

Customary International Humanitarian Law and Article 36 of Additional Protocol I to the Geneva Conventions: A Stopgap Regulator of Autonomous Weapons Systems?

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Abstract: Autonomous Weapons Systems (AWS) are already in use around the world by various militaries. However, the law governing such systems in the scope of international humanitarian law (IHL) currently lacks specific binding international treaties. Nevertheless, the existing framework is not silent on the topic of new weapons. Article 36 of Additional Protocol I to the Geneva Conventions provides an obligation for states to review new weapons. Consequently, as AWS are being adopted, acquired, and developed, the wide reach of 174 state parties of Article 36, therefore *prima facie*, represents a reasonable chance of providing some AWS regulation in the meantime. Nevertheless, Article 36 is generic to all new weapons and therefore unable to address concerns specific to AWS. Therefore, considering the vast difference of AWS to weapons which rely on a human operator, it is not unreasonable to state that there is a need for additional regulation. Hence, various non-binding guidelines and recommendations, such as the '11 Guiding Principles' agreed upon by the Convention on Certain Conventional Weapons Group of Government Experts and the International Committee of the Red Cross' Position on Autonomous Weapons Systems, could conceivably be considered to fill this void at least partly, albeit in a non-binding manner. When considered together with Article 36, these non-binding legal

instruments could add predictability and consistency to the state parties' reviews. Consequently, this paper will examine whether Article 36, in combination with the various non-binding instruments and national positions of state parties to Additional Protocol I, is viable as a binding stopgap measure to regulate AWS. As a result, the structure of the article is trifold. The first part focuses on Article 36, the second on the non-binding guiding instruments, and finally, when both are considered together, whether Article 36 could fulfil such a stopgap role.

Keywords: *Additional Protocol I, Article 36, artificial intelligence, autonomous weapons systems, international humanitarian law*

1. Introduction

The notion that the means and methods of warfare are not unlimited has been codified since the 1868 Saint Petersburg Declaration, whereby the use of weapons that would cause unnecessary suffering or render death inevitable were forbidden due to being against the “laws of humanity” (ICRC, 1868). Indeed, the same declaration stated that the “only legitimate object” for states during wartime is to weaken the military forces of the enemy, through disabling the “greatest possible number of men” (ICRC, 1868). While it is true that the objective remains the same, the latter part of the declaration may no longer be quite true, for one might increasingly be correct in arguing that the disabling of “men” is secondary to disabling the adversary’s technology.

Friedrich Jünger (1956, p. 181) argued that technical progress and war have merged, where whoever possesses superior technology wins, and therefore the object of a modern war is to smash the opponent’s “technological potential”. In such conflicts, human casualties are an effectively unfortunate collateral, the disabling of the technological device, an aircraft, ship or missile battery is more important, therefore implicitly transforming the objective stated in the Saint Petersburg Declaration. Consequently, one might argue that autonomous weapons systems (AWS) would potentially be the culmination of this development, machines against machines, with no human involvement. This article will use the same definition as the International Committee of the Red Cross (ICRC) in its position towards an AWS, an autonomous weapon system which selects and applies force to targets without human interference (for a full definition see ICRC, 2021).

Conceivably, the image of two armies, consisting entirely of AWS, represents a tragicomedy—on the one hand, it may be an improvement that human lives are not necessarily lost, but on the other, the conflict is essentially decided economically by whichever side can sacrifice the most amount of money and resources. If there ever was a point to war, surely it was not merely to waste resources in such an absurd fashion as a future war conducted by AWS. Indeed, historically, and currently, war is a terrible and inconvenient affair, with having to convince a state's population to make the necessary sacrifices and bear the cost of it all—human, economic and societal. However, such machine-on-machine wars are in the distant future, and for the moment, AWS are still likely to be directed at humans. As technology reduces the inconvenience, at least for one side, through enabling the successful conduct of conflicts with less and less individuals, the threshold to armed conflicts may become increasingly lower. Moreover, such a situation might bring into effect the chilling observation by Robert E. Lee of the paradoxically fortunate nature of war being terrible, as otherwise humans might become too fond of it (Nagl, 2013, p. 26).

The questionable use of drones to kill could be suggested as the effect of the seeming convenience of conducting hostilities from afar, thus increasing isolation from the terrible aspects of warfare. For example, the Obama administration's "signature strikes", targeting unidentified individuals for "behaviour typical for known terrorists", as well as the killing of specific persons without a trial (Calhoun, 2021, pp. 187–188), may be considered a policy reflective of the convenience brought by remote drone killings. This may derive, at least partly, from the relative ease of execution with minimal risk of friendly casualties, therefore lowering the threshold for conducting such operations. Thus, if the current remote-control technology has had such an effect, the effects of completely autonomous weapons systems may begin to appear terrifying.

The regulation of AWS has become an increasingly topical issue, with guiding principles on AWS already affirmed in 2019 by the Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons System (GGE LAWS) and endorsed by the High Contracting Parties (HCPs) 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 (CCW, 2019, p. 5). Similarly, in May 2021, the ICRC issued its position on Autonomous Weapons Systems (ICRC, 2021). In its position, the ICRC (2021, p. 2) recommended the adoption of "new legally binding rules" for AWS. Unfortunately, at the end

of the same year, the Sixth Review Conference for the CCW Convention did not provide an encouraging result on the potential introduction of legally binding rules for AWS as recommended by the ICRC (Kahn, 2021). No consensus was reached with member states, as the United States, Russia, the United Kingdom, India and Israel were opposed to any such rules (Kahn, 2021).

Consequently, for the near future at least, the regulation of AWS will have to be accomplished through existing international humanitarian law (IHL). As there is no specific binding legal instrument targeting or prohibiting AWS specifically (Kohv & Chochia, 2021, p. 215), the regulation will therefore be reliant on existing customary international law as well as, for example, Article 36 of the Additional Protocol I (AP I) to the Geneva Conventions which regulates new weapons, for legally binding effects. Furthermore, the legal framework is complemented by the guidance of non-binding legal instruments, such as the “guiding principles” endorsed by the HCPs of the CCW Convention. While Article 36 of AP I is not necessarily the only binding IHL obligation to apply to AWS, as for example, Common Article 1 of the Geneva Conventions can be argued to apply and affect AWS (Kajander, Kasper & Tsybulenko, 2020, pp. 79–95), it is arguably the most relevant and uncontroversial to apply to AWS currently, as they are new weapons, which is the specific focus of Article 36. Therefore, Article 36 of AP I will be a primary focus here.

This paper will therefore examine the status of this legal framework consisting of Article 36 of AP I, customary international law, and non-binding instruments to analyse its viability in being a “stopgap” measure for the regulation of AWS, until a specific legally binding instrument is introduced. Hence, this paper will have a trifold structure, firstly examining Article 36 of AP I and relevant customary international law, secondly the non-binding guidelines, and finally evaluating the combined effectiveness of the framework. This paper aims to assess, on the basis of the most recent commentaries available, whether the existing customary international law and Article 36 of AP I could be sufficient to regulate AWS before a specific regulation is introduced.

2. Article 36 of AP I and autonomous weapons systems

2.1 International humanitarian law and autonomous weapons systems

As noted in Article 38 of the Statute of the International Court of Justice (ICJ Statute), the binding primary sources of international law are international treaties, customary law, and the general principles of law recognized by civilized nations. However, as often is the case for emerging technologies, for AWS, there are no international conventions that would specifically regulate them as the process of negotiating and establishing a consensus for a treaty is a time-consuming process.

Similarly, the application of customary law may prove difficult, as it is defined as the combination of established and widespread state practice in combination with a positive *opinion juris* (Pronto, 2015, p. 947). This definition compounds the difficulty in defining what exactly constitutes established customary law, owing to the differences states may have regarding the perception of established practice (Pronto, 2015, p. 947). This may make the exact scope of a customary rule, or its entire existence, challenging to define precisely. As a result, while customary law is applicable to all states, as opposed to treaty law being only binding to parties, the exact requirements of the rule may be difficult to establish conclusively, whereas, with a treaty, the requirements are likely to be clearer, owing to the codification within the treaty.

Consequently, in the case of AWS, as there is no specific binding treaty, and state practice is largely yet to emerge, the logical conclusion is to rely on existing treaty and customary law that is not specific to AWS. The third primary source of international law, the principles of law recognized by civilized nations, refers to principles generally accepted across different legal systems, which is to say the most fundamental laws of justice and injustice (White, 2004, p. 108), and, as such, it is not considered relevant in this context of AWS. However, it should be noted for clarity that the term 'principle' is used in two primary contexts in this paper, either as reference to the principle of distinction or proportionality, which are both fundamental customary law in IHL (ICRC, n.d., b, c) rather than a principle in the meaning of Article 38 (1)(c) of the ICJ Statute. Similarly, the '11 Guiding Principles on Lethal Autonomous Weapons' represent a non-binding joint position endorsed by the HCPs to the CCW Convention (CCW, 2019, p. 5),

which is non-binding and, as such, not a source of international law in the meaning of Article 38 (1)(c) of the ICJ Statute.

However, the utility of non-binding instruments, such as the ‘11 Guiding Principles’, should not be underestimated even if they are not, strictly speaking, a source of law nor legally enforceable and, as such, lack recognition (Pronto, 2015, pp. 955–955). For ‘soft law’ non-binding instruments may gradually harden into ‘hard’ binding law, or elaborate, extend, or progressively develop the existing binding ‘hard’ law such as treaties or customary law (Shaffer & Pollack, 2011, pp. 1156–1157). More importantly for the AWS context, ‘soft law’ instruments may pave the way for binding legal instruments in the future (Shaffer & Pollack, 2011, p. 1157). In the AWS context, the current *status quo* revolves around the recommendations and discussions taking place within the CCW Framework through *inter alia* the GGE LAWS, which produced the ‘11 Guiding Principles’, later endorsed by the HCPs. Similarly, the periodic Review Conferences of the CCW produced the joint declaration by the HCPs, which included the topic of AWS in the Final Declaration for the Sixth Review Conference. Moreover, the commentaries provided by states on the ‘11 Guiding Principles’, in particular, provide valuable insight into the interpretation of not only the guiding principles themselves, but of existing international law on AWS and its adequacy for regulating AWS. These commentaries may be used, for example, to gauge the willingness of states to become parties to a binding treaty on AWS, based on their views on the current IHL they consider applicable to AWS. Moreover, such commentaries may provide an insight into the likely methods of use that are considered legitimate for AWS, which may serve to establish commonalities or differences in state practice, which may have implications on the need for a specific binding instrument in the future.

Notably, the Final Declaration included a statement that the CCW is the appropriate framework for addressing the issue of emerging technologies such as AWS (CCW, 2022). The importance of the CCW Framework as the primary forum is additionally increased by the recognition of its work by the UN General Assembly in its various resolutions that mention the work conducted on AWS in the framework of the CCW, such as in 2019, when the resolution specifically welcomed the work of the GGE LAWS (UN Resolution, A/RES/74/76). Similarly, in the latest resolution on the topic, the General Assembly notes with satisfaction the meetings held by the GGE LAWS and the commitment of HCPs to continued contributions to the further development of IHL for new weapons (UN Resolution, A/RES/76/64). While UN General Assembly resolutions are not binding, nor

the Final Declaration, they nevertheless communicate a commitment that serves to legitimize the work done in the CCW Framework on AWS. That is not to say that the important non-binding instruments on AWS are limited to those produced in connection with the CCW Framework, as numerous other organizations have provided their own instruments on the topic. Most notably among them, the ICRC, whose opinions and positions, owing to its special role within IHL (Debuf, 2015, pp. 319–320), carry considerable weight. Consequently, the ICRC's position on AWS, while having no binding force nor being a source of law, is arguably nevertheless influential and significant. Other non-governmental organizations, such as Human Rights Watch and Stop Killer Robots, have additionally provided their views on the need for regulation of AWS, albeit their opinions may be said to carry less weight than those of the ICRC as they do not have a similar “special position” in the field of IHL that lends gravity to the views of the ICRC. Therefore, when examining the non-binding instruments in the context of AWS, the main focus will be on the instruments produced by the CCW Framework and the ICRC, as arguably they are the most influential.

2.2 Article 36 of AP I and new autonomous weapons systems

Lacking a specific binding instrument applicable to AWS, the logical starting point for AWS regulation is customary law, which has the benefit to being applicable to all states. The most fundamental customary law that may be considered applicable is the prohibition of using weapons that cause superfluous injury or unnecessary suffering, which derives from the Saint Petersburg Declaration (Van den Boogaard, 2015, pp. 256–257). These two rules were then subsequently incorporated into Article 35 of AP I, albeit AP I itself is not considered to be customary, its inclusion nevertheless highlights its significance as a key provision of IHL. Furthermore, it is equally customary law that indiscriminate weapons are forbidden (Chengeta, 2017, p. 80). Therefore, logically, to comply with the aforementioned customary law requirements, a state would have to establish if their arsenal would include such weapons; hence, an obligation to conduct a weapons review can be said to exist customarily (Chengeta, 2017, p. 80).

However, compared to a treaty-based obligation, a customary law obligation, such as to conduct a weapons review, is not as well defined than their treaty counterpart. Consequently, Article 36 of AP I, which can be said to codify the customary law obligation of conducting a weapons review, provides more guidance as to its interpretation. This, however, does not mean they are

synonymous. On the other hand, Article 36 itself suffers from the issue that it does not bind all states with some particularly notable military powers, such as the United States and Israel, not being bound by it (Jeglevskaja, 2018, p. 209). For example, the United States conducts weapons reviews, as they considered it as part of their customary law obligations (Chengeta, 2017, p. 67), at least until a contrary statement in 2021 in the discussions regarding AWS under the CCW Framework (CCW, 2021, p. 98). However, the same cannot be said for all states not bound by AP I, as other military powers in a similar position do not conduct systematic weapons reviews (Jeglevskaja, 2018, p. 191). Therefore, despite the existence of both a treaty-bound obligation Article 36 of AP I and, arguably, a customary law obligation, not all states feel bound by either.

For the purposes of this paper, Article 36 will be examined more closely than the customary law obligation, owing to the difficulty in accurately defining the extent of that obligation. Moreover, Article 36 of AP I seems to serve as a type of a yardstick for the states that do conduct weapons reviews, but are not formally bound, as for example the US weapons review process has been stated to be consistent with Article 36 and therefore compliant with it (Poitras, 2018, p. 494). Therefore, Article 36 will be used primarily to determine the impact a weapons review may have on AWS, even if it is acknowledged that a customary law obligation to conduct weapons reviews exists.

Article 36 of AP I requires that during the “study, development, acquisition or adoption of a new weapon, means or method of warfare”, there is an obligation to determine if its use would, “in some or all circumstances” be prohibited by AP I or “by any other rule of international law applicable” to the state. Therefore, essentially at every stage of a new weapon’s lifecycle, it is subject to the obligation to have a review conducted regarding its legality. Unfortunately, despite the obligation being imposed on every party, in practice some states rely on the weapons review procedures of other states from whom they acquire new weapons and do not conduct their own review (Rappert *et al.*, 2012, p. 781).

The extent of this issue and compliance with Article 36, is obfuscated by the fact that as per the 1987 Commentary to AP I, such weapons reviews are not required to be publicized and, as such, may remain classified (ICRC, 1987, pp. 1470–1480). On the other hand, considering the “autonomy” of an AWS is derived from its software, it is unlikely that any state would allow such software to be inspected, or details of its own inspection to be

public (Gardner, 2021, p. 92). Therefore, it appears necessary to accept the limitation that the complete details of an AWS' workings and the true extent of their compliance will be subject to a degree of speculation as the review reports are likely to remain secret, and as such the Article 36 obligation is considerably dependent on the good faith of its parties.

Considering the gravity and consequences of the decisions made by AWS, it is reasonable to argue that transparency is even more important than with conventional weapons, guided by their operator's morals and training, for if a software can decide to end a human life, it would conceivably be important that it is done both humanely and in compliance with IHL. If an AWS drone would kill based on an algorithm, developed on the already utilized real-world policy for drones that recognizes "behavior similar to known terrorists" (Calhoun, 2021, p. 188), would such a drone be suitable for the battlefield? Under Article 36 there would likely be no indication of this being publicly incorporated in the software of the AWS, as the weapons review report could be classified. Therefore, criticism would likely emerge only after human lives have been lost. Arguably this is unacceptable, and in the case of AWS there is an even higher call for transparency, at least in regard to the parameters on which such a system ends human life.

Such a right to algorithm transparency already exists in an entirely civilian context, in the form of Spanish employment legislation, under which a "works council" has the right to be informed of any parameters of a managing algorithm that may affect working conditions (Real Decreto-ley 9/2021, Art. 64.4). Consequently, considering the IHL context, AWS relate directly to matters of life and death, why should the parameters on the basis of which an AWS decides to end a human life remain secret? From a perspective of protecting civilian lives, it may be lifesaving information to understand what AWS are looking for when deciding to use force, which Article 36 is not able to provide.

Indeed, the problems associated with the "brittleness" of artificial intelligence (AI) have been noted, whereby it lacks fundamental understanding as well as that of context, and can effectively be trained for only specific and well-defined tasks (Gardner, 2021, pp. 90–91). As a result of this lacking understanding, some AI systems have been notoriously easy to trick, such as by using strips of tape to trick an autonomous vehicle of the speed limit. This is possible as the AI does not truly understand what it is identifying, merely detects criteria such as textures and gradients of an image or the light reflectiveness of an object. (Gardner, 2021, pp. 90–91) Due to this, for

example, the US military insists on human oversight, as an adversary could take advantage of this limitation and in the case of civilians, disastrous misidentifications could happen (Gardner, 2021, pp. 91–92).

However, this reality further emphasizes the importance of increasing transparency regarding AWS so that civilians can do their best to avoid such misidentifications, even if they should be protected by definition under IHL (ICRC, n.d., b). Nevertheless, presently it must be admitted that no such transparency obligation can be derived from the existing legal framework, and therefore, such improvements would have to wait until a specific instrument is introduced.

2.3 The applicability of Article 36 to AI

The question of whether Article 36 of AP I applies to AWS is not entirely clear-cut either. As expressed by Dr. Patrick Lin and elaborated by Dr. Thompson Chengeta, where is the “crossover” point where an “enhanced” human will be subject to a weapons review and, by contrast, an AWS be considered a “combatant” to whom the weapons review obligation does not apply (Chengeta, 2017, p. 77). As argued by Dr. Chengeta (2017, p. 80), a weapons system remains under Article 36 as long as it is under “direct, meaningful human involvement and effective control”. However, he further argues that under the current international law, an AWS nevertheless could not be considered a “combatant” as they are not “a human of sound mind and legal age, capable of taking responsibility for their actions” (Chengeta, 2017, p. 81). However, arguably, the best definition for a “combatant” resides in Article 43(2) of AP I rather than an instrument restricting the use of child soldiers. The argument for this interpretation is based upon the fact that AP I contains both the definition of a combatant in Article 43(2) as well as a prohibition on the use of child soldiers in Article 77(2). Notably, they are separate, which in this context ought to be interpreted as the first (Art. 43) defining the concept of a combatant, and Article 77 representing a specific prohibition on recruiting children under the age of 15 to become members of their armed forces (combatants as per Art. 43). Therefore, the case of child soldiers represents a specific prohibition as to who (or what) cannot be members of a HCP’s armed forces. Therefore, any subsequent instruments further reinforcing the prohibition, such as Article 8(2)(xxvi) of the International Criminal Court Statute and Article 38 of the Convention on the Rights of the Child, cannot be considered to define the term combatant in a manner whereby *only* humans can be combatants.

For if Article 43(2) of AP I is interpreted in accordance with Article 31(1) of the Vienna Convention on the Law of Treaties, it is unambiguously clear that “members” of the armed forces, with the listed exceptions, are classified as combatants. There is no reference to any requirement of being a natural human being, perhaps because at the time the notion of a non-human entity with a mind equal to that of a human, such as an AWS, was far-fetched. Consequently, if an AWS is classified by a military as a “member”, it would therefore logically be classified as a combatant as per the definition of Article 43(2) of AP I. In fact, even a bear, Wojtek, became an officially enlisted member of the Polish Army during the Second World War (Forsyth, 2017, p. 496), which arguably under the above rules would have made him a combatant, as on paper he was just another private and later corporal (Tousignant, 2021).

It is therefore not completely absurd that this would be the case in the future with AWS, as already there are discussions of providing AI systems an identity distinct of natural and legal persons (see, e.g., Avila Negri, 2021). Thus, it is no large leap to suggest a military might change its definition of “members” to both natural human beings as well as a legal identity specifically provided to advanced AI systems, such as AWS. In such a situation, it is not unreasonable to suggest that such systems would be classified as “combatants” and, as such, be outside the scope of Article 36 of AP I.

Moreover, the nature of the AI integration into a weapons system may itself be the source of ambiguity in regard to the weapons review obligation of Article 36. Previous considerations aside, it could be reasonably straightforward to suggest that a purposefully built entirely new AWS would warrant a review, the situation may be more ambiguous with an existing weapons system that is autonomized. For example, if an existing armored vehicle would be “converted” to be autonomous, or partially autonomous, the question may arise if it should be subject to a new review, as after all mechanically the weapons are the same, the difference being that the vehicle is now possessed by a “machine spirit” of software rather than humans. In the case of the T-14 Armata tank, the turret is already unmanned, and the tank itself has been tested in an unmanned configuration, albeit remotely controlled rather than autonomous (Suciu, 2020). Therefore, if the turret which includes the actual weapons would be autonomized with a human driver still remaining in the vehicle, would the tank have to be legally reviewed again under Article 36? Or, perhaps even more curiously, if the vehicle was driven autonomously but the actual weapons remained under the control a human?

While Article 36 of AP I considers essentially all the stages of the introduction, or potential introduction, of a new weapons system, that is, the study, development, acquisition and adoption, it does however only apply to “new” weapons, means or methods of warfare. If an existing weapons system is autonomized, the “weapons” themselves are hardly new, therefore, logically, in such a situation one should look at the new autonomized weapons system as either being a new “means” or “method” of warfare. What exactly the two terms encompass is controversial, with some who interpret Article 36 narrowly, considering that it only encompasses physical weapons (Rappert *et al.*, 2012, p. 782). However, if the 1987 Commentary is examined, it elaborates on the phrase “methods and means” in the context of Article 35, which, considering the wording is the same, can be extended to Article 36. In essence, the Commentary states that weapons in the “widest sense” are to be included in the term “means and methods”, which includes both the weapon itself as well as how it is used (ICRC, 1987, p. 1402). Therefore, it is reasonable to state that not only the physical weapon itself is included, but additionally also the way it is employed, for which autonomous usage would arguably qualify.

Consequently, at least until militaries recognize AWS as “members” of their armed forces, it is reasonable to argue that at least fully autonomous weapons systems are within the scope of Article 36. However, the question arises what regulatory effects will it have on AWS? Certainly, it could be argued to address the first concern mentioned in the ICRC’s position on AWS—the forbidding of “unpredictable” systems. For reviews under Article 36 are intended to prevent weapons which are indiscriminate and therefore contrary to Article 51(4) of AP I from being utilized on the battlefield. On the other hand, reviews under Article 36 will not address other concerns raised by the ICRC, such as using AWS to target humans, requiring human-machine interaction or limiting targets, duration or situation of the use of AWS (ICRC, 2021, p. 1), provided these are not indiscriminate or cause unnecessary suffering or superfluous injury. Therefore, reviews under Article 36 can be expected to prevent indiscriminate AWS from being utilized, however other concerns such as requiring human interaction or ethical concerns specific to AWS remain outside the scope of Article 36.

3. Non-binding instruments and autonomous weapons systems

3.1 The non-binding status quo

Positions regarding the legality of AWS, interpretations of the current IHL framework to them, and even outright banning them have been put forth by a variety of states and non-governmental organizations. Chiefly among the latter, the ICRC published their position on AWS in May 2021, which explicitly recommended that new legally binding rules be adopted on AWS (ICRC, 2021, p. 2). The position of ICRC contained three primary recommendations, firstly ruling out unpredictable AWS, secondly prohibiting the use of AWS that target human beings, and thirdly limitations to non-prohibited AWS design and use (ICRC, 2021, p. 2). In addition, the coalition of non-governmental organizations known as UK Campaign to Stop Killer Robots (2021, p. 1) similarly put forth a document urging for a legally binding instrument to be made to ban AWS. However, amongst the states themselves, there are highly conflicting views on what, if anything, ought to be done in terms of the regulation of AWS (Human Rights Watch, 2021, pp. 3–5).

The primary framework among states for discussions regarding the regulation of AWS is that of the CCW, under which there is the GGE LAWS as well as the Review Conferences between the member states themselves. This resulted in ‘11 Guiding Principles’ on AWS being endorsed by the HCPs (CCW, 2022, p. 8), which affirmed the applicability of IHL to such systems (CCW, 2021, p. 13). In the latest, the Sixth Review Conference, the HCPs “solemnly” declared that IHL applies to all weapons systems including AWS, and AWS that cause superfluous injury, unnecessary suffering, are “inherently” indiscriminate or otherwise unable to be used in accordance with IHL must not be used (CCW, 2022, p. 8). Which was an underwhelming declaration, considering that it is in essence repeating established customary law, and therefore scarcely changes the *status quo* from what it already was based on existing applicable law.

However, going beyond the *status quo*, the HCPs did declare that a human “must at all times remain accountable” for use of force decisions (CCW, 2022, p. 8). Nevertheless, a cynic might argue that it only means that should an AWS violate applicable IHL, a pre-designated scapegoat, who may not have been able to influence the conduct of the AWS in practice, will be held accountable. Moreover, the wording itself does not prevent an AWS from

acting on its own accord, only that a human is accountable for any violations, which could be said to undermine the impact of the declaration. For example, if “human” involvement is limited to defining the area of operations, targets in general (such as vehicles rather than personnel) and duration, with the AWS left to decide when to strike targets within those parameters, the meaningfulness of the involvement can be questioned.

This type of proposed “human involvement” is detectable from the submission of the United States (US) to the GGE LAWS regarding the guiding principles. In the submission, it is noted that AWS may engage targets not expressly intended by a human operator when activating the weapons system (CCW, 2020, p. 95). They further hold that the principle of distinction can be upheld by the commander by using such AWS in “areas that constitute military objectives”, as well as if the expected loss of civilian life is incidental and not excessive in comparison to the military advantage gained, as can be expected based on the information available (CCW, 2020, p. 95). Nevertheless, “feasible precautions” are mentioned that must be taken, that “may” include warnings to civilians, monitoring of the AWS, or employment of self-destruction or deactivation mechanisms. Overall, this could, in practice, result in AWS patrolling a set area absent of supervision, striking targets at will, with potentially only a warning in advance to civilians whose lives may be lost if they are “incidental”. The US is not alone in this vision, as a similar sentiment was detectable in the French submission (CCW, 2020, p. 44). The ICRC strongly recommended that the AWS that target human beings should be prohibited on ethical grounds as well as to “safeguard” humanity (ICRC, 2021, p. 9), which arguably seeks to prevent the aforementioned hypothetical scenario, even if it would be compliant with the CCW Guiding Principles point (c) as it would retain human-machine interaction.

Before the argument is raised that an AWS targeting vehicles is not targeting personnel and therefore is not an “anti-personnel” AWS, which the ICRC position refers to, it should be considered that even if the objective of modern war is to smash the opponent’s technology, it is nevertheless for the foreseeable future done at the cost of human lives. Therefore, one should not be tricked by a seeming distinction between targeting (occupied) “vehicles” or other manned equipment as being distinct from an anti-personnel usage. This distinction is noticeable in the ICRC position (ICRC, 2021, p. 5), which recommends the prohibition of “anti-personnel” AWS (ICRC, 2021, p. 9). In the position, it is noted that the ICRC is unaware of any “anti-personnel” AWS in use, besides anti-personnel landmines; however, in the previous sentence,

it is noted that AWS are “generally used” to target projectiles, aircraft, naval vessels, radars, tanks or other military vehicles (ICRC, 2021, p. 5). Thus, there is an implication that the targeting of aircraft, naval vessels, tanks, or other military vehicles is distinct from an anti-personnel usage. However, if such devices are occupied (by human crews), their “disabling” through a use of force is liable to cause human casualties. Thus, it might be prudent to forgo the well-established term ‘anti-personnel’ as even its dictionary definition upholds the aforementioned distinction between targeting humans in vehicles or buildings versus just humans (*Cambridge Dictionary Online*, n.d.), and instead introduce a new term that would refer to the taking of any human life, such as “life-ending” AWS.

For one should not be blinded by the notion that if an AWS is merely targeting “vehicles”, it would not amount to an anti-personnel system. The price for mistaken identities in warfare is provably high, as demonstrated when a Russian 9M38 BUK surface-to-air missile system shot down what they at least pretend to think was a Ukrainian AN-26 transport plane, which in truth was the civilian Malaysia Airlines MH17 passenger aircraft (Tsybulenko & Kajander, 2021, p. 182). Consequently, anti-vehicle AWS, such as anti-air systems, are capable of being as deadly as dedicated “anti-personnel” systems, making the distinction appear in this context a pointless euphemism.

Consequently, if AWS were limited to roles where they would not, under any foreseeable circumstances, cause a loss of human life, the “ethical considerations to safeguard humanity”, mentioned in the ICRC position, would arguably be better protected, for only humans could make the decision to end another’s life. Upholding an artificial distinction between the targeting of human occupied vehicles and “anti-personnel” usage as distinct entities arguably weakens the recommendation for no “anti-personnel” AWS. While a prohibition of “life-ending” AWS would limit their utility, which would hamper the derivable military advantage, there would still be a multitude of uses, such as logistical, intelligence gathering and missile defense roles. However, states would likely be unwilling to part with such military advantage unless their perceived adversaries do so as well.

3.2 Limitations of non-binding instruments

There is a consensus among the states that the CCW provides the appropriate framework for dealing with questions related to AWS, and to continue their efforts in this regard. This is a positive development as there is no disagreement over the primary forum, as could happen, for example, with the division notable on the applicability of international law in cyberspace with multiple forums for discussion, such as the Open-Ended Working Group and the closed United Nations Group of Governmental Experts (Colatin, n.d.). Consequently, even if the *status quo* is yet to depart from the existing binding obligations of IHL, the agreement on a single forum arguably considerably simplifies the procedure for developing a binding instrument, should the states so decide.

On the other hand, considering the CCW framework, a state is defined as becoming a party if they sign at least two (CCW Convention, Art. 4(3)) of the five protocols. Hence, if an AWS protocol was to be added, it could be ignored by the states. Indeed, only 96 states have become parties to the Fifth Protocol on the explosive remnants of war (ICRC, 2003), which is a sharp contrast to, for example, the first protocol, which has 118 parties (ICRC, 1980). Nevertheless, as was noted with the blinding laser weapons, the customary law was not sufficient on its own to prohibit them, even if the argument for superfluous injury or unnecessary suffering was well-founded, but rather it took the Fourth Protocol to bring about a practical change (Jeglevskaja, 2018, p. 219). This is in contrast to the issue of small caliber bullets that have a similar effect to prohibited expanding bullets, thereby arguably causing superfluous injury as well (Tsybulenko & Platonova, 2022, pp. 17–18). They are still in use, as they lack a binding legal instrument (Tsybulenko & Platonova, 2022, pp. 17–18), such as was introduced for blinding laser weapons, and, as such, it appears that in practice it is crucial to have a specific legal instrument. Hence, the extension of this logic would speak heavily for a Sixth Protocol on AWS, which would represent at least a strong and binding statement on the regulation of AWS if a considerable number of states became parties to it.

On the other hand, the fate of the Treaty on the Prohibition of Nuclear Weapons (TPNW) should be kept in mind, which, while delivering a statement by some states in rejecting nuclear weapons, failed to attract any nuclear weapon wielding state or their closest allies (Ifft & Koplow, 2021, p. 134). Considering that the first to relinquish one's nuclear weapons puts a state at a disadvantage vis-à-vis their perceived opponents, a situation

arises where, unless all states agree to abandon their nuclear weapons at the same time, this is unlikely to occur, as being the first incurs a disadvantage. Hence, it may be unrealistic to expect states to comply with the ICRC's recommendation of not utilizing AWS that use lethal force, if they perceive there would not be suitable guarantees of their opponents doing the same simultaneously. Therefore, the importance of a consensus on the abandoning of lethal AWS would arguably be a pre-requisite to a binding treaty of appreciable impact.

However, despite the initial optimism of “converging opinions” in the CCW framework on AWS, as was expressed in the ICRC position paper (ICRC, 2021, p. 1), the outcome of the Sixth Review Conference dashed the hopes of a binding treaty on AWS for the moment (Kahn, 2021). Therefore, overall, the CCW framework and other non-binding instruments appear to have produced only very moderate results in additional regulation of AWS. Arguably, the current guidelines are still incredibly susceptible to alternative interpretations, as demonstrated by the interpretations of the requisite level of “human-machine” interaction of AWS. However, there are areas of convergence, such as a seeming agreement that AWS should not be anthropomorphized (GGE LAWS, 2021, p. 17).

Interestingly, in the GGE LAWS submissions, an underlying controversy could be detected regarding Article 36, whereby for example Russia considers it to be customary international law (GGE LAWS, 2021, p. 77), whereas the US explicitly states that in their opinion it is not (GGE LAWS, 2021, p. 98). This would appear to contradict the earlier view that the US did consider weapons reviews to be part of customary international law (Chengeta, 2017, p. 67). One may therefore wonder why should this position change and in this context? A closer examining of the US position reveals that there is another interesting statement which claims that autonomy in weapons systems is not “necessarily new”, and that autonomous functions have been used for decades (Chengeta, 2017, p. 98).

Moreover, in the US submission regarding good practices for the legal review of weapons, it is noted that the review should consider if the weapon is illegal, that is, its use is prohibited in all circumstances. Curiously, emphasis is placed on whether the weapon is “inherently indiscriminate” or whether it could be used in accordance with the principles of distinction and proportionality. Moreover, it is put forth that the AWS could be compared to existing weapons systems and that its effects in different operational contexts should be considered. (Chengeta, 2017, p. 98) Overall, taken together, the

“good practices” appear to both downplay the novel nature of AWS as well as convey that an AWS would be rejected through a weapons review only with great difficulty, if there is no conceivable “operational context” where it could be legal.

The language is troublingly similar to that in the context of nuclear weapons, which are equally not forbidden *per se* by customary law and, as such, are subject to the same limits as any other weapon. As the US has nuclear weapons, in their opinion there are evidently contexts in which they would not be indiscriminate (ICRC, n.d., a). Consequently, if the same permissive attitude is applied to AWS, the result may be the adoption of AWS that could be essentially indiscriminate, barring highly specific operational contexts, which would arguably not be a desirable outcome. Furthermore, with this view in mind, one may begin to further wonder if the denial of the customary nature of weapons reviews, which arguably gives more freedom to the state itself to interpret the permissible limits of their weapons systems, is a calculated pre-emptive step against arguments of legality over “controversial” AWS that may be adopted in the future.

These seeds of doubt highlight the issue of non-binding guidelines and emphasize the importance of the ICRC’s recommendation to adopt binding legal rules. For, as the “guiding principles” are just that, “guiding” rather than binding, they are both subject to considerable interpretation as well as the possibility of disagreement as may be necessary to maintain a military advantage. Consequently, considering both the very moderate advances provided by the CCW framework on AWS and the cautious and precarious nature of the commitments by the states to the principles, their overall effectiveness to bring about “real” noticeable change can be brought into serious question.

4. A sufficient stopgap?

The most unfortunately striking aspect of the comparison between Article 36 of AP I and the non-binding instruments examined is their considerable overlap, which in this instance is not a positive attribute. For Article 36 of AP I effectively codifies customary law and provides arguably the most basic requirements for new weapons that they do not cause unnecessary suffering, superfluous injury or be indiscriminate. While the potential for indiscriminate usage in AWS has been cited as a concern, other fundamental

concerns, such as whether an AWS should be allowed to take human life, are outside the scope of customary law, as those issues are specific to AWS themselves. Consequently, an established and, therefore, older legal framework is arguably poorly equipped to address the specific controversies associated with a paradigm-shifting technology such as AWS.

As a result, when the non-binding instruments effectively mirror the existing law with only the slightest of advances, in this case, the admission that a human should ultimately be responsible for the actions of an AWS, and that AWS should not be anthropomorphized, the situation leaves much to be desired. For the concerns raised, for example, by the ICRC are largely unaddressed, as there appears to be almost no prospect of a binding legal instrument on AWS in the near future nor a consensus on preventing AWS from taking human life (Human Rights Watch, 2021, p. 5). Therefore, while there is a reasonable expectation that future AWS would not cause unnecessary suffering, superfluous injury, or be indiscriminate, and a human would be responsible for their actions, there is little else on which there is widespread agreement, especially among leading military powers, to warrant a conclusion that the major specific concerns related to AWS would be reasonably addressed by the existing legal framework.

Moreover, the shadow cast by the disappointing TPNW is long. For while numerically there are many states that agree that a binding treaty is needed (Human Rights Watch, 2021, p. 4), and that AWS should not take human life (Human Rights Watch, 2021, p. 5), the crucial opposition of especially some of the permanent UN Security Council Members (ICRC, 2021, p. 2) brings about fears of a repeat performance of the TPNW. If a binding treaty was to be introduced now, without the states that already field AWS or intend to do so in the future as parties, not only would this repeat the mistakes of the TPNW, but additionally result in something of a crisis of ethics and humanity. If in such a hypothetical world, a state party to the fictional Treaty on the Prohibition of AWS was to engage in a conflict with a non-party, the resulting conflict of human vs machine, with bloodshed only on one side, would be an unprecedentedly perverse affair. One side risking life and limb while the other only risks their invested capital in the machines.

Regardless of how humanely or fairly the algorithms would choose to end human life, it would represent the irrevocable “crossing of the Rubicon”. Once such convenience is introduced into warfare, there would arguably be an increasingly lower threshold for further conflicts, for as Robert E. Lee noted, it is the abhorrent nature of war that prevents humanity from

becoming too fond of it. While AWS have been compared to nuclear weapons, they are, arguably, foils to each other. The effects of a full-scale nuclear war are catastrophic to both the environment and humans, creating considerable aversion to such mutually assured destruction. By contrast, AWS offer the exact opposite, they encourage their use through their convenience, with the siren calls of efficiency, lack of bloodshed (on the user's side) and military advantage. Friedrich Jünger (1956) proposed that the desire for convenience has spurred industrialization and the replacement of humans with machines, however, warfare is a realm that ought to be forever free of convenience, lest humanity become too fond of it.

These ethical concerns of machines ending human life, raised by, among others, the ICRC in their second recommendation (ICRC, 2021, p. 2), remain currently solely in the realm of non-binding guidelines and discussions. As such, they are entirely subject to the opinions of states, which may change as technology develops, as they are not of a binding nature. Hence, as there is considerable disagreement as to whether the current IHL framework is sufficient to regulate AWS, the hope that a consensus would appear on the complex ethical issues that may come with significant military disadvantages seems unrealistic after the Sixth Review Conference.

This is particularly evident when examining the primary areas of convergence, which go beyond what is already incorporated in customary law, and the agreement that a human should always be ultimately accountable, and that AWS should not be anthropomorphized. Neither of these requires arguably much sacrifice of military advantage, especially when compared to the proposed prohibition of life-ending AWS. For human accountability does not prevent in practice an AWS from engaging on its own accord. Similarly, the agreement that AWS should not be “anthropomorphized” merely requires that the AWS be considered a tool rather than a “person” and, as such, the responsibility for its actions falls on a human. By contrast, if AWS were prohibited from targeting humans, they could no longer directly contribute to the original legitimate object of warfare the “disabling the greatest possible number of men” (ICRC, 1868), entailing a considerable sacrifice of military advantage.

Therefore, the non-binding guidelines have not strayed far from the existing binding legal framework, and, perhaps more importantly, as of yet have not required any significant sacrifice of the military capabilities of AWS. As a result, it is reasonable to conclude that it would be unlikely that in the future the non-binding guidelines would be able to entice all states to

collectively sacrifice military advantages derivable from AWS, as doing so would put them at a perceived disadvantage. Consequently, the current legal framework, including the non-binding guidelines, are able to provide only the most barebone guarantees codified in IHL and consensus on those concerns specific to AWS that do not require considerable sacrifice. Therefore, while AWS are not technically unregulated, their more controversial and difficult special issues appear out of reach for the current framework, which is its most significant shortcoming.

As a result, the evaluation of whether the current framework is a sufficient stopgap depends considerably on the pre-existing views of the evaluator. For, if one is satisfied with the basic tenets of IHL being respected, combined with a reasonable certainty that AWS will not exist in a blind spot of accountability, the current framework is, arguably, a sufficient stopgap. On the other hand, if one considers that the notion of AWS taking human lives represents an ethical crisis and a departure from the principles of humanity, the current framework is not sufficient. Furthermore, the current framework will not prevent the now seemingly inevitable first human life to be lost to purely an AWS' decision.

5. Conclusions

Article 36 of AP I is intended to ensure that new weapons are not without regulation, and to reinforce the message that the means and methods of warfare are not unlimited. For AWS, the lack of a specific binding legal instruments on their use and development has highlighted its importance in the current IHL framework. However, as it is a general instrument that is effectively technology neutral, it is incapable of addressing controversies that are specialized to a particular type of weapons system. For AWS, controversies include the possibility that an autonomous entity could be allowed to end human life, which entirely reshapes the notion that weapons are tools and merely convey the actions and intentions of other humans.

Therefore, while Article 36 of AP I is able to provide basic guarantees regarding AWS, such as the prevention of unnecessary suffering, superfluous injury, and indiscriminate usage, it cannot address the ethical considerations attached to AWS specifically. Lacking a binding treaty on the matter, and with the hopes of such a treaty in the near future being dashed after the Sixth Review Conference (Kahn 2021), the non-binding instruments could

have potentially filled this gap. However, in reality there is a considerable lack of consensus among states on many key aspects specific to AWS.

Even the notion that AWS warrant a binding legal instrument, as recommended, for example, by the ICRC, lacks consensus. Therefore, it is not surprising that ethical dilemmas brought about by AWS, such as whether an AWS should be prohibited from ending human life, equally lack consensus, as such prohibitions would require the sacrificing of the military advantage derivable from AWS. Moreover, even on the aspects that go beyond the existing binding legal framework and a relative consensus exists on, such as a human ultimately being accountable for the actions of an AWS, some interpretations render the principle itself as almost irrelevant in practice and effectively mitigate any potential loss of military advantage.

Furthermore, the lack of transparency, for example, caused by the lack of an obligation to make the results of weapons reviews public under Article 36 of AP I, additionally results in a situation where the capabilities and degree of compliance will remain unclear until their introduction to the battlefield. Moreover, as there is considerable room for interpretation even within the guidelines and principles themselves, it would appear likely that the development of AWS will be influenced chiefly by considerations of military advantage. As a result, the international community must currently rely on the good faith of the states that develop AWS on their future compliance.

Thus, the combined legal framework consisting of both binding instruments, such as Article 36 of AP I, and the non-binding guidelines can provide only the most bare-bones regulation to AWS. The specific ethical considerations, or other divisive aspects that require a sacrifice of military advantage, are not reasonably within the grasp of the current framework. The current framework, for example, will not prevent the first human life from being ended by the decision of an AWS. Whether or not this is sufficient regulation is a matter of opinion with those wishing further regulation having to continue the encouragement of converging state opinions and a binding treaty on the matter.

Consequently, current legal framework of Article 36 of AP I and the non-binding instruments are incapable of preventing the use of AWS in the future or addressing ethical concerns, such as their use against humans without a binding treaty. Furthermore, the transparency issue related to weapons reviews arguably exacerbates this situation as the true capabilities of the AWS will not be on public display until their first use in a conflict,

which forces humanity to collectively hope that each state acts responsibly in regard to their AWS programs, with little means of verifying their compliance in advance. Therefore, the current legal framework is able to only provide the most basic of guarantees that the AWS will not cause superfluous injury, unnecessary suffering, or be indiscriminate. Whether this is sufficient is a subjective matter, but it would appear that the further introduction of convenience to warfare would only worsen the tendencies that remote control drone strikes have already brought out. Hence, those wishing further regulation ought to pursue the introduction of a binding treaty on the subject of AWS.

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