, "there are much more microprocessors in a regular family car than there were in the Apollo 11 spacecraft that first landed on the Moon in 1969" (Petman, 2017). The fact that new technology has been used for military purposes and used for arms superiority over potential enemies by the developer; has encouraged further and constant technological developments throughout history (Heinegg ve Beruto, 2012: 51). Currently, virtually all armed conflicts are total wars that are merciless and involve soldiers and civilian populations. Additionally, the vast majority of modern wars have asymmetric nature, meaning that a legitimate state/ government with advanced technological weaponry and the regular army is on the one side, non-state groups without a regular army are on the other side (Cassese vd.,2014:8).

These asymmetric conflicts have led technologically inferior parties to operate from areas "marked by either weakened public authority or governmental complacency," making traditional law enforcement difficult for the authorities (Melzer, 2013: 8). In order to overcome such flaws, several states resort to drone technology in their confrontations with non-state armed groups outside their territories. Along with drone technology, states have also invested in other lethal warfare tools, including all kinds of robotics, Cyberwarfare, and Autonomous Weapons Systems (AWS).

AWS has raised technical and military questions together with ethical, socio-political, and legal ones. (Petman, 2017) Additionally, the questions about the impact of IHL on future battlefields have also been raised in response to the rise of new weapon technologies. (Mohan ve Lawand, 2016) Military and economic perspectives show that the development and deployment of Cyber Warfare and lethal AWS are inevitable if it is not limited by the International Humanitarian Law (IHL). (Petman, 2017) The development of new technologies has always accompanied limitations of the use of certain weapons. For example, in the 12th century, some popes and churches issued a prohibition on the crossbow because it was inhumane[2] (Heinegg ve Beruto, 2012: 51).

Mohan asks the question as to whether current attempts to "hedge the use of new technologies in warfare" are similar to the fight against the crossbow (Heinegg ve Beruto, 2012: 51). There are further formidable questions that should be answered, such as; what levels of autonomy will be permissible for AWS to ensure compliance with the principle of distinction in warfare? Accordingly, which technologies or certain weapons can/should be restricted and outlawed? (Melzer, 2013: 44) When it comes to cyber-warfare, is there a gap in international humanitarian law? What are the challenges to interpreting existing rules and standards of the IHL regime amidst the increasing developing technologies? (Heinegg ve Beruto, 2012: 144) Such legal challenges have given rise to a sense of uncertainty as to the applicable legal standards in the context of cyber warfare, robotics, drones, and so on.

These developments and, accordingly, challenges have not led to the formal amendments of the existing regulatory framework comprising laws of war and relevant enforcement mechanisms. IHL is mainly the product of the 19th and 20th centuries (Lubell ve Cohen, 2011). The core principles of IHL- the principle of distinction, military necessity, humanity- were first introduced 150 years ago in legal texts such as the 1863 Lieber Code and 1868 St Petersburg Declaration (Lubell ve Cohen, 2011). What is more, most of the key IHL concepts, i.e., the definition of belligerents and combatants, the battlefield, and so on, were established by the Hague and Geneva Conventions. In short, the radical transformation of the hostilities and the warfare technology has not been met so far with the official amendment of existing treaties.

For this reason, some argue that the legal norms governing armed conflict and its enforcement mechanism should be amended according to changing technological developments and the conditions of asymmetric warfare because current wars and technology do have very little common ground with that of the 19th and 20th century. Others have come up with the idea that the rules, standards, principles, and

[2] The Second Lateran Council of 1139.

doctrines of the existing IHL regime needs to be re-evaluated and re-interpreted in accordance with changing conditions, given the fact that the formal amendment of the rules and principles of IHL does not seem to be a viable and plausible option because of the resistance of the international actors.

This article aims to examine (i) whether and to what extent the current regime can give response to the changing conditions; (ii) whether reinterpretation of the existing rules and standards would suffice (iii) or it needs formal amendments and accordingly new rules. To that end, first, the main characteristic, nature, and types of the new weapons will be touched upon. Then, legal challenges will be examined. Particularly the impact of technological developments of the main principles of IHL -principles of distinction, proportionality, and precaution- will be analyzed. Finally, it will be examined whether a legal gap should be filled by amendment on the existing treaty regime or whether reinterpretation of the legal framework would suffice.

1. The Main Features of the New Weapons

There is not an internationally agreed definition of 'an autonomous weapon.' However, all actors accept at least one characteristic of this new weapons system; humans are no longer required in the targeting decision-making process (Petman, 2017: 7). The concept of AWS refers to robotic weaponry. Once it is activated, it is able to select and target its objectives without necessitating human intervention (Petman, 2017: 16).

Currently, the existing weapon technology reaches a high level of autonomy. These semi-autonomous systems are already resorted on the battlefield to "provide intelligence gathering, surveillance, and reconnaissance, as well as target acquisition, designation, and engagement capabilities" (Petman, 2017: 19). For instance, technologically developed powers like the US and Israel have tools to detect, track and fire at incoming missiles (Petman, 2017: 6). Autonomous guns at the border between North and South Korea can automatically fire at objects within a certain distance. It is not unrealistic to expect that in the near future, existing weapon technology will reach a much higher level of autonomy with the ability to "control their own movement, detect their own targets, and make their own decision to fire at a target and kill, without any human intervention" (Mohan and Lawand, 2016). Indeed, the US Air Force Unmanned Aircraft Systems Flight Plan 2009–2047 suggests that fully autonomous flight systems will be operated as of 2025 (US Air Force, 2009: 50). The US Air force officials already pointed out that the employment of such systems 'is not a matter of ''if'' but it is a matter of ''when'' (Michael ve Guetlin, 2005: 18). Thus, if it is not a matter of 'if' but "when", then it is important to be prepared to check the compliance of these weapons with the existing IHL rules and standards (Petman, 2017: 20).

The driving force behind these efforts is obviously the need to protect soldiers from harm by keeping them far from the conflict zone. The new technology is very effective in doing so (Mohan and Lawand, 2016). Academia is divided into two groups. On the one side, there are those drawing attention to the benefits of AWS. They basically argue that these systems can detect and process complex information at an enormous speed; their decision-making capabilities and implementation are more flexible, faster, and precise; they do not risk the lives of military personals as they replace soldiers (Petman, 2017: 7). Additionally, the proponents of these systems argue that robots would not be driven by a need to protect themselves, which means that they tend to act more carefully and in a 'self-sacrificial manner' in certain conditions where there is any uncertainty about the identity of the target (Petman, 2017: 7). They also believe that AWS might be more capable of complying with the principles of IHL compared to a human being because their sensors "will be better equipped to make battlefield observations" (Petman, 2017: 22).

At the opposite end of the spectrum, the opponents of these systems believe that they should be seen as a significant threat to human life. When a machine decides to kill, then human life has no value (Petman, 2017: 8). As these systems are remarkably open to misuse and abuse, more disproportionate and unfair warfare will be waiting for us (Petman, 2017: 8). The opponents of these autonomous weapon systems add that although the argument that the AWS acts more carefully and in a self-sacrificial manner seems logical, it is not realistic to expect such a course of action considering the high cost of such systems (Petman, 2017:

22). In addition, the practice shows that highly sophisticated weapon systems have been used in, i.e., Iraq and Palestine, giving rise to high levels of death and injury within the civilian population. This proves that technological developments serve the best interest of the military users, not that of civilians (Heinegg ve Beruto, 2012: 77). In short, "all predictions agree that if a man does not master technology, but allows it to master him, he will be destroyed by technology" (ICRC, 1949: para 1476). For this reason, people should not be completely excluded from the loop.

Regarding cyber warfare, It refers to the means and method of warfare that relies on "information technology and are used in the context of an armed conflict within the meaning of IHL – as opposed to the traditional kinetic military operations" (Droege, 2011). Similar to AWS, there is no consensus yet on the definition of cyber warfare (Mohan and Lawand, 2016). The most significant difference between cyber and traditional warfare is that, unlike conventional warfare, virtually all and every 'cyber asset', computer power is likely to turn into military use and always have military potential (Heinegg ve Beruto, 2012: 155). Thus, there might be no difference between actual physical damage and the damage caused by a cyber-attack.

Cyber-attacks have numerous elements ranging from "malicious hacking and defacement of websites to large-scale destruction of military or civilian infrastructure that relies on those networks" (Heinegg ve Beruto, 2012: 144). Cyber-attacks against public transportation systems, dams, nuclear power plants, or chemical and biological factories seem possible. Or one can manipulate the air traffic control system of its enemy. Thus, the potential impact of a cyber operation is enormous in terms of the humanitarian aspect (Droege, 2011). It is clear that there would be no difference whether such consequences are stemmed from conventional weapons or cyber-attacks (Droege, 2011).

2. Legal Challenges

Article 35 of Protocol 1 stipulates the fundamental maxim of the IHL, which is that "(i)n any armed conflict, the right of the Parties to the conflict to choose methods or means of warfare is not unlimited." As a direct corollary of that provision, any weapon must be designed to guarantee compliance with the rules and standards of IHL (Nichelson, 2019). At his stage, one can wonder whether the law follows the technological developments and adapts itself to these developments, or technology is used to develop new weapons by taking into account the rules of existing law. The mainstream view is that weapon technology "should only advance within pre-existing guidelines" (Haines, 2014: 291). In other words, the argument that the law should be more influential in framing the technological developments by ensuring that these developments would be in line with the existing rules and standards of the IHL; is gaining more support.

Article 36 of Additional Protocol 1, for example, presents a good example in the sense that it effectively prescribes the relationship between law and technology. It stipulates that the new weapons are supposed to be checked for legality at every stage, "not merely at the point of deployment or use but also in their study, development, acquisition or adoption."[3] This requirement proves the assumption that the existing law should determine the domain of the weapon technology by constraining its development rather than weapon technology shapes the new regulatory framework (Haines, 2014: 275). Along with specific obligations, the provision also indicates that general IHL rules are applicable to emerging technology (Droege, 2011).

Against the backdrop of these overall legal issues, core principles of IHL deserve more attention to ascertain whether the old law is able to deal with increasingly developing new weapon technology because

[3] Article 36 of the AP 1 the exact wording of the provision is ''In the study, development, acquisition or adoption of a new weapon, means or method of warfare, a High Contracting Party is under an obligation to determine whether its employment would, in some or all circumstances, be prohibited by this Protocol or by any other rule of international law applicable to the High Contracting Party.''

it is profoundly important to examine the normative impact of new military technologies on core doctrines and principles of international humanitarian law.

2.1. Principles of Distinction, Proportionality, and Precaution

The legal framework governing the distinction principle stipulates that ‘’the Parties to the conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations only against military objectives”, whereas “the civilian population as such, as well as individual civilians, shall not be the object of attack."[4] This means that armed drones must qualify to distinguish between combatants and the civilian population (Melzer, 2013: 23).

Whether the IHL regime -both treaties and customary legal rules- which aimed at protecting the civilian population provides adequate legal guidance and permission for the resort to these technologies is the essential question that should be responded to (Heinegg ve Beruto, 2012: 53). Existing treaties have no general prohibition or restriction on the use of drone technology without making a distinction between semi or fully autonomous versions. Yet, the law makes it clear that the treaty law also outlaws already restricted weapons that may be combined with drone technology such as poison, chemical, and biological weapons, or cluster munitions (Melzer, 2013: 27). Additionally, it must be pointed out that drone technology falls under the customary and treaty prohibition on indiscriminate attacks.[5] Inherently indiscriminate weapons are prohibited in armed conflicts (Petman, 2017: 28). Solis held that although adherence to the core distinction principle has increasingly become problematic because the military conflict shifted from state-to-state origin towards counterinsurgency operation, these challenges could not change the distinction principle's essence (Solis, 2012: 254). Yet, it is controversial if AWS is capable -and will be capable- of distinguishing the civilian population from military targets, given the increasingly prevalent nature of asymmetric conflicts across the world. Under such a complicated conflict atmosphere, it can be difficult to distinguish between a farmer digging a trench and a terrorist planting explosive devices (Petman, 2017: 29).

Krishnan identified three main challenges regarding the ability of AWS to distinguish legal targets from civilian ones (Krishnan, 2009: 35). The first challenge is that AWS might tend to have ‘weak machine perception.’ The efforts to eliminate the obstacles before distinguishing between a human and a non-human target are not even close to reaching the required precise distinction level (Petman, 2017: 29). Secondly, they might have a 'frame problem' because AWS is in trouble interacting with their environment. This means that a targeting decision by an autonomous weapon is supposed to have “situational awareness and an understanding of human intention.” Yet, the authorities do not guarantee whether artificial intelligence will adhere to the core distinction principle under circumstances of profound confusion (Petman, 2017: 30). Some armies like that of the US have adopted and resorted to the criterion of 'gut feelings’, meaning that the officer in charge is supposed to decide whether a particular action is morally 'right' before deciding to shoot (Ekelhof, 2016). Even the proponents of AWS admit that such criteria might not be put into machine algorithmic programs.

Programming rules of behavior to ambivalent combat conditions would seem to be problematic. It is suggested that AWS might be allowed to fire for the purpose of defense (Petman, 2017: 30). Another proposal is that AWS can be allowed to fire to target the weapons, not the human. Yet, counterargument would be that although these options seem to provide theoretically possible and plausible solutions, they do not address the problem of indiscriminate attacks because making a distinction between a weapon and the human holding that weapon “may be just as difficult as distinguishing between a civilian and an enemy

[4] Arts 48 and 51(2) Protocol I; ICRC, Customary Humanitarian Law, Rule 1.
[5] Art. 51(4) Protocol I

combatant" (Petman, 2017: 31). For example, assuming a scenario in which combatants force hostages into transporting weapons for them. In that scenario, all these civilians would be collateral damage.[6]

Finally, 'weak software' might add an additional layer to the existing flaws (Petman, 2017: 29). Krishnan draws our attention to the negative correlation between the level of sophistication and predictability. Unsurprisingly, when the complication and complexity of software increases, it would be less predictable (Krishnan, 2009: 100). Silver resorts to an example of a chess-playing computer -Deep Blue- which succeeded in beating world-class chess player Garry Kasparov. According to the author, it is almost impossible to know whether a particular move by this chess machine was a bug or a good tactic. Similarly, the same difficulty will be faced when programming AWS: at a certain point, it will become difficult to "tell whether an autonomous weapons system is making an error, or whether it is seeing and reacting to something that is beyond immediate human grasp" (Silver, 2012: 286). If the later option is chosen, when things go wrong, the machine will not be held responsible because even if people don't understand, the machine will be thought to have done what it was supposed to do.

Along with these problems, there are additional practical challenges: no survival policies, followed-up, and signature strikes.[7] However, it is crucial to bear in mind that the existence of such practical challenges does not mean that these challenges stem from a lack of -or insufficient- legal framework. The primary purpose of warfare is to defeat the enemy, not to destroy it. Therefore, it is not allowed to adopt a 'no survivor policy' or refuse to accept the enemy's surrender or attack those protected by international law.[8] Unfortunately, in practice, drone attacks do not provide the enemy with a genuine opportunity to surrender (Melzer, 2013: 26). Additionally, the reported violations by conducting 'follow-up strikes' on wounded survivors of the first attack are prevalent.[9] These operations not only target intended military personnel but also hit first responders and humanitarian personnel trying to rescue the survivors of the first attack.[10]

It is important to emphasize that the legal framework is crystal clear that persons de combat can no longer be deemed legitimate targets.[11] As long as drones are used within the domain of legal framework, the law does not prohibit their use under humanitarian law. Therefore, the legal problems do not result from the resort to drones but stem from the violation of existing law. However, this assessment might indeed be reversed when it comes to fully autonomous drone technology.

Melzer argues that there is a need for distinction between semi-autonomous drones (human in the loop) and fully autonomous weapons (human out of the loop) on the ground that fully autonomous drones do not -and probably will not- be capable of making the "distinctions, assessments and judgments required by the law of targeting" (Melzer, 2013: 34). They lack the ability to identify the protected person within the enemy front, such as medical and religious personnel and hors de combat. (Melzer, 2013: 27) Consequently, these machines should be considered as 'inherently indiscriminate weapons' prohibited under IHL (Melzer, 2013: 27).

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[6] This is the case in a famous Spanish tv series called la casa de papel. The perpetrators wear Salvador Dali masks and give the same mask to the hostage and enforce them into wearing the masks and carrying the guns with no bullet. In this scenario, all these hostages would be collateral damage as well. *See*, La casa de papel, written by Álex Pina, 2017.

[7] Signature Strikes refer to the operation of the US military against individuals merely suspected of being subjective classifications such as "terrorists," "militants," or "jihadists". No doubt, this approach disregards the measures and precautions that are supposed to be taken in the conduct of hostilities and undermines the principle of distinction. There is controversy about whether such a loose and arbitrary approach does not comply with the rules and standards of international humanitarian law.

[8] Art. 40 Protocol I

[9] Yet, i.e., US Government Officials repeatedly assert that the US' targeting procedures and criteria are entirely in line with international law.

[10] Art. 24 Geneva Convention I, Art. 36 Geneva Convention II; Arts 12(1) and 20 Protocol I

[11] Art. 23(1)(c) Hague Regulations

AWS also poses a direct threat and challenge to the proportionality principle as they replace the human role in warfare without having the human being's capabilities (Petman, 2017: 12). Ensuring whether an operation complies with the law is a matter of subjective assessment. Balancing competing interests- striking a balance between military advantage and protecting civilians- is the indispensable element of that assessment. A catch-all evaluation does not work. Balancing interest is only possible on a case-by-case basis, meaning that the one-size-fits-all approach does not help to strike that balance. Therefore, different responses are required under different conditions. This 'contextual and discretionary nature of proportionality' gives rise to rightful concerns that AWS would fail to comply with the proportionality principle (Petman, 2017: 36). Melzer argues that the proportionality assessment of an autonomous system might be more fraught than its ability to adhere to the distinction principle (Melzer, 2013: 25). However, the author also believes that it would be more realistic to assume that these autonomous systems are "neither inherently disproportionate nor inherently proportionate" (Melzer, 2013: 25). If a separate assessment has to be made for each operation, then a blanket ban on these systems cannot be endorsed by this logic.

These systems unsurprisingly pose to challenge to the principle of precaution. Article 57 of the AP stipulates that "[i]n the conduct of military operations, constant care shall be taken to spare the civilian population, civilians and civilian objects."[12] It is required to take all feasible precautions in selecting means and methods of warfare to ensure minimization of collateral damage to the civilians.[13] When there is a doubt about the status of the targeted persons, the law clearly stipulates that these persons must be presumed to be protected against the attack.[14]

If used, drone attacks must be organized with "pin-point accuracy and based on excellent intelligence. Compared to many types of more traditional military operations, targeted drone attacks have very little tolerance for improvisation, and even minor unexpected events may lead to failure, erroneous targeting or excessive incidental harm" (Melzer, 2013: 24). Because there is significantly less time pressure and personal stress of operations while deciding to carry out drone operation, and because targeted persons are often tracked for days and weeks before the operation, a high level of precaution is required during drone operation.[15]

The contextual characteristic of the requirement of precaution, together with that of continued reassessment, necessitates that these autonomous weapons systems will not, at least a decade, be capable of performing the required assessment independently without human help (Petman, 2017: 42). As a consequence, although current drone technology, as long as these machines perform their duties in line with IHL, is not inherently disproportionate, the same cannot be the case for the fully autonomous weapons because it seems that they are not capable of adhering to the core principles of IHL without human intervention.

2.2. Accountability Gap

AWS put forward one additional challenge- accountability (Mohan and Lawand, 2016). The following formidable question should be asked: If fully autonomous weapons will be used and take the role of the human in warfare, who will be responsible if something goes wrong in a conflict zone and accordingly violates law during operations? (Petman, 2017: 43) Murphy points out that it is not an easy task to hold responsibility, meaning that either front-line operators or engineers, computer programmers, and designers will be responsible for wrongdoings for creating these machines in the very first place (Murphy, 2011: 28). Yet the accountability issue is not confined only to fully autonomous weapons.

'Automation bias' might negatively shape human operators' decisions (Cummings, 2006: 26). This was illustrated well by the incident taking place between the US and Iran, which resulted in the shooting

[12] Additional Protocol I to the Geneva Conventions, supra note 28, Art. 57(1).
[13] Arts 57(2)(a)(i)-(iii) and 57(2)(b) Protocol I; ICRC, Customary Humanitarian Law, Rules 16 -19.
[14] Art. 50(1) Protocol I
[15] Ibid.

down of an Iranian Airplane by the US Navy Ship in 1988 (ICJ, 1996). The US had a computer system designed to protect the ship from attacks. The system could be operated in different modes with different levels of automation (ICJ, 1996). Yet all these modes had a certain level of human intervention option to override the computer. When the incident occurred, the radars of the system were set to semi-automatic mode (ICJ, 1996). Despite the fact that radars identified that it was definitely a civilian plane considering that the course, speed, size, radar broadcast, and radio signal of the targeted plane belongs to a commercial civilian flight, the ship's computer system registered the aircraft as an F-14 Fighter (Petman, 2017: 79).

Although all the pieces of evidence show them otherwise, no one dared to challenge the computer's judgment (Petman, 2017: 43). Ultimately, "Regardless of the wealth of evidence that outside of the automated system clearly indicated the actual nature of the target, the operators came thus to shoot down a civilian plane, killing all 290 passengers in one of the worst aviation incidents in history" (Petman, 2017: 43-44). Even if these kinds of technical flaws would be eliminated with the help of technological developments, 'a complete understanding of the risks associated with AWS may be impossible' simply because weighing of competing interests -those of collateral damage and military advantage- necessitates the evaluation of multiple factors. For the same reason, a court unlikely would attribute responsibility to, i.e., a computer programmer who is only a tiny part of a culmination of the complex software written by hundreds (Petman, 2017: 47).

2.3. Legal Vacuum

As long as drone operations fulfill the abovementioned conditions, drone technology does not raise particular concern, provided that -an additional and indispensable condition- these machines are used by a human operator and do not carry unlawful weapons with them (Melzer, 2013: 34). This means that as long as drones are used within the legal framework's limit, the law does not prohibit their use under humanitarian law. Accordingly, there is no legal gap to be filled by a treaty amendment. This is the case for drones with 'human in the loop.' When the human is taken from the loop, it is pointed out that for -the time being these- fully autonomous machines should be considered as 'inherently disproportionate weapons.'

Under the scenario of 'human out of the loop,' some targeting decisions not only bring the compliance issue to the fore but also result in the responsibility vacuum (Petman, 2017: 59). This means that the problem is twofold. On the one hand, AWS might probably fail to comply with the requirements of IHL. On the other hand, allocation of responsibility and accountability issues arises. Yet, whether the requirements of 'meaningful human control' might eliminate or at least mitigate problematic scenarios remains as an enigma. In other words, it is a paradoxical mission because if it is fully autonomous, how can we add the human control element to the system. Or, if human control would be added to the fully autonomous weapons, then would these systems qualify to become fully autonomous weapons.

Putting aside this paradoxical issue, there might be a need for legal regulation, which involves many options, including a blanket ban on these death tools. Yet, this does not mean that applicable law does not adequately cover these issues. Article 36 of Additional Protocol 1 stipulates that all parties are "under an obligation to determine whether […] deployments and adoption of new weapons would be prohibited by the Protocol…." (Petman, 2017: 24). There is widespread support among several states and experts that a certain degree of human control is needed to accept these autonomous systems (Petman, 2017: 58). ICRC and some other international actors and NGOs endorsed the proposal of 'meaningful human control' when it comes to highly critical decisions such as deploying lethal force (ICRC, 2014). According to these organizations, there is no difference between the prohibition of AWS and that of anti-personnel landmines. The proposal is simple. Any use of lethal weapons without human intervention and supervision should face a blanket ban to ensure adherence to the IHL rules and lower the threshold for states to initiate armed conflicts. In addition, they argue that the challenges stemming from the responsibility gaps can only be handled by means of a total ban.

However, only a small number of states have supported the option of a comprehensive ban (Petman, 2017: 65). At this point, it can be argued that there are two main remedies; First, new and more precise

rules are needed because the existing legal regime does not respond to the regime's maladies and flaws. Cassese argues that it is unthinkable to modernize the current system as Great Powers do not have an interest in "tying their own hands with more precise legal standards" (Cassese vd.,2014: 14). It seems that there is no potential for the successful negotiation of a multilateral treaty comprehensively addressing and regulating these issues (Heinegg ve Beruto, 2012: 172). Even relatively small amendments to the current regime do not seem viable because states are unwilling to agree on new treaty rules. Consequently, we must exclude the option that changing international rules to adjust them to the reality of modern conflicts (Cassese vd.,2014: 14).

The second and more plausible and realistic remedy is a 'sound interpretation of existing law.' The principle of distinction, for example, is not old-fashioned. It is successful in giving the main message, which is to protect civilians against armed attacks. Therefore, the existing legal regime -precisely the core principles- must be re-interpreted in the light of emerging technologies. Although some argue that old law does not cover the new situations, the interpretation of law determines whether and to what extent the existing law is not responding to the emerging technologies. Article 55, for example, prohibits certain means and methods which might endanger health and survival of the population. It does not explicitly mention the recent technologies nor its potential threats, but it sets the threshold and standard that the use of methods and means of warfare which may endanger the health or survival of the population is prohibited. Therefore, as long as the underlying rationale is clear, which is protecting the civilian population, it does not matter the action destroying living conditions results from a physical factor or cyber-attacks (Heinegg ve Beruto, 2012: 54). As a legal advisor of ICRC, Anton Camen argues that the traditional principles of IHL are 'flexible enough to meet the new challenge' (Lubell ve Cohen, 2011).

Concluding Remarks

The remarkable difference between the conflicting parties in terms of technological developments has turned the asymmetric conflicts into default warfare. While technological innovation has occasionally led to new rules, most recent developments like cyber and drone technology have not been met with formal amendments of the treaties because of the resistance of major powers. Therefore, the exclusion of the solution of the official revision of the existing regulatory framework forces us to bring the option of re-evaluation and reinterpretation of the existing rules in accordance with the changing conditions to the table.

The general opinion is that the main reason behind the failure that civilians are no longer protected is that the part of the IHL that manages the conduct of hostilities, such as the use of means of warfare and method of warfare is loose and flawed due to loopholes. Although this argument might have some valid points, it disregards the fact that states -particularly the powerful ones- are not hesitating to violate even the most core and clear rules and principles of the existing law. Therefore, the main problem does not stem from the law itself but from the resistance to the law and unwillingness to abide by it. This means that even highly specific and precise laws will be violated by international actors on the ground that they are not providing sufficient guidance and protection.

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