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## ***KILLED BY ROBOT OR HUMAN: CONSIDERATIONS ON AUTONOMOUS WEAPONS SYSTEMS AND HUMAN DIGNITY***

*The emergence of autonomous weapon systems (AWS) has raised a number of concerns. In addition to issues related to the capability of these weapons to conform to the principles of international humanitarian law, primarily the principles of distinction and proportionality, concerns have also emerged regarding their compliance with human rights law. In this context, respect for human dignity has been cited as one of the major arguments against the use of AWS. The paper examines arguments for and against using the concept of human dignity as a rationale for prohibiting AWS. It demonstrates that those who oppose completely banning AWS do not necessarily believe that AWS conform to human dignity; rather, they offer different reasons why solutions other than total prohibition may be more appropriate. Finally, the paper explores whether implementing “meaningful human control” could bridge the gap between opposing standpoints on AWS and help resolve the human dignity dilemma.*

**Key words:** *Autonomous weapons systems. – Human dignity. – Human rights. – International humanitarian law. – Meaningful human control.*

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## 1. INTRODUCTION

The rapid evolution of artificial intelligence has influenced practically every aspect of human life, including warfare. The emergence of autonomous weapons systems (AWS) not only broadened the spectrum of available weapons, but made it possible for humans to be completely replaced by machines. A scenario in which machines fight humans, or the one in which machines fight each other, has now become realistic and is – to a certain extent – already materializing (UN Panel of Experts 2021).<sup>1</sup>

The exact meaning of the term AWS is still a matter of discussion. So far, no internationally agreed definition has been accepted (see Sharkey 2019, 75; Schmitt 2013; Taddeo, Blanchard 2022), making it difficult to delineate between various weapons technologies with autonomous functions – a differentiation that may have important implications for a legal regulation of these technologies. Nonetheless, it appears that all the relevant international actors discussing AWS have found a common ground on the essential features of AWS, agreeing that AWS are those “weapons that can independently select and attack targets”, i.e., weapons that “have autonomy in the ‘critical functions’ of acquiring, tracking, selecting and attacking targets” (ICRC 2014).

The emergence of autonomous weapons is a relatively new phenomenon. Although the first weapon systems with autonomous functions date back to the mid-20<sup>th</sup> century, the more advanced ones have been in use since the 2000s (Work 2021). Their employment introduced diverse challenges: strategic, military, ethical, and legal. Strategic concerns mainly include proliferation of autonomous weapons, arms race, and, most of all, an enhanced risk of conflict escalation (Rosert, Sauer 2019, 370). Surely, states could resort to force much more easily knowing that robots would wage war instead of human soldiers and that there would be no human casualties on their part (Amoroso, Tamburrini 2020, 1–20). From the military point of view, some issues arise, such as the nonexistence of a traditional chain of command, while ethical concerns are focused on the dehumanization of war (Amoroso, Tamburrini 2020). In the legal domain, most discussions so far have revolved around the (in)ability of AWS to adhere to the principles of international humanitarian law (IHL), namely the principles of military necessity, proportionality, precaution, and distinction.<sup>2</sup> Particularly, the inability of AWS to differentiate between combatants and civilians has

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<sup>1</sup> For the first time, the UN reported on the use of AWS in Libya in 2020.

<sup>2</sup> For more, see Winter 2022, 1–20; Sassóli 2014, 308–339.

often been voiced as a major argument in support of placing a complete ban on their use (Docherty 2012). There are numerous situations, such as those in which soldiers are *hors de combat* or children are climbing on decommissioned tanks, in which machines are considered to be incapable of determining legitimate targets, at least for the time being (Sparrow 2016, 98; Sparrow 2015, 699–728).

Observing the compatibility of AWS with the tenets of the law of armed conflict is crucial, yet insufficient. Limiting a discussion on these issues reduces the issue to the technical capabilities of AWS. The reasoning is then as follows: since AWS lack technical sophistication to act in a manner compliant with the principles of IHL, their use should be prohibited. The majority of the existing research indeed shows that at the present AWS do not possess capabilities to act in line with the said principles (Winter 2022). It is, however, believed that, since the technology is constantly advancing, in a not-too-distant future they will be able to conform to these principles (Winter 2022; Kahn 2022). However, the debate on AWS does not end there.

Article 36 of the Additional Protocol I to the 1949 Geneva Conventions, which regulates “new weapons”, points to extending the debate beyond the compliance of AWS with IHL. It places an obligation on its states parties to determine whether new weapons, means and methods they use are in compliance with the said Protocol or any other rule of international law applicable to that state.<sup>3</sup> This implies that AWS should be reviewed in light of all the relevant international law rules.

The present paper observes AWS in the context of human rights law, more precisely in relation to human dignity, as a cornerstone of all human rights. Firstly, it will be demonstrated that human rights law applies to the use of AWS, both within armed conflict and in situations other than armed conflict. AWS will then be observed in relation to human dignity, stressing the arguments in favor and against placing human dignity at the center of the debate on the permissibility of the use of AWS. The concept of meaningful human control, which entails retaining human supervision over the use of AWS, will then be discussed with the aim of assessing whether its application could resolve the dignity issue. In the conclusion, we will try to answer the question whether human dignity should be taken as a self-

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<sup>3</sup> Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I), UNTS, No. 17512, vol. 1125, 3. For more, see Daoust, Coupland, Ishoey 2002.

sufficient argument for the ban of AWS, i.e., whether it is justified to ban AWS solely based on the argument that they are against human dignity, regardless of the other circumstances underpinning their use.

## 2. APPLYING HUMAN RIGHTS LAW TO THE USE OF AWS

The use of force by AWS against humans can occur in various contexts. What first comes to mind is the context of an armed attack – and rightly so. As AWS are primarily being used in combat, examining their compliance with the rules of IHL seems justified. Yet, it is necessary to assess the permissibility of AWS from a wider perspective, observing the compatibility of their use with the rules of human rights law, regardless of whether these weapons are used in armed conflict or outside of it.

Human rights law applies to the use of AWS in three different situations: first, in the case of an armed conflict, in the case of conflicts that have not reached the threshold of an armed conflict (such as fighting terrorism), and in law enforcement actions (Heyns 2014).

In case of an armed conflict, both human rights law and IHL apply, protecting similar principles and interests (Saxon 2016, 183) and taking the concern for human dignity as their starting point.<sup>4</sup> Human rights law applies complementary to IHL, i.e., it represents the *lex generalis*, as opposed to IHL, which is the *lex specialis* (Mačák 2022, 1–27).<sup>5</sup> A well-known general principle of law – *lex specialis derogat legi generali* – implies that it is the IHL which has a primacy in application here. This is not to say that the IHL will precisely derogate human rights law – as the above maxim does not necessarily imply that there is a conflict of rules (Koskeniemi 2006) – but rather it serves as a means of its interpretation (Droege 2008, 522). For instance, human rights law guarantees the right to life, according to which no person shall be arbitrarily deprived of their life. This guarantee applies likewise in armed conflict and in peacetime. However, what arbitrariness

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<sup>4</sup> ICTY, case IT-96–21-A, *Prosecutor v. Delalić et al.* Judgment. 20 February 2001, para. 149.

<sup>5</sup> ICJ, *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, 8 July 1996, para. 25; ICJ, *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, Advisory Opinion, 13 July 2004, para. 106; ICJ, *Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v. Uganda)*, Judgment, 19 December 2005, paras. 215–220.

means in the context of an armed conflict will be judged by the applicable IHL. Specifically, whether the loss of life is arbitrary, due to a use of a particular weapon, is a matter of IHL, rather than human rights law.<sup>6</sup>

Generally speaking, requirements stemming from human rights law are stricter than those of IHL, meaning that the use of AWS outside of the context of an armed attack will be assessed more rigorously than within it. This can again be exemplified by the right to life, which is more rigorously protected by human rights law than by IHL. The latter distinguishes between combatants and civilians, providing that civilians enjoy protection, whereas combatants may lawfully be targeted and killed, regardless of what they do. Human rights law, on the other hand, conditions the deprivation of life with specific behavior on the part of a person killed. General comment 36 on the right to life, to Article 6 of the International Covenant on Civil and Political Rights, therefore states that taking a person's life is permitted if it is an act of self-defense (CCPR/C/GC/36, 2019), while the Article 2 of the European Convention on Human Rights similarly specifies actions, such as "unlawful violence", which justify the application of lethal force.

In cases other than armed conflict, such as anti-terrorism actions or law enforcement actions, IHL is not applicable, and solely human rights law applies. When law enforcement officers (and much less often military officers involved in law enforcement operations) perform their duties, they are allowed to use lethal force only exceptionally. Limitations on their use of force are in principle not related to the weapons they use (OHCHR 1990), as it is generally considered that weapons that are illegal under IHL are also illegal in law enforcement operations, but are related to particular situations, that is, to the existence of specific grounds for their use.

Regardless of the context of their use, the employment of AWS may infringe upon a number of human rights. First and foremost, it may infringe upon the right to life, as the most fundamental, "supreme right", from which no derogation is permitted (HRC GC 6 2019). Other rights, such as the right to liberty and security of a person, the right against inhumane treatment, the right to administrative action and the right to a remedy may be violated

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<sup>6</sup> Legality of the Threat or Use of Nuclear Weapons, para. 25. See also: Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, para. 106. In *Democratic Republic of the Congo v. Uganda*, the ICJ did not mention *lex specialis / lex generalis* distinction, but it did confirm that both IHL and human rights law were applicable in the conflict (*Democratic Republic of the Congo v. Uganda*, para. 179).

as well (Heyns 2014; *A Hazard to Human Rights*, 2025). And finally, human dignity, as a cornerstone of all other human rights, may be violated when machines replace humans in life-and-death situations.

### **3. AWS AND HUMAN DIGNITY**

#### **3.1. Human Dignity – an Elusive Concept, a Recognized Right**

Most people would say that they intuitively know what human dignity is. In spite of that, the exact meaning of the term is not easy to determine (Sharkey 2019, 83; Chengeta 2016). First of all, human dignity is not a static concept, but a dynamic one (Birnbacher 2016, 105–121). It changes over time and across different jurisdictions, and is often open to interpretations (McCrudden 2008, 655). It is sometimes described as a “conversation stopper”, as people have a tendency to read their own preferences into it (Heyns 2016, 367).

Despite all this, there seems to exist a minimum agreed content of dignity. This, so-called, “minimum core” (McCrudden 2008, 675) corresponds to the notion of dignity put forward by the philosopher Immanuel Kant. According to Kant, dignity denotes an “intrinsic value” and “unconditional and incomparable worth” of a human being, not dependent on external factors such as recognition or respect (Ulgen 2016, 4; Kuçuradi 2019, 7–13; Umbrello 2024). Being intrinsic and inherent to a human being, dignity can never be lost, and is not conditioned upon a person’s behavior (Ulgen 2016).

Human dignity is a concept often discussed in the context of ethics and philosophy (Asaro in Liao 2020; Pop 2018). However, it is also an important legal category, promoted and protected by many international instruments. To name just a few, the UN Charter in its preamble speaks of dignity and worth of the human person; Universal Declaration of Human Rights recognizes dignity and equal rights of all human beings; both International Covenants of 1966 declare that the rights they guarantee are based on human dignity; the EU Charter of Fundamental Rights provides that human dignity is inviolable. A very well-known Martens clause, first encapsulated in the Second Hague Convention of 1899 and later reiterated in other legal texts, builds on the notion of human dignity and requires that armed conflicts be conducted in accordance with the “laws of humanity”. In parallel with introducing human dignity into international legal texts, national legal systems underwent the same trend, which resulted in vast majority of state constitutions referring to dignity (Schulztiner and Carmi 2014, 461–490).

A respect for human dignity is, no doubt, rooted in human rights law. Thus, examining AWS compliance with human rights norms necessarily includes examining its compatibility with respect for human dignity. However, before presenting arguments on whether the use of AWS violates human dignity, it must be clarified whose dignity is at stake here. The first category of potential victims are the civilians in an armed conflict, both those who are targeted, as well as those who are incidental casualties (Sharkey 2019, 80). Some authors are of the opinion that civilians are actually “the only [...] serious candidate[s]” whose dignity might be violated (Birnbacher 2016). These authors point out that soldiers are “part of the game”, because they are engaged in acts of war, they know what to expect, and can usually opt out (Birnbacher 2016). On the other hand, civilians are not concerned with the rules of war, and opting out by taking refuge elsewhere is often impossible or very difficult (Sharkey 2019, 80). On the other hand, if dignity is to be understood in the Kantian sense, i.e., as an intrinsic value of every human being, then all persons targeted by AWS – be they civilians or soldiers – are in jeopardy of being deprived of their dignity. It makes sense to also safeguard soldiers’ dignity. When confronted with machines, they are the weaker and the more vulnerable party. So, it is fair to say that dignity of all those on the receiving end of the use of force needs to be safeguarded (Heyns 2016, 369). But it is not only they whose dignity is at stake. In a broader sense, we might even talk about dignity of those using force, as their moral agency is lost when the prerogative to decide issues of life and death is transferred to machines (Heyns 2016, 369).

### **3.2. Does the Human Dignity Objection Justify a Ban on AWS?**

A legal framework for the use of AWS has been discussed by legal scholars, the UN, NGOs, states, primarily acting through the Group of Governmental Experts within the Convention on Certain Conventional Weapons and other interested actors. The prospect that future wars will be fought by merciless killer robots who will decide who lives and who dies made some of these actors call for their complete prohibition. This initiative relied, *inter alia*, on the human dignity argument. The first and the loudest advocate of such an approach was Christof Heyns, the former UN Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions (Heyns, 2013). Heyns elevated a discussion beyond the mere capability of AWS to do proper targeting, i.e., to distinguish combatants from civilians. He suggested that instead of asking *can* AWS perform in accordance with certain requirements, the question should be *should* it in fact do so (Heyns 2017, 1). Shifting a debate from *can* to *should* departs from the principle of distinction as the

main standard for assessing the appropriateness of the use of AWS and gives primary consideration to human dignity – not just of civilians, but also of combatants.

Heyns problematized certain aspects of the use of AWS, stressing that they lack “human judgment, common sense, appreciation of the larger picture, understanding of the intentions behind people’s actions, and understanding of values and anticipation of the direction in which events are unfolding” (Heyns 2013). He further added that compassion and intuition play a role in deciding issues of life and death. While there is no guarantee that humans possess these qualities, there is at least a possibility that they do, whereas AWS surely do not (Heyns 2013). In spite of the fact that AWS can make certain assessments more accurately and faster than humans, they have limited capacity to understand the context in which they operate and to make value-based considerations (Heyns 2013).

Speaking of the so-called “death by algorithm”, Heyns elaborates on the issue of autonomy, comparing the autonomy of human beings with that of machines. Humans possess autonomy, which allows them to act as free moral agents (Heyns 2017, 49). The autonomy of robots, on the other hand, is of a different kind: no free will exists, as robots perform functions for which they have been preprogrammed by humans. At first glance, this may imply that robots will act predictably, but in the hectic and changing circumstances of an armed conflict, blind predictability may, in fact, turn out to be unpredictable, undermining the autonomy of the human that created them (Heyns 2017, 49; Barbosa 2024, 7).

Many legal scholars share Heyns’s point of view. Peter Asaro, for example, opined that lethal force may only be a result of a deliberate decision of a human operator (Asaro 2012, 694). He notes that “the very nature of IHL [...] presupposes that combatants will be human agents” (Asaro 2012, 700). And in determining legitimate targets, these agents go through “multiple layers of interpretation and judgment,” which is something robots are not capable of doing (Asaro 2012, 694). Stephen Goose and Bonnie Docherty also opine that autonomous weapons could undermine human dignity, for similar reasons as those pointed out by Heyns (Goose 2017; Docherty 2014). Dan Saxon stated that delegating complex, value-based judgments to AWS erodes human dignity and, consequently, international law (Saxon 2016, 3). Certain authors, such as Thomas Chengeta, Aaron Johnson and Sidney Axinn, compare the use of AWS to a mouse-trap – a device that kills targets that have certain characteristics and that behave in a certain manner (Chengeta 2016, 483–484; Johnson, Axinn 2013, 134). Humans, on the other hand, should

be treated with more dignity. They may find themselves in the position of an incidental victim of a robotic weapon, but having preprogrammed robots killing them strips them of their dignity (Johnson, Axinn 2013, 134).

On the international scene, many relevant actors have expressed concern over the compatibility of AWS with human dignity. The ICRC raised concerns over the use of AWS, pointing out that “without [effective human deliberation there is no] morally responsible decision making, nor recognition of the human dignity of those targeted or affected” (ICRC 2021). The report by the Stop Killer Robots campaign points out that “delegating life-and-death decisions to machines that cannot fully appreciate the value of human life would undermine human dignity” (Hunt 2019). Similar concerns have been voiced by Human Rights Watch (Docherty 2022) and Amnesty International (2015). United Nations Secretary-General António Guterres stated that the prospect of machines having discretion and power to take human lives is “morally repugnant” (Guterres 2018). Many states have called for a complete ban on AWS (Stauffer 2020).

On the other side of the spectrum are those opposing a complete ban on AWS.

“It makes no difference whether a machine or a human kills you – when you are dead, you are dead” (Rosert, Sauer 2019, 373). From a consequentialist point of view, it is not the means of killing that counts, but a final outcome. If a person killed is a legitimate target, namely a combatant or a civilian taking a direct part in hostilities, and if IHL requirements are met, an act is legally permitted. This argument mirrors a rather pragmatic view, which fails to take into account that it is not irrelevant how you die. Dignified life, as well as dignified death, need to be, and indeed are, protected by law, for it is not just about living or dying – it is about living and dying in a dignified way.<sup>7</sup> Moreover, not only does dying need to be dignified, but dignity needs to be retained even after death (ICRC, Rule 113; Tidball-Binz 2024). If a machine kills a person based on algorithmic decision making, this reduces persons to data points (Rosert, Sauer 2019, 373) and results in those persons being treated as objects, which devaluates humanity and neglects the intrinsic value of a human being (Ulgen 2016, 5).

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<sup>7</sup> Dignity is promoted and protected not only by various international instruments, but also by the human rights bodies, for example: CESCR. 2000. General Comment No. 14: The Right to the Highest Attainable Standard of Health (Art. 12), UN Doc. E/C.12/2000/4 (2000); UN Human Rights Council. 2017. Report of the Special Rapporteur on adequate housing as a component of the right to an adequate standard of living, and on the right to nondiscrimination in this context, A/HRC/34/51.

The second argument against this reasoning concerns not the person dying, but rather the persons, and more broadly, the society, causing the death. In classical circumstances of an armed conflict, in which AWS are not used, those that employ force “exercise moral choices” and are responsible for the outcome of those choices – morally, politically, and legally (Heyns 2016, 11). They are not concerned only with those against whom they use force – they are also concerned with their own human casualties. If, however, AWS are used, the society using them does not preoccupy itself with its own casualties, losses of lives, or the moral burdens that result from fighting (Rosert, Sauer 2019, 373). Such a society, which has no cost other than the economic one, is on a good path of losing touch with certain basic values that underlie it. By removing empathy and compassion, the “moral distance” between the military and their targets is increased, which may result in easier resorting to force and in greater killing (Sharkey 2019, 79; Blanchard, Taddeo 2024, 705–711; Enemark 2011, 218–237).

A circumstance that particularly triggers the issue of dignity is the fact that AWS are usually used in asymmetric warfare, where only one side to the conflict applies them, whereas there are human soldiers on the other side. Such asymmetry causes inequality of persons (Ulgen 2016, 5) and causes dread and mental pain on the part of a weaker side (Birnbacher 2016), infringing upon their dignity in the similar manner as torture does.<sup>8</sup>

The majority of authors who oppose human dignity as an argument against AWS do not actually deny the possibility of violations of dignity, but are not so convinced that an absolute ban on AWS is necessary (Saxon 2016; Birnbacher 2016). They propose a nuanced approach to this issue, which would take into account different aspects of the use of AWS. First, they problematize the mere concept of human dignity. Indeed, the concept is vague and open to interpretations, as we concluded *supra*, but in spite of uncertainties regarding its meaning, there is a common ground in perceiving what human dignity stands for. It must be admitted, though, that the existence of this common denominator does not necessarily resolve the issue. Even if there is a consensus that human dignity stands for an intrinsic value of human beings, determining whether someone’s intrinsic value has been infringed upon, is again a matter of controversy.

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<sup>8</sup> Article 1 of the Convention against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment defines torture as “any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person”.

The starting premise of those opposing a complete ban on the use of AWS is that human dignity is generally compromised by warfare, regardless of who takes part in hostilities – human soldiers or AWS (Sharkey 2019, 79). This is to say that even if human dignity is violated by the use of AWS, it is equally violated when human soldiers use force by utilizing another type of weapons. On top of that, the substitution of human soldiers by AWS may even have its advantages, such as a lower number of human casualties, and machines may react faster and be more accurate in selecting and shooting targets. Their lack of emotions, such as fear, anger and desire for revenge, may reduce the number of atrocities that are regularly committed in armed conflicts (Arkin 2010, 332–341). The idea here is that AWS do not violate human dignity *per se*, at least not more than human soldiers using other types of weapons do (Schmitt 2013; Schmitt, Thurnher 2013, 233).<sup>9</sup> AWS may under certain circumstances violate human dignity but not because they are autonomous, but rather in cases in which they operate contravention with the existing legal regulations.

#### 4. MEANINGFUL HUMAN CONTROL

The main controversy underpinning the use of AWS is the lack of human control. Giving preprogrammed machines the prerogative to decide issues of life and death is, as demonstrated above, something perceived as violating human dignity. This was one of the reasons why the concept of “meaningful human control” (MHC) (Moyes 2016) has become an essential component of all international discussions on AWS.

When referring to human control, different states utilize different narratives. Some of them prefer using the terms “human supervision”, “involvement”, “judgment” or “human command and control”, rather than MHC (Ferl 2024, 145). In the United States, the idea of retaining human control over the process of the use of AWS is expressed through the term “appropriate human judgment” (U.S. DoD 2023).

Setting terminological differences aside, there seems to be a consensus that retaining some kind of human control over AWS, i.e., over the lethal harm they inflict, is necessary (UNGA 2024; Purves, Jenkins, Strawser 2015, 851–872). Yet, no equivocal understanding exists on what human control

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<sup>9</sup> Certain weapons, such as biological weapons, are illegal *per se*, even when they are used against combatants. Other weapons, on the contrary, are not illegal *per se*, but may be used illegally. For instance, a rifle is not prohibited under international law, but may be used to shoot civilians, that is, unlawfully.

actually means, as again, different states attach different meanings to it. Specifically, defining what “meaningful” and “appropriate” is, within the contexts of meaningful human control and appropriate human judgment, was one of the main obstacles in identifying these concepts.

Generally, human control refers to a human–weapon relationship, where the human operator retains certain control over a weapon. To identify different levels of control, the so-called OODA loop model can be used. OODA stands for “observe”, “orient”, “decide” and “act” (OODA Loop 2025). These four tasks are used to assess how much autonomy a particular AWS has, i.e., what is the degree of human involvement in performing these four functions. In that sense, a differentiation can be made between a “human-in-the-loop”, “human-on-the-loop”, and “human-out-of-the-loop”, the first one denoting the highest degree of human control over the robotic system, the second providing a certain level of human supervision, while the third is entirely autonomous and without human supervision (Crootof 2015, 1861).

Keeping a human in the loop, i.e., including a human in the lethal decision process is a necessary, but not a sufficient requirement. It is not equivalent to retaining meaningful human control. A legitimate lethal decision process must also meet certain requirements: that the human decision maker is involved in verifying legitimate targets and initiating lethal force against them. First, a human operator must be allowed sufficient time to be deliberative. Also, they must be suitably trained and well informed.<sup>10</sup> In addition, “cognitive clarity” and “awareness” is needed, as, for instance, an individual who is mentally ill has no capability to adequately meet this requirement (Moyes 2016). Ultimately, it is important that they bear responsibility for their decisions (Asaro 2012, 695). These, and possibly other requirements, may characterize control as “meaningful”, as they ensure that a human agent controlling the use of AWS is actually in a position to reach an informed and responsible decision. Without this, it may happen that some kind of human control exists, but is practically meaningless (Moyes 2016).

Similar concerns have been voiced while discussing the meaning of “appropriate human judgment”. This standard requires that reliable and tested weapons are used in accordance with established procedures, and that there is a clear and readily understandable interface between weapon systems and users. Such weapons need to be designed and

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<sup>10</sup> Practice has shown that the inability of human operators, who control weapons with autonomous characteristics, to properly manage their use resulted in incidents involving shooting at unintended targets. See, for example, the case of the US Patriot antimissile system, which was involved in a “friendly fire” incident during the 2003 Iraq War (Piller 2003).

used to comply with the requirements of IHL, i.e., with the principles of distinction and proportionality. What the appropriate human judgment, however, presupposes not only the ability of AWS to be used lawfully, but also “appropriately”, i.e., in accordance with rules of engagement and the mission objectives. Understood so broadly, and especially being subject to the assessment of military objectives, appropriate human judgment denotes a rather vague concept, which allows for its widely different interpretation in different situations (Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons System 2016).

Whatever the exact content of meaningful human control or appropriate human judgment, it certainly means keeping the well-trained human operator behind the actions performed by AWS and not replacing soldiers with the machines altogether. The minimum requirement for MHC is that it exists in the phase of actual employment of force, but securing it in other phases of weaponization process, such as pre-development, testing and evaluation, is likewise an option (Nadaradjane 2023, 60).

Many authors agree that retaining MHC over the use of AWS would resolve many issues, such as issues of safety, precision, responsibility and, finally, dignity (Davidovic 2022a). Whether MHC would indeed resolve these issues is open to discussion, as diverse problems may also arise with the introduction of such control. Automation bias, i.e., a tendency to trust machines when the opinions of machines and humans conflict, or assimilation bias, which occurs when humans see what they want to see or hear what they want to hear, may be an obstacle to securing meaningful control (Davidovic 2022b; Chengeta 2016). Further is the speed or complexity of data processing, which prevents a proper decision making in real time, making meaningful human oversight impossible (Davidovic 2022a).

Generally, it can be claimed that the existence of proper human control may overrule the objection that machines, due to lack of moral agency, are incapable of respecting human dignity. However, there are, obviously, many elements of MHC that are currently ambiguous and need to be agreed upon by states. Consideration here will certainly be given to: the technical characteristics of AWS, as different levels of autonomy imply different levels of human supervision; the phases of weaponization in which human supervision and decision making will be required; the qualities of the decision maker; and responsibility issues, as human control that does not result in responsible agents bearing consequences for their actions in the use of AWS could never be sufficiently meaningful (Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons System 2019; UN Human Rights Council 2024).

## 5. CONCLUSION

In the not-too-distant past, it was unimaginable that soldiers on a battlefield would face killer machines, instead of enemy soldiers. Today, this has become a reality. However, the technological advancements that have led to this development have not been accompanied by appropriate legal regulations. Since no legally binding document regulating AWS has been adopted so far, the existing rules of IHL and human rights law currently provide the legal framework for assessing the permissibility of autonomous weapons. This paper analyzes the compatibility of AWS with human dignity, which is a cornerstone of human rights.

A number of states, legal authorities and civil society members have advocated for a complete ban on AWS, justifying their position, either entirely or partially, on the grounds of human dignity. Their arguments are based on the premise that being killed by a machine, which has no conscience or morality, and to which one cannot surrender or plead for mercy, constitutes the ultimate indignity. However, this argument has been challenged on several grounds. First, it is argued that dignity is inherently compromised in war, with no objective difference between being killed by a robot and being killed by any other weapon. Second, the use of AWS may have certain advantages, such as reducing human casualties, making it unjustified to outlaw AWS altogether. Finally, while there is broad consensus on the minimum core of dignity, its inherently diffuse meaning undermines its viability as the primary justification for a complete ban on AWS.

All of these arguments hold merit and none should be entirely dismissed. In bridging the gap between them, the concept of MHC emerges as an appropriate tool. It has also gained broad recognition among all relevant actors engaged in discussions on AWS. However, the challenge with MHC lies in the lack of consensus on its precise meaning and scope. Technologically advanced states are already advocating for a less stringent understanding of MHC, emphasizing the need for flexibility. They argue that there is no one-size-fits-all solution, and that the application of MHC should be adaptable to particular situations. Conversely, other states favor stricter rules that prioritize respect for human dignity and other fundamental rights.

Given the conflicting interests of states, the technological diversity of AWS, and the contextual differences in their use, it seems unlikely that an all-encompassing definition of MHC will be agreed upon. Instead, a more nuanced approach is likely to prevail, in which MHC would be defined based on the type of weapon and its mode of use. Any solution should inevitably include the element of responsibility, as identifying a responsible agent or agents is a minimum requirement for preserving the dignity of those targeted

by AWS. Also, contrary to assertions that human element may be present solely in the programming phase, i.e., in the production of AWS, a human should always be in a position to approve or reject a targeting decision, regardless of whether they selected a target themselves or a machine did so. This is the only way that moral agency can be preserved.

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