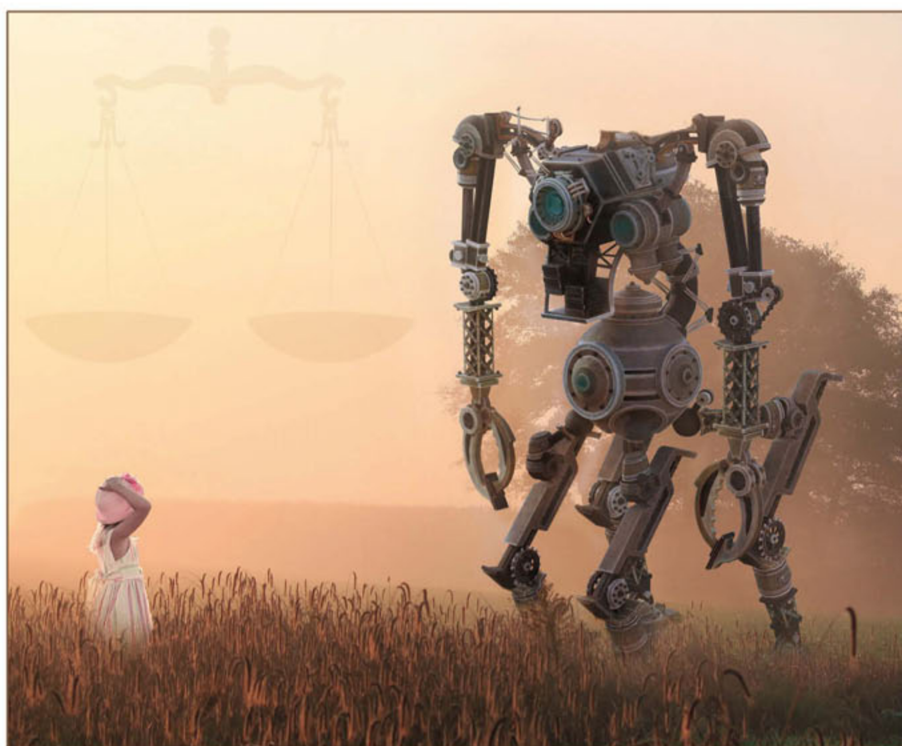
Dominika Iwan-Sojka

Responsibility of war industry for lethal autonomous weapons systems



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Responsibility of war industry for lethal autonomous weapons systems

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Responsibility of war industry for lethal autonomous weapons systems

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Abbreviations

ATT	—	Arms Trade Treaty
AI	—	Artificial Intelligence
ARSIWA	—	Articles on Responsibility of States for Internationally Wrongful Acts
CCW Convention	—	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 of 1980
DoD	—	Department of Defense
ECtHR	—	European Court of Human Rights
GGE	—	Group of Governmental Experts of the High Contracting Parties to the Convention on Prohibitions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects
HRW	—	Human Rights Watch
IAC	—	International armed conflict
ICC	—	International Criminal Court
ICJ	—	International Court of Justice
ICRAC	—	International Committee for Robot Arms Control
ICRC	—	International Committee of the Red Cross
ICTR	—	International *ad hoc* Tribunal for Rwanda
ICTY	—	International *ad hoc* Tribunal for former Yugoslavia
IHL	—	International humanitarian law of armed conflicts
ILC	—	International Law Commission
JCE	—	Joint Criminal Enterprise
LAWS	—	Lethal autonomous weapons systems
MPEPIL	—	Max Planck Encyclopedia of Public International Law
NATO	—	North Atlantic Treaty Organisation

NGO	—	Non-governmental organisation
NIAC	—	Non-international armed conflict
NCP	—	National contact point
OECD	—	Organization for Economic Cooperation and Development
PCIJ	—	Permanent Court of International Justice
RMA	—	Revolution in military affairs
SIPRI	—	Stockholm International Peace Research Institute
SIrUS	—	Superfluous Injury or Unnecessary Suffering
UNIDR	—	United Nations Institute for Disarmament Research
UNGP	—	United Nations Guiding Principles on Business and Human Rights
UNODA	—	United Nations Office for Disarmament Affairs

Introduction

Artificial Intelligence (AI) changes and challenges the character of military operations, and for over a decade, lethal autonomous weapons systems (LAWS) have been given increasing attention by states, the military, civil society and academia. LAWS have generated a substantial body of scholarly work; therefore, as a study of the international humanitarian law of armed conflicts (IHL), this book enters a crowded field. Yet, very few explicate the terms in which international law applies to the issue of the responsibility of war industry; despite the technology being fielded, the debate has stagnated. The book takes an insightful look at the norms regulating the use of means of warfare and assigns them to the international responsibility to enhance international law's potential to operationalise the use of LAWS. What this book hopes to achieve, however, is to examine the balance between the protection of victims and procedural guarantees of alleged perpetrators, as well as the role of the war industry in ensuring IHL compliance.

The most burning issue of contemporary armed conflicts is a reduction of (primarily civilian) casualties. LAWS deepen this challenge by cutting out the chain of the human-machine (weapon) relationship and denying victims access to justice. IHL protection mechanisms are weak, which we can observe now in the conduct of hostilities after the Russian aggression in Ukraine and the terrors of war pursued by Russian armed forces and private contractors. This aggression questions fundaments of international law, including responsibility for armed conflict atrocities committed by the permanent member of the UN Security Council, whereas the other party to the conflict has been equipped with weapons systems of various autonomy by neutral states. At the same time, IHL-related targeting rules use ambiguous and vague terms, while the customary status of these rules is not always established or clear. Therefore, judiciary bodies solve interpretation problems based on individual obligations or duties that depend on the state's adherence to treaties or customs. Developing and deploying LAWS play with interpreting these IHL rules, which then impact

guarantees of victims and perpetrators. The most important thing about this research now is to ensure that IHL (unable to enforce itself) needs a law on the responsibility to increase the primary IHL values and goals.

War[1] industry comprises states, private entities (business) and individuals involved in developing and deploying weapons systems for the purposes of armed conflicts. Some of its activities form part of arms industry (arms production and transfer)[2]. In arms industry, weapons systems can be used for the variety of purposes, including private ones. According to the Working Group on Business and Human Rights, the arms sector comprises of the whole bulk of actors producing or being directly linked to the research, development, design, production, delivery, maintenance, repair and overhaul of military weapons systems, subsystems, parts, components, and ancillary equipment. It includes actors providing technical assistance, training, financial or other assistance, related to military activities or the provisions, maintenance or use of any arms and related *materiel*[3]. This book takes both a narrower and a broader perspective; it limits the normative framework to weapons' development and deployment for the purposes of the conduct of hostilities (thus excluding law enforcement and private purposes for which different sets of rules apply), while embracing

1 For the purpose of this book, the term *war* refers to armed conflicts both of international and non-international character, and is intertwined with the industry providing military-related services (without initially assigning the public or private nature of the industry). However, the author is aware that, in legal language, war constitutes an international armed conflict that is formally declared.

2 Arms industry (defence industry) describes military-industrial complex where states and business, arms producers and arms dealers in particular, develop and serve military products, including weapons systems. Its customers are both armed forces and private individuals.

3 These are such actors as those directly involved in weapons production (arms manufacturers, weapons systems integrators, ammunition manufacturers, producers of individual components); business making products and services with dual use applications; actors involved in the transport and sale of arms; financial institutions and legal consultants who provide funding in the arms sector or who advise on arms deals.
UN Working Group on Business and Human Rights, "Responsible Business Conduct in the Arms Sector: Ensuring Business Practice in Line with the UN Guiding Principles on Business and Human Rights" (UN Working Group on Business and Human Rights, August 30, 2022), 1, https://www.ohchr.org/en/documents/tools-and-resources/responsible-business-conduct-arms-sector-ensuring-business-practice.

international law related to military-industrial complex[4] and evaluation of the conduct of individuals involved in designing, producing, testing, procuring, transferring, controlling and deploying weapons systems. The war industry approach allows to make one step forward and take into account existing legal tools to address mostly civilian casualties resulting from LAWS development and deployment by states, individuals and business.

Hence, the book aims to apportion responsibility for developing and using LAWS in armed conflicts by examining the theory and practice concerning the responsibility of various participants of war industry, including a state (along with non-state armed groups), an individual (including members of non-state armed groups), and a private business entity. Along with the New Heaven School of International Law, it is argued that the concept of a "participant" in the war industry is better suited to address the effects of LAWS in the context of armed conflicts. It is a cross-cutting term that breaks up with the traditional concept of the parties to an armed conflict and subjects of international law. As indicated above, the war industry engages various actors whose activities widely affect the conduct of hostilities but are currently in a grey zone regarding responsibility, liability and accountability for how they contribute to protection crises. IHL, albeit a partly separate regime, constitutes a preventative paradigm of war industry also in times of peace, because it lies at the heart of global values while keeping the various rationales for the conduct of hostilities. Likewise, IHL forces us to reflect on every participant's contribution to the war industry to ensure the peace and security of humankind.

Despite a myriad of various actors with differentiated interests in armed conflicts (including international organisations, dependent territories, non-state armed groups, NGOs, independent agencies, politicians, military veterans, CEOs, lawyers), the book is divided into three international regimes of responsibility: of states, individuals, and private companies. As the traditional perception of international law stands, the primary responsibility lies with the states. The premises of responsibility should be established to ensure that victims know what and where they can appeal for suffering caused by the

4 The term military-industrial complex (or permanent war economy, war corporatism) was used by the former President of the USA, Dwight D. Eisenhower, who warned against the military-industrial complex in his farewell speech. Military-industrial complex is criticised for overly benefitting from and perpetuating armed conflicts.

participants of the war industry. On the other hand, the basic rule of law nowadays is to ensure that defendants remain protected by the general principles of criminal law, including the principle of legality and certainty of legal provisions. Several of these procedural guarantees are questioned by developing and deploying LAWS. The book compares potential IHL violations resulting from LAWS with foundations of responsibility of the chosen participants. This thorny issue has come to the fore again with large-scale applications of AI in weapons systems, e.g. by the USA, UK, Israel, and Türkiye, during recent military operations, including in hostilities.

Whereas the question of non-state armed groups, including terrorist organisations, is kept in the contemporary normative framework of state and individual responsibility, their relationship with business is disregarded in this book. Such an analysis requires accounting for far-reaching peripheries of politics and the black market of arms deals. Nonetheless, avoiding discussions on responsibility for LAWS enables the dangerous diffusion of these technologies to non-state armed groups also in the context of business. Similarly, although the Draft Articles on the responsibility of international organisations for internationally wrongful acts of 2011 create a promise of the progress of global governance, the Draft has been criticised for not sufficiently recognising the differences between states and international organisations and would unnecessarily lead to a fragmentation of international responsibility. Taking into account the poorly developed practice relating to accountability of international organisations, even the International Law Commission considered the Draft as reflecting the progressive development of rules. Therefore, questions concerning the responsibility of international organisations for LAWS-sharing are accounted for in the regime of state responsibility when more states are involved in committing an internationally wrongful act.

The primary assumption is that responsibility-related Revolutions in Military Affairs (RMA), to which LAWS belong, require a thorough understanding of the nature of international responsibility that would be focused on the practical rationality of international law. This understanding would break up with "evil and pain" and move towards "inconveniences" against various war industry participants who develop or deploy LAWS. Such understanding does not deprive norms without sanctions from their normativity, because there are other than coercive reasons for action. Since existing regulations relating to international obligations, duties and responsibilities address only *some* consequences of

developing and using LAWS, the responsibility of various participants of the war industry that has been slowly progressing over the centuries should not eclipse the primary responsibility of a state[5]. A distinction between the targeting law and weapon law remains relevant here with a consequence of differentiated obligations and duties relating to the use of a weapon and the production, possession, transfer or sale of a weapon. The problem of LAWS intersects with these differentiated obligations, duties and responsibilities of various participants involved. Two extremes can be distinguished regarding the law's possible response to IHL violations associated with using LAWS. Some point to the law's complete lack of readiness for developing new technologies. In doing so, the existing legal framework is not ready to address the remoteness of human decision-making from the actual hostilities. Control over the LAWS performance is exercised much earlier – at the programming stage[6]. At the other extreme is the position that LAWS do not introduce anything new[7]. Since scientific explanation aims to find a place for the researched issue in the context of already acknowledged regularities, it is necessary to match the current state of the art to LAWS. It by no means is an objection to the first extreme. LAWS require specialised knowledge, so it is difficult for those without such knowledge to understand the details of their operation. Some of these systems have been in use on the battlefield for a long time, yet they do not cause difficulties in complying with the relevant law. After all, the law is flexible and should be designed to adapt to changing circumstances. IHL consists of both Geneva and Hague laws; however, in the case of a lack of Hague laws directly regulating or prohibiting LAWS, we switch to the Geneva rules that are technology neutral. For Geneva laws in particular, we focus on protecting victims of armed conflicts, including civilians and combatants, and it does not necessarily matter whether a weapon is prohibited or not.

5 A clear distinction must be drawn between obligations, duties, and responsibilities. Obligations and duties are referred to as being legally binding, and they are identified by the word "shall" in legal documents. In contrast, responsibilities describe non-legal conduct identified by the word "should" or "ought to".

6 Tim McFarland and Tim McCormack, "Mind the Gap: Can Developers of Autonomous Weapons Systems Be Liable for War Crimes?" *International Law Studies*, 90 (2014): 362.

7 D.M. Stewart, "New Technology and the Law of Armed Conflict," in *International Law and the Changing Character of War*, ed. R.A. "Pete" Pedrozo and D.P. Wollschlaeger (Newport: Naval War College, 2011), 289.

Across the chapters, the book seeks to answer the following questions:

- How does the autonomy of weapons systems impact international responsibility?
- Does the use of LAWS preclude the responsibility of any participant in the war industry?
- If yes, is it necessary to adopt a new liability framework for civilian casualties resulting from LAWS in the form of war torts?
- If not, who is responsible and how is this responsibility executed?
- Do companies developing LAWS take part in hostilities and bear responsibility for the effects of using LAWS? Do they bear direct corporate obligations in international law that are relevant in the context of LAWS for developing LAWS?

The book's normative scope covers IHL, the law on international responsibility, including state responsibility and international criminal law, as well as corporate obligations and responsibilities under international law. Complementary, good practices of national legal systems applicable to the effects of weapons systems and arms export control are discussed. On the other end of the spectrum, a human rights regime applies to LAWS that can also apply in times of an armed conflict but outside the conduct of hostilities and by intelligence agencies. Although the question of responsibility for drone strikes in international human rights law is an important area of research, the civil use of LAWS remains outside the scope of this book, as it focuses on military applications. However, a concept of due diligence, which has developed in business and human rights' framework, will be used to address business responsibilities under IHL[8].

The dogmatic methodology has been fundamental for the book. It has provided tools for analysing elements of IHL concerning corporate (state and

8 Under international human rights law, the primary duty-holders are states that shall investigate allegations of human rights violations, including those committed while using LAWS for law enforcement purposes. There are increasing practices of using semi-autonomous weapons systems (killer drones) for targeted killing purposes that do not follow any investigations on unlawful killings. Heyns argues that LAWS used in law enforcement procedures pose even more incredible difficulty for human rights law, because these procedures require more personal involvement than in the conduct of hostilities. Christof Heyns, "Human Rights and the Use of Autonomous Weapons Systems (AWS) During Domestic Law Enforcement," *Human Rights Quarterly*, 38, no. 2 (2016): 350–378.

business) and individual responsibility. The source of analysis is international customary law, treaties and principles of international law, including principles of IHL. Additionally, the jurisprudence of international and regional tribunals invoking IHL has been covered. Theoretical methodology has led to the deconstruction of international responsibility for using means of warfare in armed conflicts. It supported an analysis of primary sources of international law, professional literature, policy statements, reports, resolutions, and military manuals. The comparative method has been used to identify the variety of terminology concerning responsibility and LAWS.

The topic has attracted bodies of international organizations[9], human rights

9 LAWS became the focus of the Human Rights Council early in 2013. At that time, Pakistan became the first State to officially call for a prohibition of these systems (probably because of extensive civilian casualties resulting from the US drone program with intelligence agencies involved in Pakistan). States assure that they do not plan to develop fully autonomous weapons systems. Campaign to Stop Killer Robots, 'Consensus: killer robots must be addressed' (28 May 2013 *Stop Killer Robots*), <https://www.stopkillerrobots.org/2013/05/nations-to-debate-killer-robots-at-un/> accessed 5 January 2022. As a result of the international community's growing interest towards LAWS, the topic was included in the agenda of the 2013 meeting of States Parties to the Convention on Certain Conventional Weapons of 1980. States decided to organise an informal meeting with experts to address concerns about advancing technologies in the field of LAWS. "Final Report" (Geneva: Meeting of the High Contracting Parties 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, December 16, 2013), https://documents-dds-ny.un.org/doc/UNDOC/GEN/G13/646/33/PDF/G1364633.pdf?OpenElement. The discussion was to remain within the scope of the aims and objectives of the CCW Convention and should, therefore, only cover the use and not the development of weapons systems. Informal meetings were held between 2014 and 2016. "Report of the 2015 Informal Meeting of Experts on Lethal Autonomous Weapons Systems (LAWS)" (Geneva: Meeting of the High Contracting Parties 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, February 6, 2015), https://undocs.org/pdf?symbol=en/ccw/msp/2015/3; "Informal Meeting of Experts on Lethal Autonomous Weapons Systems" (Geneva: Fifth Review Conference of the High Contracting Parties to the Convention on Prohibitions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, December 12, 2016), https://meetings.unoda.org/meeting/ccw-mx-2016/. During the 2016 session, responsibility was recognised as integral to IHL compliance. The conclusion of the meeting was the adoption of recommendations for the Review Conference to the CCW Convention.

special procedures[10], NGOs and independent research institutions[11]. Experts unanimously agree that a state bears legal and political responsibility and accountability for the actions of any weapons system used by its armed forces. Second, more attention should have been paid to the appropriate human involvement concerning lethal force and the scope of delegation of the decision to use such force. Thirdly, more involvement was required from civil society, scientists, and journalists, as well as industry developing autonomous technologies. Fourth, the discussion of LAWS was a priority for the CCW framework and should have been continued. The Fifth Review Conference to the CCW

10 According to the UN Special Rapporteur on extrajudicial, summary or arbitrary executions, the fundamental question to any weapon is to determine whether, in a given context, its use is consistent with IHL. Philip Alston, "Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Philip Alston," May 28, 2010, para. 24, https://digitallibrary.un.org/record/685887. Special Rapporteur Heyns pointed out that humans should remain part of a wider loop of decision-making in which they will be responsible for programming targets in a weapons system and deciding whether to activate or deactivate the system. Christof Heyns, "Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Christof Heyns" (HRC, April 9, 2013), para. 8, https://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session23/A-HRC-23-47_en.pdf.

11 An International Committee for Robot Arms Control (ICRAC) works towards adopting an agreement reducing risks posed by the development, deployment and use of military robots. Article 36 has called for a ban on LAWS based on significantly low acceptance of using means of warfare initiated autonomously due to the presence or proximity of an object of attack. In addition, according to the Campaign to Stop Killer Robots, there are currently 30 states explicitly in favour of a prohibition on fully autonomous weapons systems, including China, for example (but with the reservation that its position only covers the use of LAWS, with development and production outside the scope). Some countries do not intend to take part in negotiations on a new international agreement on fully autonomous weapons systems (these are Australia, France, Israel, South Korea, Russia, Turkey, the USA and the UK). M. Bolton, T. Nash, and R. Moyes, "Ban Autonomous Armed Robots," *Article 36*, March 5, 2012, http://www.article36.org/statements/ban-autonomous-armed-robots/; Jody Williams, "Borderless Battlefield: The CIA, the U.S. Military, and Drones," *International Journal of Intelligence Ethics*, 2, no. 1 (May 15, 2011): 2–34; "Country Views on Killer Robots" (Campaign to Stop Killer Robots, October 25, 2019), https://www.stopkillerrobots.org/wp-content/uploads/2019/10/KRC_CountryViews_25Oct2019rev.pdf; David Hambling, "Drones May Have Attacked Humans Fully Autonomously for the First Time," *New Scientist*, May 27, 2021, https://www.newscientist.com/article/2278852-drones-may-have-attacked-humans-fully-autonomously-for-the-first-time/; Joshua Zitser, "A Rogue Killer Drone 'hunted down' a Human Target without Being Instructed to, UN Report Says," *Business Insider*, May 30, 2021, https://www.businessinsider.in/international/news/a-rogue-killer-drone-hunted-down-a-human-target-without-being-instructed-to-un-report-says/articleshow/83086567.cms.

eventually established a Group of Governmental Experts (GGE) to address emerging technologies in LAWS[12]. The meetings resulted in adopting a set of guiding principles for LAWS. Among these was confirmation of the application of IHL and human responsibility for the decision to use a weapons system. States, therefore, seem to agree on the need to preserve human participation in the decision-making chain associated with LAWS development, use and deployment. Among the guidelines for the operation of LAWS, emphasis has been placed on the need for risk assessment and the adoption of appropriate protective measures to be part of the design, development, testing and use of any weapons systems[13]. Besides the guiding principles, GGE meetings have not produced any measurable result of an international agreement, including, for example, the Sixth Protocol to the CCW Convention. States agreed on the need to preserve human involvement in the decision-making chain related to the development and use of LAWS. Nonetheless, the discussions are a genuine source of information on states' attitudes towards an obligation of weapons review. Several states presented outlines of how they conducted their legal

12 "Final Document" (Geneva: Fifth Review Conference of the States Parties to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons, December 23, 2016), https://digitallibrary.un.org/record/3856242.

13 The GGE indicated that policy solutions should be adopted explicitly, denying anthropomorphising weapons systems. "Report of the 2018 Session of the Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems" (Geneva: Group of Governmental Experts of the High Contracting Parties 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, October 23, 2018), para. 4, https://undocs.org/en/CCW/GGE.1/2018/3. In addition to the set of guiding principles identified above, in 2019, the GGE added another important principle concerning human-machine interactions. They should ensure that the potential use of LAWS complies with applicable international law, especially IHL. In determining the quality and extent of the interaction, factors such as the operational context and the characteristics and capabilities of weapons systems as a whole should be taken into account. Ensuring compliance with IHL when using LAWS requires that a person makes critical decisions in good faith based on an assessment of the information available when the decision is made. "Report of the 2019 Session of the Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems" (Geneva: 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, September 25, 2019), 3–4, https://undocs.org/en/CCW/GGE.1/2019/3.

reviews[14]. The debates focus on such questions as terminological issues (the concept of LAWS, the relationship between a human and a system) as well as legal issues, including the implementation of the legal review obligation, responsibility and accountability for IHL violations.

In the meantime, in March 2020, the autonomous drone Kargu-2, with an actual "fire, forget and find" capability targeted a human in Libya[15]. This lethal autonomous weapons system does not require connectivity between an operator and the munition[16]. In 2017, Israeli-registered company Aeronautics Ltd. issued a live testing of its Orbiter 1K unmanned aerial vehicle against two members of the Armenian armed forces in the Azerbaijani-Armenian armed conflict[17]. In the same year, the President of the Russian Federation, Vladimir Putin announced that the power is in the hands of a state which leads in AI[18]. It seems that in the 2020s, international law on responsibility for weapons systems remains the same as in the 1980s, when the widely ratified treaty concerning weapons was adopted. LAWS, as means of warfare, performed effectively in the Azerbaijan–Armenia armed conflict when Israeli defense contractor Aeronautics Ltd. conducted live tests of killer drones against the Armenian military in 2017. Israel has also established an automated kill zone deploying Sentry-Tech stations to prevent Palestinians from entering Israeli territory. Even more tragically, the use of new technologies has had dire consequences

14 "Weapons Review Mechanisms, Submitted by the Netherlands and Switzerland" (Geneva: Group of Governmental Experts of the High Contracting Parties 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, July 11, 2017); "Autonomy in Weapon Systems, Submitted by the USA" (Geneva: GGE, November 10, 2017), https://docs-library.unoda.org/Convention_on_Certain_Conventional_Weapons_-_Group_of_Governmental_Experts_(2017)/2017_GGEonLAWS_WP6_USA.pdf.

15 Hambling, "Drones May Have Attacked Humans Fully Autonomously for the First Time"; Zitser, "A Rogue Killer Drone 'hunted down' a Human Target without Being Instructed to, UN Report Says."

16 "Final Report of the Panel of Experts on Libya Established Pursuant to Resolution 1973 (2011)" (The Panel of Experts on Libya, March 8, 2021), 63.

17 Judah Ari Gross, "Licenses Suspended for Dronemaker Accused of Bombing Armenia for Azerbaijan | The Times of Israel," *The Times of Israel*, January 27, 2019, https://www.timesofisrael.com/licenses-suspended-for-dronemaker-accused-of-bombing-armenia-for-azerbaijan/.

18 "Putin Stresses Whoever Takes the Lead in Artificial Intelligence Will Rule World," *TASS*, September 1, 2017, https://tass.com/society/963209.

in injuries and damages to civilians in Yemen, Syria and Ukraine, whereas the international community has been unable to prevent *or* address these atrocities effectively. It is a toxic moment for international law, because we face multiple crises, one of which considers the fundamental protection of humanity against the effects of new technologies, and we are slipping from the already achieved progress.

Chapter 1 starts with outlining the normative framework by explaining LAWS-related terminology and explains LAWS through moral, political and technological lenses. The discussion on the topic is mainly centred on the Group of Governmental Experts on LAWS. This debate has stagnated due to terminological inconsistencies in understanding the technology, including human-machine relationships and the legality of LAWS. It does not seem easy for states to name challenges posed by LAWS for the international community. Although states agree on applying IHL in this context, there is an impasse in defining LAWS and classifying them in the catalogue of means and methods of warfare. The central point seems to be human control over the system, which can take such forms as proper, significant, meaningful control, judgment, assessment, and supervision. The only unquestionable point here is the presence of a human in the chain of LAWS performance. It seems impossible to propose and adopt one consistent definition of these technologies. The book follows the definition proposed by Kaja Kowalczewska that has focused on a description of various AI technologies used in weapons systems[19]. The chapter concludes that various terms used in the context of LAWS (e.g. unmanned vehicles, autonomous robotic weapons, AI weapon systems, autonomous weapons, autonomous weapons systems, lethal autonomous weapons systems, killer robots) are pejorative and represent either (tacit) tolerance or a call for urgent action on LAWS. The chapter further places LAWS in the context of international responsibility for the effects of hostilities (IHL violations and international crimes in particular). Not every use of LAWS would amount to IHL violations and, more importantly, to international crimes, because not every IHL violation constitutes a "grave breach" or a "serious violation" of IHL. This inconsistency in defining IHL violations, along with regimes of responsibility of various

19 Kaja Kowalczewska, *Sztuczna inteligencja na wojnie. Perspektywa międzynarodowego prawa humanitarnego konfliktów zbrojnych. Przypadek autonomicznych systemów śmiercionośnej broni* (Warszawa: Wydawnictwo Naukowe Scholar, 2021), 71.

actors, impacts the scope of protection that cannot be enforced. Currently, international responsibility is fragmented because its existence and substantial scope depend on the type of actor (who is not necessarily a recognised subject of international law) and the obligations or duties involved.

To thoroughly understand the complexities of dilemmas posed by LAWS in armed conflicts and articulate obstacles to responsibility, Chapter 2 identifies obligations, duties and responsibilities in the application of IHL in the development and deployment phases of LAWS. Usually, four norms are defined as IHL principles: humanity, distinction, proportionality and precautions, and military necessity. Therefore, Chapter 2 further evaluates existing narratives on LAWS where an important intersecting tool obliges some states to review LAWS. Although any effective control mechanism has not followed an obligation of weapons review, adopting another international framework would be counterproductive, because states prefer soft mechanisms of transparency to attach themselves voluntarily.

Chapter 3 underpins the meaning of transparency in weapons review and arms export for complying with IHL. Weapons review is presented as an important tool to account for new weapons, means and methods of warfare that can partially ensure respect for IHL by integrating IHL-related targeting law to developing or purchasing LAWS. Likewise, arms export control laws, albeit differentiated, complement the deficiencies of weapons review to ensure that transferred LAWS are not used to commit serious IHL violations.

Built on the previous chapters' technological, political and legal perspectives, state responsibility constitutes the oldest regime of international responsibility. Chapter 4 discusses the primary responsibility of states for LAWS. State responsibility is divided into two categories: responsibility for internationally wrongful acts and liability for acts not prohibited by international law. As the law on state responsibility is secondary to the obligations resulting from international law, it is necessary to determine whether and, if so, which norms of IHL exclude the secondary law on state responsibility in the meaning of Article 55 of the 2001 Articles on the responsibility of states for internationally wrongful acts (ARSIWA). Although the violation of IHL can lead to an internationally wrongful act, this assumption does not necessarily entitle the victim of this violation to invoke the responsibility. It is so because the character of the violated obligation determines the subjects entitled to invoke responsibility and claim compensation. ARSIWA distinguish between state obligations

(peremptory norms, *erga omnes* obligations and "regular" obligations) and subsequent responsibility for non-compliance. Thus, it distinguishes the consequences of the responsibility, including the rights of victims and subjects entitled to undertake specific measures.

IHL limits these distinctions by containing a self-enforcement tool at the level of secondary rules. Article 3 of the IV Hague Convention of 1907 and Article 91 of the Additional Protocol I of 1977 to the 1949 Geneva Conventions are probably the only secondary rules introducing the obligation of compensation for certain violations of IHL. In the context of LAWS' autonomy, the rule of attribution for a violation of a state is blurring. The law on state responsibility requires a human agent to enable such attribution. For example, in the case of the transfer of technology between two states (even in the framework of an international organisation), the attribution, albeit differentiated, would be shared between the transferring state and the actual user state. However, the transferring state can release itself from the attribution if it proves that it did not contribute to any violation. Such an assessment can only be determined individually. Another challenge to the rule of attribution results from the involvement of non-state armed groups and private military and security companies in deploying LAWS. In the case of the latter, the borderline between performing public activities and their direct participation in hostilities is difficult to delimit. However, this delineation would be crucial in the activities of private companies that program or control LAWS performance. If one assumes that IHL is non-reciprocal, the invocation of circumstances precluding wrongfulness as justifying the use of LAWS is also limited. The chapter ends with a potential application of the concept of war torts for the effects of LAWS performance that IHL does not prohibit.

Reflecting the global call for response to the horrors of World War II, the regime has developed through state obligations to ensure compliance with IHL by individuals, including members of non-state armed groups. Individual criminal responsibility addresses IHL violations leading to international crimes that can be committed while using LAWS in armed conflicts. Chapter 5 establishes that the war crimes regime is the closest link between targeting law and individual criminal responsibility. Depending on the character of armed conflicts, there are varying definitions of behaviours amounting to war crimes. Although Article 8 of the ICC Statute provides the list of war crimes linked to targeting, there are barely any provisions regulating the use of means and

methods of warfare. Article 8(2)(b)(xx) of the Rome Statute would provide criminal responsibility for using indiscriminate weapons (some LAWS could be categorised as such type of weapons) should the required attachment to the ICC Statute containing the list of such weapons be adopted. The lack of such regulation creates a problem of certainty and questions the *nullum crimen sine lege* principle.

Furthermore, the ICC's jurisdiction over war crimes is pushed away by the provision of Article 8(1) of the Rome Statute when priority is given to crimes against humanity and genocide. Additionally, very few proceedings have involved the alleged commission of war crimes, and none of them referred to the use of means and methods of warfare. Finally, the ICC Statute has not been ratified by several significant players that are developing LAWS (China, Israel, Russia, USA). Still, there is a possibility to hold individuals responsible for war crimes resulting from using LAWS through domestic laws. Individuals in question involve two groups, namely final users and designers. The first group consists of i.e. the commander, a person planning an attack, a state representative negotiating LAWS' transfer, or a member of the non-state armed group (e.g. a terrorist organisation). Whereas the law on state responsibility for IHL violations is relatively well developed, the responsibility of non-state armed groups is still in its infancy. Therefore, the primary path for acts committed by the non-state armed group is through the regime of individual criminal responsibility of its members. The second group is more controversial, composed of developers, software engineers, and those entitled to the representation of the private entity developing LAWS. Due to the variety of persons involved in the creation and use of LAWS, the responsibility is blurred. In such a case, it is impossible to attribute responsibility to a particular individual. The subjective elements of war crimes depend on the legal basis involved. Under Article 30 of the ICC Statute, unless otherwise provided, any international crime can be committed with intent and knowledge. It means that, principally, war crimes can be committed only with direct intent or exceptionally negligently or recklessly – only if the law so provides. Notably, *ad hoc* international criminal tribunals used various mental elements, from direct intent to negligence. These approaches open the doors for apportioning specific human-machine relationships to individual responsibility and, in the end – contribute to better IHL compliance. The forms of committing war crimes under Article 25(3)(c) of the ICC Statute addresses these relationships only in part. Generally, besides

material and mental elements, the structure of war crimes requires fulfilling the contextual element, which is the commission in the context of armed conflict. The premise of an existing armed conflict would be relevant to the second group of potential perpetrators, namely designers. Not only the final user but also the creators of LAWS, under some circumstances, could be held responsible either as an aider or abetter of a war crime. Additionally, if this person supervises the performance of LAWS in an armed conflict, they could be considered directly participating in the hostilities. Some national laws provide civil or criminal responsibility for producers or software engineers who purportedly, recklessly or negligently create false machines, which could be adapted to LAWS.

Eventually, the vast move towards RMA was initiated by private companies, which are the leading patent makers of LAWS. Domestically, however, privatisation of warfare usually follows with government contractor defence, which was invoked, for example, in the case involving the Aegis weapons system (a precedessor of LAWS). Therefore, Chapter 6 elaborates on arms dealers' relationship with IHL, and corporate responsibility in the framework of a draft treaty on business and human rights, in which, if proceeded, IHL violations resulting from the use of LAWS could follow with procedures involving business responsibility through access to justice and remedy.

Conclusions involve a recommended action plan towards LAWS. One must consider that not every LAWS deployment amounts to an IHL violation. Each case needs to be assessed individually. Circumstances impacting the responsibility depend on the law applicable to the alleged perpetrator. States bear responsibility for grave breaches or serious violations of IHL and violations of other international obligations. However, very often, these obligations are construed vaguely. Unfortunately, at the moment, the gravity of the effects of hostilities posed by LAWS lies with victims, not the perpetrators of IHL violations. Therefore, states developing and deploying LAWS should introduce national legislation addressing the consequences of LAWS' performance. The international regulation would be counterproductive, as the remaining primary actors are generally reluctant to tie themselves to new international obligations. The disturbances of the Nuclear Ban Treaty prove that adherence to a treaty regulating weapons would be relatively low. Therefore, one has to look for the protection of the victims of hostilities in already existing obligations of IHL enforced through the law on international responsibility, including international criminal law and corporate responsibility. Paradoxically, soft

law instruments contribute more to IHL compliance than obligations, so they gain more and more interest in the international community. Their increasing use could be broadened in the field of responsibility of other participants of the war industry. Moreover, following Amoroso and Crootof's arguments on the problem of many hands in developing and deploying LAWS, the book concludes that an insurance-like model would contribute to increasing access to remedy for victims of LAWS.

Chapter 1
Blurring terminology

The first chapter refers to the terminology in the context of responsibility for using lethal autonomous weapons systems. It presents discussions on regulatory attempts to achieve a consistent terminology, before the GGE on LAWS in particular. The book proposes a phenomenological definition of LAWS as a description of the various AI technologies used in weapons systems in terms of how LAWS are experienced in armed conflicts. From the perspective of IHL, it is relevant to categorise LAWS as means or methods of warfare, because the responsibility of a specific participant depends (either directly or indirectly) on compliance with IHL targeting rules. LAWS have raised considerable controversy in the international community, as they touch upon a striking ethical problem, which is enabling a machine to take the life of a human being[1]. Taking into account increasing automation and autonomy, as well as the responsibility for consequences of the conduct of hostilities, including IHL violations and other civilian casualties, it is a critical point in this debate[2]. Terminological issues below relate to distinguishing human autonomy from machine autonomy and correctly categorising LAWS as a means or a method of warfare.

For responsibility, a different set of secondary rules applies to each examined participant of the war industry as well as for breaches of targeting law and the disarmament law. Consequently, there is a difference in obligations concerning the use of a weapon and the production, possession, and transfer of weapons (with the disarmament law regulating the latter). However, the problem of LAWS intersects the two international regimes, thus stepping into international obligations and responsibilities concerning various participants of the war industry.

1 Heyns, "Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Christof Heyns," April 9, 2013, 6.

2 Timothy Coughlin, "The Future of Robotic Weaponry and the Law of Armed Conflict: Irreconcilable Differences?" *University College London Jurisprudence Review*, 17 (2011): 86–90.

Lethal autonomous weapons systems

Autonomy in weapons systems can be attributed to different weapons tasks, such as mobility, health management, interoperability, intelligence, and use of force. Hence, autonomous weapons systems can be used in two directions: decision-support systems[3] and decision-making systems. Decision-support systems use neural networks to filter and process data to facilitate decision-making processes and cannot act, whereas decision-making systems, including LAWS, use neural networks with a certain degree of autonomy to act. Although only the latter are the focus of this book, the decision-support systems also significantly contribute to outcomes in the conduct of hostilities.

The autonomy of LAWS differs from a contemporary concept of (human) autonomy. The word *autonomy* derives from the Greek *auto* "individual", and *nomos* "custom" or "law". As an adjective, *autonomos* means "independent, governed by its own laws"[4]. In Latin, autonomy denotes independence, self-governance, freedom[5], self-determination, and the right to decide for oneself[6]. Autonomy is explicated as Kantian self-reliance and independence in deciding about or establishing norms for oneself[7]. Kant associates autonomy with the will of an individual who makes laws for themselves. It results from the consciousness (reason) possessed by the individual. The concept of autonomy concentrates on freedom and the opposite sphere of obligation (coercion). The moral legislator (in Kantian terms – a human being themselves), as an individual possessing practical reason, gives themselves the law to which their will is to be subjected. As a consequence, the individual obliges themselves to obey this law.

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3 Elena Susnea, "Decision Support Systems in Military Actions: Necessity, Possibilities and Constraints," *Journal of Defense Resources Management*, 3 (October 1, 2012): 131–140.

4 "Autonomy," *Online Etymology Dictionary*, accessed February 2, 2022, https://www.etymonline.com/word/autonomy.

5 Janusz Sondel, *Słownik łacińsko-polski dla prawników i historyków* (Universitas, 2003), 96; Jerzy Pieńkos, *Słownik łacińsko-polski: łacina w nauce i kulturze* (Zakamycze, 2001), 56.

6 Eugeniusz Smoktunowicz, Janusz Borkowski, and Cezary Kosikowski, *Wielka encyklopedia prawa* (Bialystok; Warszawa: Wydaw. Prawo i Praktyka Gospodarcza, 2000), 61.

7 Bartłomiej Kaczorowski, *Nowa encyklopedia powszechna PWN, T. 1*; Kaja Kowalczewska, *Sztuczna inteligencja na wojnie. Perspektywa międzynarodowego prawa humanitarnego konfliktów zbrojnych. Przypadek autonomicznych systemów śmiercionośnej broni* (Warszawa: Wydawnictwo Naukowe Scholar, 2021) (Warszawa: Wydaw. Naukowe PWN, 2004), 435.

Kant perceives human autonomy in two forms: through a practical reason by which the individual constitutes a law for themselves and a will to obey that law. The dualistic self-perception of the individual is reflected in having a will and a reason[8]. Thus, autonomy serves as a foundation for human dignity[9], but in a wider sweep – as a foundation of attributing responsibility.

Therefore, the term *autonomy* seems cumbersome when referring to LAWS. The machine does not possess the will and reason characteristic of any sentient creature, as its processes are based exclusively on mathematical operations performed by algorithms and, further, by neural networks. The term *autonomous* attached to some machines comes from autonomy understood solely as independence. It has nothing in common with human beings' free will or moral subjectivity and is used for commercial purposes (to attract potential clients)[10]. Nevertheless, a common denominator of human and machine autonomy is the ability to learn from examples (design patterns discussed below). A machine's adaptation to changing circumstances resembles a human ability to learn, but what characterises LAWS is physical independence rather than mental autonomy.

There are several relative terms associated with *autonomy* that are often adjusted to LAWS: *automation*, *automatisation*, *automated*, or *automatic*. They are (sometimes misleadingly) used interchangeably in legal or commercial language to describe LAWS. For instance, automatisation has different, even contradictory, definitions. Automatisation refers to equipment and defines a process of using equipment for information processing, taking over certain cognitive, intellectual and decision-making activities previously performed by humans when using an object or in the course of creativity. The *Online Etymology Dictionary* recalls

8 Immanuel Kant, *Krytyka praktycznego rozumu*, trans. Jerzy Gałecki (Warszawa: Państwowe Wydaw. Naukowe, 1972), 57–58; Immanuel Kant, *Metafizyczne podstawy nauki prawa*, trans. Wlodzimierz Galewicz (Kęty: Wydawnictwo Marek Derewiecki, 2006), 25–26; Piotr Makowski, "Autonomia w etyce I. Kanta (Próba interpretacji historystycznej)," *Diametros*, no. 10 (2006): 34–64; Robert Johnson and Adam Cureton, "Kant's Moral Philosophy," in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, Spring 2022 (Metaphysics Research Lab, Stanford University, 2022), https://plato.stanford.edu/archives/spr2022/entries/kant-moral/.

9 Immanuel Kant, *Uzasadnienie metafizyki moralności*, trans. Mścisław Wartenberg (Kęty: Wydawnictwo Marek Derewiecki, 2013), 52.

10 Heyns, "Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Christof Heyns," April 9, 2013, 8.

automatisation concerning animals, which denotes any actions or reactions of higher animals. To describe the working process of a machine, the term *automation* or *automatism* should be used[11]. The latter is derived from the adjective *automatic*, meaning "acting or moving on its own" (from Latin *auto* "by itself", and *matos* "thinking"[12], "automatic action"[13]). The term *automatic* is also used while referring to an automatic weapon, which means a motorised vehicle with automatic propulsion, *automatic* here being synonymous with *spontaneous*[14]. *Autonomy* should be further distinguished from *automation* and *automaticity*: automatic systems operate within a structured and predictable environment.

On the other hand, autonomous systems, including LAWS, can operate in an open environment and adapt to unstructured and dynamic circumstances in situations as volatile as armed conflicts[15]. Last but not least, some companies label autonomy as a positive feature of weapons systems. However, they name a system *autonomous* as an added value, although it should rather be named *automated*, and consider autonomy in selecting and attacking as an added marketing value[16].

LAWS' autonomy addresses the field of computer science dealing with the research on AI, which is responsible for creating machines capable of performing tasks and reacting like humans[17]. Marvin Minsky, one of the pioneers of AI, explains it in terms of a mechanical brain that performs operations appropriate

11 "Automatization," *Online Etymology Dictionary*, accessed February 2, 2022, https://www.etymonline.com/word/automatization.

12 "Automatic," *Online Etymology Dictionary*, accessed February 2, 2022, https://www.etymonline.com/word/automatic.

13 Kaczorowski, *Nowa encyklopedia powszechna PWN. T. 1*, 435.

14 Sondel, *Słownik łacińsko-polski dla prawników i historyków*, 96.

15 William Marra and Sonia McNeil, "Understanding 'The Loop': Regulating the Next Generation of War Machines," *Harvard Journal of Law and Policy*, 36, no. 3 (May 1, 2012): 1149, doi:10.2139/ssrn.2043131.

16 PAX, "Slippery Slope. The Arms Industry and Increasingly Autonomous Weapons" (Utrecht: PAX, November 2019), 30, https://paxforpeace.nl/media/download/pax-report-slippery-slope.pdf.

17 The science of AI is a highly specialised branch that combines, among others, computer science, psychology, cognitive science, neuroscience, philosophy, linguistics, logic, and probability. It interferes between the natural sciences and the humanities, thus combining different methodological tools. Michael Negnevitsky, *Artificial Intelligence: A Guide to Intelligent Systems*, 3rd ed. (Essex: Addison-Wesley/Pearson, 2011), 18.

to human intelligence[18]. Therefore, AI is a set of processes and techniques that allow a machine to act like a human or complement human tasks[19]. Algorithms are inherently linked to the above concepts[20], because they simulate the performance of a human brain[21]. The human central nervous system contains millions of neurons capable of transmitting impulses to each other. Therefore, it somewhat unconsciously processes the information provided by senses (sight, hearing, smell, touch, taste). Algorithms, set in mathematical rules, calculate a solution to a problem in specific steps[22]. They are an inseparable part of computer processing, allowing for solving any given task. The main requirement for algorithms is to accomplish their work after a finite number of instructions have been executed. Combined into sets, they form neural networks that are responsible for pattern recognition based on machine sensors' data. Neural networks are computer tools that allow information to be processed without the mathematical formalisation of the resulting problems[23]. In this way, AI tries to imitate the work of the human brain, simulating its activities in learning processes.

The crux of legal problems concerning LAWS is linked to the autonomy and control of these machine-learning processes. Machine learning is a technique for creating a program capable of learning from previously provided data[24], hence being a type of learning by example. It is used to solve problems that humans cannot solve (e.g. because they do not have access to an expert

18 Marvin Minsky, "Steps toward Artificial Intelligence," *Proceedings of the IRE* 1961 (1961): 8.

19 David Kaye, "Report of the Special Rapporteur on the Promotion and Protection of the Right to Freedom of Opinion and Expression" (HRC, October 26, 2018), 3, https://undocs.org/pdf?symbol=en/A/73/348; Techopedia, "What Is Artificial Intelligence (AI)?," *Techopedia*, July 10, 2021, http://www.techopedia.com/definition/190/artificial-intelligence-ai.

20 Lindsey Andersen, "Human Rights in the Age of Artificial Intelligence" (AccessNow, 2018), https://www.accessnow.org/cms/assets/uploads/2018/11/AI-and-Human-Rights.pdf.

21 A. Atabekov and O. Yastrebov, "Legal Status of Artificial Intelligence Across Countries: Legislation on the Move," *European Research Studies Journal*, XXI, no. 4 (November 28, 2018): 788.

22 Alfred V. Aho, John E. Hopcroft, and Jeffrey D. Ullman, *Algorytmy i struktury danych*, trans. Andrzej Grażyński (Gliwice: Helion, 2003), 16.

23 Ryszard Tadeusiewicz and Maciej Szaleniec, *Leksykon sieci neuronowych* (Wrocław: Wydawnictwo Fundacji "Projekt Nauka," 2015), 94.

24 George F. Luger, *Artificial Intelligence: Structures and Strategies for Complex Problem Solving* (Boston, M.A.; London: Pearson Education, 2009), 28.

in the relevant field) when solutions change rapidly or need to be adapted to user preferences[25]. LAWS' speed and endurance explain why they have been so attractive and at the same time challenging for various participants, including states and non-state armed groups. In machine learning, neural networks are given only training examples from which they can learn and recognise specific patterns[26]. According to the criterion of the format of the training examples, a distinction can be made between unsupervised machine learning, supervised machine learning, and reinforcement machine learning[27]. Unsupervised learning pushes software to find a solution based on unscripted and unanswered examples. Supervised learning uses understanding the interferences between output and a target variable. In this form, the software requires each case to be described individually, which is then used to address new cases automatically[28]. Eventually, reinforcement learning is similar to mechanisms used in Pavlov's experiment because software solves problems through tries and errors, being rewarded or punished afterwards. It is used, for example, in game playing or to find desirable behavioural strategies.

The most advanced type of machine learning is called *deep learning*, through which a program can create a high level of abstraction, similar to how humans learn about the world[29]. Patterns are created by searching large databases (data mining process), while algorithms are structured hierarchically and at different levels of abstraction. This type of machine learning enables better and more complex decisions, such as recognising significant objects on the road by an autonomous vehicle.

Due to their potential, there are narrow (weak) and general approaches to AI. The former focus on creating programs that are used in a specialised field. The examples are facial recognition, voice recognition, chess-playing, medical

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25 Marcin Szeliga, *Praktyczne uczenie maszynowe* (Warszawa: PWN, 2020), 76.

26 Negnevitsky, *Artificial Intelligence*, 21.

27 Ben Buchanan, Taylor Miller, and Belfer Center for Science and International Affairs, *Machine Learning for Policymakers: What It Is and Why It Matters*, 2017, 6–12, https://www.belfercenter.org/sites/default/files/files/publication/MachineLearningforPolicymakers.pdf.

28 Szeliga, *Praktyczne uczenie maszynowe*, 76–77.

29 Ian Goodfellow, Yoshua Bengio, and Aaron Courville, *Deep Learning*, Adaptive Computation and Machine Learning Series (Cambridge, MA, USA: MIT Press, 2016), 5.

diagnoses, car driving, prediction of natural disasters, and military targeting[30]. The general perspective is the primary focus of the science on AI[31] because its main goal is to replace virtually all human cognitive abilities with a machine[32]. However, this does not mean that general AI does not influence the development of a narrow AI. General AI defines its scope, limiting the acceptable progress of a machine's cognitive abilities. General AI also requires a deep understanding of how humans think and act[33]. LAWS also intersect these two approaches, because debates focus both on the limits of specific machine performance, and also on the possible future of armed conflicts in general.

Some argue that LAWS, as a part of AI, cannot think and feel like a human being; therefore, their decisions will never be predictable[34]. For example, a fundamental critic of the whole concept of AI, John R. Searle, argues that computers lack an understanding, particularly a state of intent[35]. Roger Penrose further notes that computers cannot deal with the infinite as they lack an essential part of understanding, namely consciousness (self-awareness and the ability to sense emotions)[36]. These human-reserved features can, in some situations, contribute to accident- and crime prevention. Despite the overwhelming recalculation power of machines based on AI, it is suggested that algorithms cannot adapt to existing rules[37]. These controversies allow us to

30 Ben Goertzel and Cassio Pennachin, *Artificial General Intelligence*, 2007, 1.

31 S. S. Adams et al., "Mapping the Landscape of Human-Level Artificial General Intelligence," *AI Magazine*, 33, no. 1 (2012): 26, doi:10.1609/aimag.v33i1.2322.

32 S. Franklin, "A Foundational Architecture for Artificial General Intelligence," in *Advances in Artificial General Intelligence: Concepts, Architectures and Algorithms*, ed. Ben Goertzel and Pei Wang (Amsterdam: Ios Press, 2007), 36, https://public.ebookcentral.proquest.com/choice/publicfullrecord.aspx?p=305161.

33 Antonio A. Martino, "Artificial Intelligence and Law," *International Journal of Law and Information Technology*, 2, no. 2 (Lipiec 1994): 154, doi:10.1093/ijlit/2.2.154.

34 "Benefits & Risks of Artificial Intelligence," *Future of Life Institute*, accessed February 2, 2022, https://futureoflife.org/background/benefits-risks-of-artificial-intelligence/.

35 John R. Searle, "Minds, Brains, and Programs," *Behavioral and Brain Sciences*, 3, no. 3 (September 1980): 420, doi:10.1017/S0140525X00005756.

36 Roger Penrose and Martin Gardner, *Nowy umysł cesarza: o komputerach, umyśle i prawach fizyki*, trans. Piotr Amsterdamski and Tomasz Lanczewski (Poznań: Wydawnictwo Zysk i S-ka, 2021), 37–38.

37 Noel Sharkey, "Grounds for Discrimination: Autonomous Robot Weapons," *RUSI Defence Systems*, Październik 2008, 87.

acknowledge that such phenomena as algocracy or technochauvinism should not overshadow the arguments on actual machines' abilities (or disabilities).

Advanced algorithms are more prone to biases[38], which lead to a lack of complete objectivity in decision-making processes[39]. Bias is a departure from a standard linked to social preferences or prejudices against a person or group[40]. In algorithmic decision-making processes, bias can occur at the data and system levels[41]. Data provided to AI may be affected by bias for such reasons as historical, by selecting an unrepresentative group, or due to poor selection or incomplete data[42]. On the other end of the spectrum are reasons for bias engendered by a programmer at a system level that usually occurs unintentionally. They result from confusing correlation with causation, for example, when giving lower credit points to people with lower incomes. Such bias may also originate in choosing parameters prone to bias when the neural network is based, for example, on race-specific variables (such as postcode, education, and income)[43]. Therefore, complete predictability of algorithmic decision-making is not possible in every case. To increase the predictability of the computational outcome, algorithms applied in the military should operate in an environment with known prior stimuli, as they form a part of critical systems. In the case of a contemporary character of (particularly asymmetric) armed conflicts, the predictability of LAWS constitutes a significant challenge to IHL and human rights law compliance. One of the risks related to using LAWS is confirmation

38 UNIDR, "Algorithmic Bias and the Weaponization of Increasingly Autonomous Technologies" (UNIDR, 2018), 2, https://unidir.org/sites/default/files/publication/pdfs/algorithmic-bias-and-the-weaponization-of-increasingly-autonomous-technologies-en-720.pdf.

39 McKenzie Raub, "Bots, Bias and Big Data: Artificial Intelligence, Algorithmic Bias and Disparate Impact Liability in Hiring Practices," *Arkansas Law Review*, 71, no. 2 (2018): 530.

40 Eun Bae Kong and Thomas G. Dietterricht, "Machine Learning Bias, Statistical Bias, and Statistical Variance of Decision Tree," *UWE Bristol*, 1995, 1, https://www.semanticscholar.org/paper/Machine-Learning-Bias-%2C-Statistical-Bias-%2C-Variance-AlgorithmsThomas-Dietterichtgd/f4bdc341106714f7ab389539ba362791cd228617.

41 UNIDR, "Algorithmic Bias and the Weaponization of Increasingly Autonomous Technologies," 2–6.

42 Lidia Kostopoulos, "The Role of Data in Algorithmic Decision-Making" (UNIDR, 2019), 11–12, https://www.unidir.org/files/publications/pdfs/the-role-of-data-in-algorithmic-decision-making-en-815.pdf.

43 Andersen, "Human Rights in the Age of Artificial Intelligence," 12.

bias related to target recognition as well as whether an individual performs an act of surrender.

For deploying LAWS, it is crucial to understand the relationships between training data and the outcome of AI decision-making[44]. Training environments for these systems usually come from a laboratory or combatants' previous battlefield experiences. The outcome of the LAWS operation relies not only on how the system was trained. Other relevant factors include differentiated and controlled levels of knowledge and beliefs and the scope of the ability for multifaceted learning[45]. The legitimate use of LAWS further depends on the user's thorough knowledge and understanding of the training environment in the learning phases (and limits of LAWS cognitive capacities). AI is then less prone to falling into patterns and biases.

However, RMA did not grow out of the blue. Primitive drone technologies changed the warfare in Afghanistan, Iraq, South Africa and Yemen. Yet, LAWS revolutionised modern warfare by allowing the leading technological states to adopt unmanned vehicles in communications-degraded or -denied environments without necessarily risking their own combatants' lives[46]. LAWS are children of many predecessors used in various contexts, and modern warfare has a long history of utilising increasingly remote-operated technologies in times of peace and armed conflict[47]. It has humanised warfare by increasing the emotional and physical distance between combatants and violence[48]. The cross-point in this revolution would occur when AI-made decisions are placed and accepted at the same level as human decision-making[49]. Therefore,

44 Buchanan, Miller, and Belfer Center for Science and International Affairs, *Machine Learning for Policymakers*, 5.

45 Kostopoulos, "The Role of Data in Algorithmic Decision-Making," 5–8.

46 Michael Carl Haas and Sophie-Charlotte Fischer, "The Evolution of Targeted Killing Practices: Autonomous Weapons, Future Conflict, and the International Order," in *The Transformation of Targeted Killing and International Order*, ed. Martin Senn and Jodok Troy, 1st edition (London New York: Routledge, 2019), 110.

47 Austin Wyatt, *The Disruptive Impact of Lethal Autonomous Weapons Systems Diffusion: Modern Melians and the Dawn of Robotic Warriors* (Routledge, 2022), 11.

48 Ibid., 12.

49 Lucas Bøgehøj, "Artificial Intelligence vs. Human Intelligence (Man vs. Machine)" Discussion paper on Artificial Intelligence, Human Intelligence and the rapid transformation of digitalization and datafication that our current society is going through (December 2016): 4, doi:10.13140/RG.2.2.28050.35526.

an acceptance of employing LAWS in armed conflicts should follow an adequate training of private entities and individuals in the field of potential inferences between LAWS at their disposal and ethics, law and policy safeguards. Under no circumstances should the context or the target against which an attack is directed and for which AI has been trained be changed[50].

To machines, autonomy means performing an intended task without human intervention[51]. This ability originates from the interaction between the machine's sensors, software and the environment in which the machine performs a specific task[52]. However, the term has caused significant disagreements, particularly at the CCW meetings on LAWS. In this context, a lack of a universal document regulating the status of LAWS under international law mainly results from these disagreements on terminology.

The first informal meeting on LAWS in the framework of the CCW stressed the importance of command and control in determining the legality of using LAWS. According to Thilo Marauhn, the discussion on LAWS should focus on targeting law, since an outright prohibition on LAWS would be pointless and pragmatically ineffective (autonomous systems are neither inherently indiscriminate nor do they cause superfluous injury or unnecessary suffering). The problem in applying LAWS concerns whether and to what extent critical decisions of carrying out an attack should be delegated to software (or, to be more specific – should be taken off a human burden). IHL doctrine has been struggling with this anathema for years. In practice, the anathema here is the extent to which decisions concerning an attack should be ceded to lower levels of command or an external company programming the system. In an ideal world, LAWS are not (and probably will never be) created to replace the highest

50 UNIDR, "Algorithmic Bias and the Weaponization of Increasingly Autonomous Technologies," 11–12.

51 Negnevitsky, *Artificial Intelligence*, 18.

52 A.P. Williams, "Defining Autonomy in Systems: Challenges and Solutions," in *Autonomous Systems: Issues for Defence Policymakers*, ed. Andrew Williams and P.D. Scharre (Norfolk: NATO, 2015), 33; Vincent Boulanin and Maaike Verbruggen, "Mapping the Development of Autonomy in Weapon Systems" (Stockholm: SIPRI, November 2017), https://www.sipri.org/publications/2017/other-publications/mapping-development-autonomy-weapon-systems; Vincent Boulanin and Maaike Verbruggen, "Article 36 Reviews: Dealing with the Challenges Posed by Emerging Technologies" (Stockholm: SIPRI, December 2017), 17, https://www.sipri.org/publications/2017/other-publications/article-36-reviews-dealing-challenges-posed-emerging-technologies.

levels of command in armed forces. LAWS are placed at a relatively low (if not the lowest) level of command. Hence, according to Marauhn, attention should be paid to the scope of autonomy within a particular command level and the circumstances in which this autonomy can be exercised[53].

Traditional military operations struggle with a similar problem when strategic, operational and tactical levels of command and control in using lethal force are distributed among various individuals, depending on the operation and a compound military structure[54]. These decisions cover the abstention from an attack if it appears that the attack may cause unintended (accidental) civilian casualties (according to Article 57(2)(b) of Additional Protocol I of 1977, the prohibition of such casualties is incumbent on a person planning or deciding to launch an attack). However, the assumption that there is always a human authorising and responsible for an attack in traditional military operations is misleading. The above does not allow to ignore the differences between giving authorisation to an individual and giving authorisation to a system. It is not infrequent that a subordinate combatant is less reliable in carrying out lawful orders than LAWS would be[55].

Noel Sharkey, in turn, has presented a set of minimal elements comprising meaningful human control (MHC) of a system. In every attack, the commander or operator should have the maximum possible contextual and situational awareness of the targeting area. Such a person should be able to perceive and respond to any changes or unexpected situations that may have arisen since the planning phase. Active cognitive participation in an attack should be maintained, and an individual should have time to consider the significance of a target in terms of its necessity and appropriateness, as well as the likelihood of incidental and possible accidental consequences of the attack. Eventually,

53 Thilo Marauhn, "An Analysis of the Potential Impact of Lethal Autonomous Weapons Systems on Responsibility and Accountability for Violations of International Law" (Presentation on the occasion of the CCW expert meeting on lethal autonomous systems, Geneva, May 13, 2014), https://docs-library.unoda.org/Convention_on_Certain_Conventional_Weapons_-_Informal_Meeting_of_Experts_(2014)/Marauhn_MX_Laws_SpeakingNotes_2014.pdf.

54 Terry D. Gill and Dieter Fleck, *The Handbook of the International Law of Military Operations*, 1st ed. (Oxford: Oxford University Press, 2015), 262.

55 Marauhn, "An Analysis of the Potential Impact of Lethal Autonomous Weapons Systems on Responsibility and Accountability for Violations of International Law."

decision-makers should adopt measures allowing the immediate abstention or cancellation of an attack[56].

The concept of MHC over the system emerged more frequently in the 2015 CCW informal meeting on LAWS discussions. Several states expressed scepticism about the usefulness of this concept due to its being undefinable, subjective and vague. For them, the definition of autonomy was more appropriate to focus on, as it may be more precise and applicable in technical terms. Other states expressed concerns about the potential for unintended consequences in using LAWS, even with a narrow scope of meaningful human control. They suggested the term *human judgment*, since human control may be particularly vulnerable to external influence (in the realities of a battlefield – to distress or operational pressure in particular). Contrary to political utility, meaningful human control may not be as valuable in legal terms, which would undermine the foundations of the existing targeting law by introducing even more ambiguities. The best guarantee of adequate protection for civilians and civilian objects is believed to be reachable by thorough conduct, in good faith, of weapons review[57]. This obligation of measures (not results) bears only with states (and not other participants of the war industry).

As discussions at the CCW framework developed in 2016, MHC has become a rationale/principle for determining the legality of using LAWS for some states. Others proposed extending this principle to earlier phases of LAWS implementation, including weapons system selection and introduction into the state arsenal. Some states criticised this principle as based on subjective (non-legal) premises. According to them, the principle should be replaced by the phrase *appropriate human judgment*[58].

More detailed possible regulations of LAWS occurred in 2017. They were divided into the following sections: 1) policy in the pre-development phase of LAWS; 2) research and development; 3) testing, evaluation and certification; 4) use and training, including in the context of command and control; 5) use of LAWS; 6) post-use impact assessment. While national regulations usually

56 Noel Sharkey, "Presentation at CCW Informal Meeting on LAWS" May 2014, https://www.unog.ch/80256EDD006B8954/(httpAssets)/78C4807FEE4C27E5C1257CD700611800/$file/Sharkey_MX_LAWS_technical_2014.pdf.

57 "Informal Meeting of Experts, Report 2015," 11–15.

58 "Informal Meeting on Laws, Report 2016," 3.

cover all the phases, the fourth and following (operational) stages become internationally relevant. Application of international law begins with including LAWS in the state arsenal, appropriate training, and the use and post-use assessment of LAWS effects. From a targeting law perspective, international law has limited ability to interfere in the earlier stages' areas (reserved for states' jurisdiction only). The source for human control over a system originates in the requirement to comply with IHL in targeting. However, states have not been able to take a common position on the appropriate placement of human control in the different phases of LAWS integration into state arsenals. In using a weapons system in an armed conflict, combatants should be responsible for activating and monitoring the system's performance. Monitoring a system's performance requires adequate operator's knowledge of the system's characteristics and reliable certainty that the system is ready for use in the planned environment. In addition, the information processed should be adequate and reliable to comply with IHL. Control over use involves procedural requirements during planning, assignment and operation. The control should consist of two parts: the ability to understand the context and situation and to intervene when necessary (by disabling the system or manipulating its behaviour). The ability to intervene should be foreseen in selecting and directly engaging the target. In the final evaluation phase, the ability to operationalise responsibility is essential. Providing such a capability may require recording individual LAWS actions during its operation and ensuring that the human understands these actions. The 2018 report offers several proposals to regulate the relationship between humans and machines[59]. These are presented in the table below.

Human action	Subjective	Subject	Interaction
Maintaining	*Substantive*	*Human*	*Participation*
Ensuring	*Meaningful*		*Involvement*
Exerting	*Appropriate*		*Responsibility*
Preserving	*Sufficient*		*Supervision*
	Minimum level of		*Validation*
	Minimum indispensable extent of		*Control*
			Judgment
			Decision

59 "GGE Report 2018," 13–16.

The adoption of any of the above entails specific legal consequences. The adjective "appropriate" is contextual and as such requires *a post factum* assessment of whether, in particular circumstances, human control was satisfying to ensure IHL compliance[60]. The LAWS operation's outcome determines a "sufficient" human control. Accordingly, Article 36 proposed a configuration based on significant human control over the target engagement process. The design was based on two assumptions: that a machine using force and operating without any human control is unacceptable and that human activation of the system alone, without clarity and situational awareness, is insufficient[61].

Peter Asaro has presented a more far-reaching statement that the requirement for MHC over the system is the principle *in statu nascendi*. It applies to using LAWS in armed conflicts and to general new weaponry technologies. The changing nature of armed conflicts and the increasing involvement of new developments incur a new perception of IHL. This branch of international law turns out to be susceptible to any transformations arising from technology which affect the behaviour and capabilities of parties to an armed conflict. According to Asaro, the IHL rationale for developing a principle of MHC over a system is the Martens Clause as a universal moral denominator for any decision-making in armed conflict[62].

The CCW meetings have focused on two issues, namely, the concept of autonomy and the human-machine relationship so far. However, states are unwilling to adopt a common position on the prevailing relevance of either of these issues. The apparent consensus among states relates exclusively to concluding that LAWS is an umbrella term under which various types of weapons systems are covered. This consensus barely contributes to assessing how international law as it stands applies to LAWS. Nonetheless, focusing on critical

60 R. Moyes, "Meaningful Human Control over Individual Attack. Speaker's Summary," in *Autonomous Weapon Systems. Implications of Increasing Autonomy in the Critical Functions of Weapons. Expert Meeting*, by ICRC (Versoix: ICRC, 2016), 46–52, https://icrcndresourcecentre.org/wp-content/uploads/2017/11/4283_002_Autonomus-Weapon-Systems_WEB.pdf.

61 Heather M. Roff and Richard Moyes, "Meaningful Human Control, Artificial Intelligence and Autonomous Weapons" (Briefing paper for delegates at the Convention on Certain Conventional Weapons (CCW), Geneva, 15/04 2016), https://article36.org/wp-content/uploads/2016/04/MHC-AI-and-AWS-FINAL.pdf.

62 P. Asaro, "Jus Nascendi, Robotic Weapons and the Martens Clause," in *Robot Law*, ed. M. Ryan Calo, Michael Froomkin, and Ian R. Kerr (Cheltenham; Northampon, MA: Edward Elgar Publishing, 2016), 367–375.

functions in defining LAWS presumes the need to maintain a certain level of human control over the system. This focus would allow identifying specific features that can increase the lawful use of LAWS[63]. To ensure IHL compliance, Arkin, Ulam and Duncan propose an "ethical governor" implemented into the system's architecture. This component would be responsible for evaluating its ethical appropriateness and, if necessary, restricting lethal action of LAWS[64].

The critical functions of the system to select and engage a target also came up as one of the conclusions of the 2016 session devoted to the identification of autonomy as such. Some use the concept of autonomy to describe desirable features of the weapons system. For example, the developing systems with progressive autonomy have pointed to enhanced attack target selection capabilities as a possibility for reducing civilian casualties. Some states requested at least an adoption of a working definition of LAWS, which would greatly facilitate further discussions. For example, in 2017, the Netherlands proposed a working definition of LAWS. It was structured as follows: "a weapon that, without human intervention, selects and engages targets matching certain predefined criteria, following a human decision to deploy the weapon on the understanding that an attack, once launched, cannot be stopped by human intervention"[65]. This definition has certain limitations; firstly, it lacks reference to a weapons system and focuses on the term *weapon* only. Second, autonomy is limited to the critical stages of targeting, that is, target selection and attack. Third, it envisages human participation through weapon activation while assuming human awareness (acceptance) that, upon activation, the human cannot intervene.

The common definition of LAWS was eventually not considered a condition *sine qua non* for the debate to continue, in any case. States agreed on the importance of the relationship between a human operator and a machine.

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63 "Informal Meeting of Experts, Report 2015," 11, 15.

64 Ronald Arkin, Patrick Ulam, and Brittany Duncan, "An Ethical Governor for Constraining Lethal Action in an Autonomous System," Technical Report (Georgia Institute of Tech Atlanta Mobile Robot Lab, January 1, 2009), https://digitalcommons.unl.edu/csetechreports/163.

65 "Examination of Various Dimensions of Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, in the Context of the Objectives and Purposes of the Convention, Submitted by the Netherlands" (Geneva: Group of Governmental Experts of the High Contracting Parties 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, September 10, 2017), https://undocs.org/ccw/gge.1/2017/WP.2.

Among IHL challenges, some states highlighted the inability of the system to recognise a surrender by a combatant or to take feasible precautions before carrying out an attack[66].

In 2018, possible approaches to constructing a definition of LAWS were presented. Among them were the following concepts: 1) selective, 2) cumulative, 3) accountability, and 4) purpose-oriented and effect-based approach. The first of these, the selective approach, centres on system characteristics relevant to the CCW Convention's objectives and purposes. Other features should remain outside the focus of the discussions. The following approach – cumulative – involves drawing up an inventory of feature categories and assessing them through technical, legal and political lenses. These categories should then be assessed in the context of the objectives and goals of the CCW Convention. Among them is a mode of operation (including engaging the target), the relationship between a human and machine, reliability, predictability, and submission to command and control. The fourth approach is based on the desired and undesired effects caused by using LAWS[67]. From the phenomenological perspective adopted in this book, the third approach seems the most appropriate to fit into the existing international legal framework and address the alleged protection gaps. This approach recommends orienting the characterisation of LAWS to those features that enable human, corporate and state duties and the operationalisation of various forms of accountability. This approach depends on the scenarios in which LAWS are used by engaging in technical relationships and human interface assessment. What matters is the set of functions and the types of decisions that are delegated to the machine. It allows to avoid the need to define levels of autonomy and other technical issues, as well as other categories of functions or decisions related to loss of human control. This approach, albeit contextual, allows addressing accountability for relevant acts from the perspective of protecting the core IHL values.

In the 2019 GGE meeting, target identification, selection and attack were finally considered the crucial LAWS features for further discussions. Phases of design, development, testing and use of LAWS should consider any risk of collateral damage, of launching an attack in an unplanned manner, of losing

66 "Informal Meeting on Laws, Report 2016," 6–8.

67 "GGE Report 2018," 10.

control over the system, of proliferation and the takeover by non-state actors, including terrorist organisations[68].

In the summary of the GGE 2019 Report, the President underlined several reasons behind the lack of adopting a common definition of LAWS. Over the years of informal meetings and GGE, there have been attempts to understand autonomy. Experts have tried to draw lines between automatisation, semi-autonomy and full autonomy. However, each weapons system comprises subsystems, which can be technically complex (including autonomous), and still used in a targeting process. This complexity makes it challenging to define LAWS and fully understand the impact of autonomy on the ability of parties to a conflict to comply with IHL in carrying out an attack[69].

Prior to the establishment of the GGE, some states and international organisations adopted their definitions of LAWS, whether in the form of legislative acts, guidelines or reports[70]. The first state that regulated the strategy for LAWS was the United States[71]. The Department of Defense issued the Directive No 3000.09 of 21 November 2012 (changed in 2017)[72]. Under the Directive, the definition of LAWS is grounded in the role of a human concerning target selection and engagement decisions of machines. Accordingly, an autonomous weapons system is a weapons system that, once activated, is capable of selecting and engaging a target without further intervention by a human operator.

68 "Report of the 2019 Session of the Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems," 4–6.

69 "Report of the 2019 Session of the Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems. Addendum: Chair's Summary of the Discussion of the 2019 GGE" (Geneva: 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, August 11, 2019), 2, https://documents.unoda.org/wp-content/uploads/2020/09/1919338E.pdf.

70 Gary Jr. Schraub and Jens Wenzel Kristoffersen, "In, On, or Out of the Loop? Denmark and Autonomous Weapon Systems" (Kopenhagen: Centre for Military Studies, University of Kopenhagen, February 24, 2017), https://cms.polsci.ku.dk/english/publications/in-on-or-out-of-the-loop.

71 Defence Science Board, "Task Force Report: The Role of Autonomy in DoD Systems" (Washington, D.C: US Department of Defence, July 19, 2012), https://irp.fas.org/agency/dod/dsb/autonomy.pdf.

72 "Department of Defense Directive 3000.09: Autonomy in Weapon Systems" (US Department of Defence, November 21, 2012), https://www.hsdl.org/?abstract&did=726163.

The Directive distinguishes between human-supervised systems, e.g. those that allow the operator to intervene (or even abstain from the attack) before unacceptable harm is committed, and semi-autonomous weapons systems, which, once activated, can attack one or more targets pre-selected by a human operator. This disctinction is significant for international debate, because the United States has constantly been instrumental in deploying systems with varying degrees of autonomy[73]. In an updated Defense Primer on US Policy of LAWS of 14 November 2022, the Congressional Research Service stresses the need to discuss legal standards for LAWS' employment in armed conflicts[74].

The United Kingdom is another state that has regulated LAWS early. The UK Ministry of Defence in Joint Doctrine Note 2/11: The UK Approach to Unmanned Aircraft Systems referred to AWS as influencing the legal requirement and eroding the role of the human in the loop[75]. The superseding Joint Doctrine Publication 0-30.2 defines AWS as "machines with the ability to understand higher-level intent, being capable of deciding a course of action without depending on human oversight and control"[76]. The ability to perceive the environment makes these systems capable of taking the appropriate steps to achieve an intended outcome. They are able to decide the course of their actions from among a larger number of alternatives. Human involvement is unnecessary, but its presence during the task execution process is not excluded. The Ministry of Defence notes that while the overall activity of an autonomous system is predictable, individual steps are not necessary and claims that the UK is not planning to fully develop AWS.

Also, the ICRC has engaged itself in meetings at the GGE on LAWS and proposed a definition of autonomous systems determined by the system's

73 Boulanin and Verbruggen, "Mapping the Development of Autonomy in Weapon Systems"; Jeffrey Thurnher, "No One at the Controls: Legal Implications of Fully Autonomous Targeting," *Joint Force Guarterly*, 67, no. 4 (2012): 77–84, https://papers.ssrn.com/abstract=2296346.

74 Congressional Research Service, "Defense Primer: U.S. Policy on Lethal Autonomous Weapon Systems," November 14, 2022, https://crsreports.congress.gov/product/pdf/IF/IF11150.

75 "Joint Doctrine Note 2/11: The UK Approach to Unmanned Aircraft Systems" (UK Ministry of Defence, March 30, 2011), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/644084/20110505-JDN_2-11_UAS_archived-U.pdf.

76 "Joint Doctrine Publication 0-30.2: Unmanned Aircraft Systems" (UK Ministry of Defence, 2017), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attach ment_data/file/673940/doctrine_uk_uas_jdp_0_30_2.pdf.

critical functions. These included selection (search, detection, identification, tracking) and attack (use of force, neutralisation, damage, destruction of target)[77]. The ICRC considered an autonomous weapons system to be a weapons system programmed to learn and adapt to the changing environment in which the weapon is used. A fully autonomous weapons system would be capable of finding, identifying and applying lethal force to a target without human intervention or control. This definition is also probably the broadest, covering some already existing weapons systems, such as defensive large-calibre guns (defensive missiles, active missile defence vehicles) or offensive weapons systems (e.g. US Mark 60 Captor submarine torpedo launchers, capable of searching for, detecting, classifying, targeting and attacking submarines with a Mk 46 torpedo)[78]. The definition refers to some neural networks capable of operating without human control in a dynamically changing environment[79] and is based on the level of human interference in key decision-making processes. The main reason for this approach in defining LAWS is the need to distinguish fully autonomous systems from human-controlled systems[80]. The latter does not give rise to greater controversies about responsibility for IHL violations. According to the ICRC, this reassures consideration of what may constitute legally and ethically acceptable developments in implementing new technologies into armaments. Until recently, it was clear that the ICRC was not explicitly advocating for a prohibition of using LAWS. A crucial task was to raise awareness among states of the fundamental problems relating to this type of armament and to ensure that technology was not used if there was uncertainty about IHL compliance. So initially, the ICRC was underpinning the terminological discrepancies

77 Neil Davison, "A Legal Perspective: Autonomous Weapon Systems under International Humanitarian Law," *UNODA Occasional Papers*, 30 (2017): 5, doi:10.18356/29a571ba-en.

78 "Views of the ICRC on Autonomous Weapon Systems" (Geneva: Convention on Certain Conventional Weapons (CCW) Meeting of Experts on Lethal Autonomous Weapons Systems (LAWS), November 4, 2016), 2, https://www.icrc.org/en/document/views-icrc-autonomous-weapon-system.

79 Kathleen Lawand, "Fully Autonomous Weapon Systems," *ICRC*, November 25, 2013, https://www.icrc.org/en/doc/resources/documents/statement/2013/09-03-autonomous-weapons.htm.

80 ICRC, "Autonomous Weapon Systems. Implications of Increasing Autonomy in the Critical Functions of Weapons. Expert Meeting" (Versoix: ICRC, 16/03 2016), 8, https://icrcndresourcecentre.org/wp-content/uploads/2017/11/4283_002_Autonomus-Weapon-Systems_WEB.pdf.

associated with LAWS and called for a more careful discourse only[81]. However, in May 2021, the ICRC eventually renounced its previous concerns about LAWS and is now explicitly calling for a new regulation, including establishing certain circumstances under which these weapons systems should be prohibited[82]. It is claimed that the use of force should remain under direct human control[83]. This position is an important step forward, because, as a guardian of IHL, the ICRC facilitates the dialogue between states and parties to an armed conflict, particularly in broader political processes leading to the restoration of peace through protecting the core IHL values.

The UN framework presents a great field of analysis of the political and legal status of LAWS. Emmerson, the UN Special Rapporteur on the promotion and protection of human rights and fundamental freedoms while countering terrorism, noted the term *unmanned aerial vehicles* that could be armed with precision-guided munitions. For instance, Israeli Heron and Hermes systems, the US Predator and Reaper systems and the UK Reaper fell under this definition. The Rapporteur pointed to the potential for reducing civilian casualties through significant overall improvements in situational awareness, which should be viewed positively through the lens of IHL[84]. He referred to the ICRC's statement that any weapon that contributes to conducting a more precise attack and reducing or avoiding civilian casualties should be given preference over weapons that do not have such capabilities[85]. Therefore, unmanned aerial vehicles were not perceived as a considerable challenge to IHL compliance.

81 Lawand, "Fully Autonomous Weapon Systems."

82 ICRC, "ICRC Position on Autonomous Weapon Systems" (ICRC, May 12, 2021), https://www.icrc.org/en/document/icrc-position-autonomous-weapon-systems.

83 Vincent Boulanin, Netta Goussac, and Laura Bruun, "Autonomous Weapon Systems and International Humanitarian Law: Identifying Limits and the Required Type and Degree of Human–Machine Interaction" (Stockholm: SIPRI, June 2021), 17, https://www.sipri.org/publications/2021/other-publications/autonomous-weapon-systems-and-international-humanitarian-law-identifying-limits-and-required-type.

84 Ben Emmerson, "Report of the Special Rapporteur on the Promotion and Protection of Human Rights and Fundamental Freedoms While Countering Terrorism, by Ben Emmerson" (UNGA, September 18, 2013), 6, https://undocs.org/en/A/68/389.

85 "The Use of Armed Drones Must Comply with Laws," *ICRC*, October 5, 2013, 7, https://www.icrc.org/en/doc/resources/documents/interview/2013/05-10-drone-weapons-ihl.htm.

The UN Secretary-General was not so optimistic about weaponised neural networks. In the 2013 Report on protecting civilians in armed conflict, Ban Ki-moon explicitly used the term *autonomous weapon systems.* According to this Report, the AWS is a system that, once activated, can select and engage a target and operate in a dynamic and changing environment without further human intervention. The Secretary-General questioned such systems' ability to operate according to IHL and international human rights law. In addition to moral doubts, he underpinned the difficulty of enforcing responsibility for possible war crimes or serious human rights violations. The UN Secretary-General further called for greater transparency in the domestic prosecution of serious IHL violations arising from states' use of armed drones[86].

Heyns, the UN Special Rapporteur on extrajudicial, summary or arbitrary executions, used the term *lethal autonomous robots.* This term covered a robotic weapons system that, when activated, could select and attack a target without further human intervention. An important aspect was that the robot had the ability to select a target and use lethal force autonomously. Robots were understood as machines created in the sense-think-act paradigm. Sensors provide the robot with the appropriate level of situational awareness. Processors or AI decide how to respond to stimuli, while effectors (executive organs) are responsible for executing the decision. According to Heyns, the human will remain at least part of the wider loop of decision-making, as s/he is responsible for programming the goals and deciding on the activation and termination of the system. The autonomous system will transform the identified goals into specific tasks, which it will perform without further human intervention. Supervised autonomy means that the human remains in the decision chain, monitoring or abstaining from the robot's action. Nevertheless, the authority to stop an action may be limited, as the robot's reaction time is much faster than that of a human, and the basis for the decision may not be practically available to the supervisor. The fact that lethal autonomous robots are compatible with IHL does not mean that such robots can never make a mistake.

86 "Report of the Secretary-General on the Protection of Civilians in Armed Conflict" (UNSC, November 22, 2013), 67–68, https://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/s_2013_689.pdf.

After all, the standard for acceptable human error is not always very high[87]. The acceptable level for robots means they are expected to perform tasks with greater accuracy than humans. In 2014, Heyns explicitly included the term *autonomous weapon system*, used interchangeably with the lethal autonomous robot. He defined LAWS as a weapon platform that, when activated, can select and engage a target autonomously. In this case, "autonomously" means without further human intervention[88]. The change in terminology may have been instigated by announcing the launch of the first informal meeting of a group of experts within the CCW framework, the subject of which was emerging technologies in LAWS[89].

In the first years of discourse on LAWS, the proposal was made to divide such systems into three categories: human in the loop, human on the loop and human out of the loop. This distinction was based on the human's role in identifying and engaging the target[90]. To successfully engage a military target, human-controlled systems require the use of a button once the system is activated[91]. Such systems are remotely controlled and incapable of making decisions without a human. On-the-loop systems, on the other hand, can engage any target independently but remain under human supervision throughout the task[92]. Moreover, attacking a target after the system has been activated is proceeded by pre-determined human constraints on system decision-making, while a human operator selects the target. The last of the systems – fully

87 Heyns, "Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Christof Heyns," April 9, 2013, paras. 7–8, 12.

88 Christof Heyns, "Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Christof Heyns" (HRC, January 4, 2014), 20–21, https://undocs.org/A/HRC/26/36.

89 "Report of the 2014 Informal Meeting of Experts on Lethal Autonomous Weapons Systems (LAWS)" (Geneva: Meeting of the High Contracting Parties 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, November 6, 2014), https://undocs.org/ccw/msp/2014/3.

90 "Review of the 2012 US Policy on Autonomy in Weapons Systems," *Human Rights Watch*, April 15, 2013, https://www.hrw.org/news/2013/04/15/review-2012-us-policy-autonomy-weapons-systems.

91 For example, Predators and Reapers used in Pakistan and Afghanistan by the US armed forces.

92 For example, RIM-162 Evolved Sea Sparrow that was construed in the framework of NATO, which directly protects surface watercrafts.

autonomous – can perform tasks independently without human involvement[93]. The proposal has been quickly criticised, because it was impossible to draw clear-cut boundaries between different levels of autonomy. The ranges indicated were not exhaustive, as there are systems that humans theoretically supervise but are completely autonomous due to minimal human supervision[94].

The ICRC does not recognise in-the-loop systems as autonomous systems, while Human Rights Watch (HRW) adopted a broader definition, including human-controlled systems. The division proposed by HRW has been indirectly criticised by the International Committee for Robot Arms Control (ICRAC). During an Expert Group meeting at the CCW Convention in April 2018, the ICRAC pointed out that the scope of control exercised over a weapons system is not limited to three exclusionary categories. Such systems may have multiple configurations of autonomous decision-making functions[95].

NATO's Policy Guidance: Autonomy in Defense Systems also contributes to discussions on LAWS. According to this document, *autonomy* means a "self-governing" system. In the context of defence systems, this term describes how a machine performs certain functions independently of a human. Admittedly, attempts have already been made to define machine autonomy levels and distinguish autonomy from automation. However, there is still no consensus on the definition, which is further complicated by the lack of a deeper understanding of instruments related to machine autonomy (such as AI or algorithms capable of making decisions). True autonomy should be considered an innate characteristic of rational beings only. Machines are autonomous only concerning specific functions (such as navigation, fuel management, and sensor optimisation). Only in this context can we analyse the level of control exercised by humans over the system, or to be precise, over the autonomous functions of the system.

Given the above, machines are not autonomous in the literal sense but may manifest some autonomous-like characteristics, depending on the specific level of human control and the situational context. Classifying a particular function

93 "Views of the ICRC on Autonomous Weapon Systems," 1.

94 "Review of the 2012 US Policy on Autonomy in Weapons Systems."

95 "ICRAC Statement on the Human Control of Weapons Systems at the April 2018 CCW GGE," *ICRAC*, November 4, 2018, https://www.icrac.net/icrac-statement-on-the-human-control-of-weapons-systems-at-the-april-2018-ccw-gge/.

as autonomous implies a certain level of adaptability to complex or unexpected situations, which may differ from automatic functions that emerge according to accepted inputs. Autonomous functioning refers to a system, platform or software's ability to perform a task without human intervention through behaviour resulting from the interaction between the computer and the external environment. Tasks or functions fulfilled by the platform, or distributed between the platform and other parts of the system, can be performed using a range of behaviours consisting of reasoning and problem-solving processes, adaptation to unexpected situations, self-direction and machine learning. Several factors determine which functions are autonomous and the extent of human impact on the direction, control and termination of functions by the machine. These are design trade-offs, mission complexity, external environmental conditions, and legal and political requirements. Understanding that a machine or system cannot be fully autonomous is essential. The term *autonomous system* is used with the tacit assumption that not all parts or functions of a system exhibit autonomous behaviour. The above raises doubts, given the infinite number of system functions that can manifest autonomous behaviour. Attempts to formulate a definition of an autonomous system, autonomous platform or otherwise, without giving due consideration to these functions can be misleading because there are no autonomous machines *per se*. Machines can only have certain autonomous functions, and the authors of the NATO Guidelines emphasise the need to focus on which functions ultimately become autonomous for the machine[96]

From the perspective of responsibility, the Stockholm International Peace Research Institute (SIPRI)'s Study on LAWS is also valuable for approaching states and individuals. The Study describes autonomy in practical terms as autonomy in weapons systems rather than the development of LAWS[97]. Here, autonomy arises from three bases: the extent of the relationship between humans and machines, the machine's capacity to make decisions, and the number

96 Multinational Capability Development Campaign (MCDC) 2013–2014, "Multinational Capability Development Campaign 2013–2014: Focus Area 'Role of Autonomous Systems in Gaining Operational Access', Policy Guidance: Autonomy in Defence Systems" (Norfolk, October 29, 2014), 8–10, https://www.innovationhub-act.org/sites/default/files/u4/Policy%20Guidance%20-%20Autonomy%20in%20Defence%20Systems%20MCDC%202013-2014.pdf.

97 Boulanin and Verbruggen, "Mapping the Development of Autonomy in Weapon Systems," 7.

and type of autonomous functions. The command-and-control relationship between humans and machines relies on the scope of human involvement in tasks performed by the system. This basis contributes to the distinction between semi-autonomous systems, those supervised by humans and those not directly supervised by humans. The second basis concerns the ability of algorithms to independently determine the extent to which the system controls its behaviour. In this sense, autonomous systems are divided into reactive, deliberative and learning systems. The first type of system – reactive – allows an action to be taken when, based on data collected, sensors recognise certain conditions (input data). The behaviour is predictable if the rules governing a specific behaviour are known. Deliberative systems use a model from the real world. This model is a value function that provides information about a desired goal along with a set of rules to support finding and planning a path to reach the goal. The system values the consequences of possible actions to find the most appropriate path. While the individual behaviours of the system cannot be predicted, the outcome can.

The last type of LAWS (a learning system) covers systems that can improve their outcome over time. These systems have the ability to learn by making abstract connections between the data provided. The acquired knowledge is used to re-parameterise and partially reprogram the system automatically. The last basis of autonomy refers to the types of decisions made autonomously by the system. This basis is crucial in determining the legality of using LAWS in a weapons review, because autonomy can be incorporated into the various tasks performed by a machine. These tasks include intelligence capability, the ability to move, engage a target (search, classify, select, track and carry out an attack), cooperate with other systems (for example, in the area of information exchange), and supervise the correct functioning of systems (searching for and fixing errors and malfunctions)[98].

Sometimes the term *autonomous weapons* is used interchangeably with LAWS, i.e. weapons capable of performing their tasks without human intervention. Such tasks in the conduct of hostilities include part or all of the targeting process, including attacking without human intervention[99]. This definition, however, does not capture the essence of the matter. Firstly, it is a narrower

98 Boulanin and Verbruggen, "Article 36 Reviews," 17–18.

99 Boulanin and Verbruggen, "Mapping the Development of Autonomy in Weapon Systems."

concept from an autonomous weapons system which, in addition to the weapon, contains the platform carrying the weapon. Secondly, the tasks machines perform during a military operation may differ (search, identify, prioritise, and attack a target, among others). Third, each machine has a different capacity to perform its tasks due to the extent of autonomy assigned to it.

The distinction between autonomous and automated weapons also should not be ignored. Armed forces are already familiar with automated weapons which have specific automatic properties, such as an autopilot function or a simple reaction to predetermined factors[100] (examples are anti-personnel mines or cluster munitions[101]), with the result that their use is usually limited in time and space. LAWS, on the other hand, require hardly any or no human input, whether in the form of setting up the weapon or pressing an activation button. They can select and attack a target autonomously.

Discussions on LAWS further faced a terminological challenge of the notions of means and methods of warfare. The term *means of warfare* is understood as weapons used by parties to an armed conflict during the conduct of hostilities[102]. Weapons used for the purposes of law enforcement outside a situation of the conduct of hostilities (in international human rights law) are therefore excluded from the scope of the definition. On the other hand, *methods of warfare* refer to how weapons are used. Harvard Manual on International Law Applicable to Air and Missile Warfare of 2009 defines a method of warfare as an attack or other action taken to affect the operations or military capabilities of an opposing party. They should be distinguished from the means of warfare used during military operations (for example, weapons). Methods of warfare consist of different categories of operations and specific tactics used during an attack[103].

100 Rebecca Crootof, "War Torts: Accountability for Autonomous Weapons," *University of Pennsylvania Law Review*, 164, no. 6 (January 1, 2016): 2.

101 John Lewis, "The Case for Regulating Fully Autonomous Weapons," *Yale Law Journal*, 124, no. 1309 (2015): 1.

102 Yves Sandoz, Christophe Swinarski, and Bruno Zimmermann, eds., *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949* (Geneva: Martinus Nijhoff Publishers, 1987), 621, https://www.loc.gov/rr/frd/Military_Law/pdf/Commentary_GC_Protocols.pdf.

103 Harvard University, Humanitarian Policy and Conflict Research, *Manual on International Law Applicable to Air and Missile Warfare* (Bern: Harvard University, 2009), 5, https://reliefweb.

The terminological ambiguity in this respect occurs even within a single treaty[104]. Additional Protocol I of 1977 uses such terms as *means of warfare* (Article 36), *means of combat*, or *means of attack* (Articles 51(4) and 57(2)(a)(ii)). During the Conference on IHL preceding the adoption of the two Additional Protocols of 1977, the ICRC proposed the term *means of combat*, but the Conference eventually decided on the term *means of warfare*. The rationale was that the conceptual scope of *means of warfare* was broader than *means of combat*. In turn, *means of attack* was considered the narrowest, referring to means used in a specific attack as part of hostilities. However, Additional Protocol I of 1977 occasionally uses the terms *means of combat* and *means of attack*, so the distinction does not seem relevant to the protection afforded by the specific provisions today. Commentary to the Additional Protocol I of 1977 further supports this interchangeability of terminology. Nonetheless, the term *means of warfare* in its broadest sense is used in this book. Methods and means of warfare refer to weapons broadly and to how they are used. Using a weapon may be unlawful *per se* or under certain conditions. For example, poison is a weapon prohibited *per se* due to its initial imprecision, which results in uncontrollable damage and harm. Consequently, its use automatically falls under the prohibition of Article 57(1)(a)(ii) of the Additional Protocol I of 1977 (the prohibition of causing accidental injury to civilians or damage to civilian objects). On the other hand, weapons possessing the attribute of initial precision may nevertheless be used in violation of IHL by being directed against civilians or civilian objects. In such a situation, the weapon itself is not yet prohibited (unless by a treaty), but IHL regulates the circumstances of its use[105].

Air military operations provide an excellent example of complexities in the features of military equipment. The Harvard Manual on the Law of Air and Missile Warfare explains means of warfare in relation to weapons, weapons

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int/sites/reliefweb.int/files/resources/8B2E79FC145BFB3D492576E00021ED34-HPCR-may2009.pdf; Kowalczewska, *Sztuczna inteligencja na wojnie. Perspektywa międzynarodowego prawa humanitarnego konfliktów zbrojnych. Przypadek autonomicznych systemów śmiercionośnej broni*, 76–80.

104 Hin-Yan Liu, "Categorization and Legality of Autonomous and Remote Weapons Systems," *International Review of the Red Cross*, 94, no. 886 (2012): 634, doi:10.1017/S181638311300012X.

105 Sandoz, Swinarski, and Zimmermann, *Commentary to APs*, 398, 621.

systems or platforms used for an attack[106]. The Commentary to the Manual stipulates that a means of warfare may consist of a weapon (bomb, missile or rocket), a weapon-carrying platform (weapon-carrying aircraft), and other devices directly enabling an attack (devices intended for technical support of the weapon-carrying aircraft). It further covers the computer, computer software used to carry out an attack, and a piece of whole related equipment. However, equipment not intended to cause harm or damage to the opposing party, even though the aircraft may use it during an attack, is not *means of warfare*. Therefore, it is important to distinguish between means of warfare and a weapon. The term *means of warfare* is sometimes used in a broader context than relating solely to weapons, as it includes objects that are used to carry out an attack, which are instruments for causing harm or damage[107]. Although there is an overlap between these concepts, in certain circumstances, weapons can also be lawfully used outside of an armed conflict. From a tactical point of view, any object can constitute a weapon that an individual can use. The concept of weapons is not limited to weapons in the traditional sense, such as firearms or cannons. It also includes devices and ammunition, the purpose of which is to cause harm or damage or to neutralise an enemy[108]. However, means and methods of warfare are often simultaneously regulated (for example, Part III of Additional Protocol I of 1977 is titled "Means and methods of warfare"), and LAWS are categorised in these terms.

Depending on the nature of an object, targeting may take the form of a completely planned or dynamic process. Planned targeting includes scheduled and on-call targets. On the other hand, dynamic targeting is permissible (usually a reaction to changing circumstances on the battlefield) against unplanned, unscheduled or unforeseen targets. Together with "alert" objects, they are also time-sensitive, meaning they can change their location at short notice (time-sensitive targets).

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106 Harvard University, Humanitarian Policy and Conflict Research, *Manual on International Law Applicable to Air and Missile Warfare*, 4.

107 Program on Humanitarian Policy and Conflict Research at Harvard and Program on Humanitarian Policy and Conflict Research, *Commentary on the HPCR Manual on International Law Applicable to Air and Missile Warfare* (Cambridge, MA, USA: Harvard University, 2010), 41–42.

108 "Weapons Review Mechanisms, Submitted by the Netherlands and Switzerland," 7.

Combatants, therefore, do not always have a complete picture of the military operation. Data received from intelligence do not necessarily include a statement that an object (personnel or material) is a military target. The statement highly likely indicates that, according to intelligence, an object may be the target of an attack. Also, basing an attack solely on one intelligence source is not a common practice (at least in the armed forces of the NATO member states). It is considered that confirmation of information on a particular object should be sought from at least two sources. The above refers only to NATO-led military operations. There is no written law regulating military operations by non-state armed groups. Therefore, the core IHL is the only limitation to the conduct of hostilities conducted by these groups.

With the operational half of the targeting cycle, Kwik et al. propose a hybrid model to implement IHL into LAWS' software. The model combines data-driven and knowledge-driven reasoning by accounting for the complexity and dynamicity of the modern battlefield and IHL requirements for transparency in decision-making. The authors analyse the above six stages and note that target development is the first point at which the AI model can be applied by comparing the possible outcomes of engaging two or more previously determined targets. However, capabilities analysis is the most critical step in legal assessments concerning comparing military objectives and collateral damage and minimising incidental harm to civilians. Additionally, the authors suggest that LAWS should deny their use if their deployment would cause unnecessary suffering or superfluous injury or be inherently indiscriminate. Stages four and five require re-taking the previous tests in light of the operation's changing circumstances and, with an advance warning, if any of the previous assumptions cease to exist, cancelling the ordered attack. The operation assessment would require keeping digital records and traceability and explainability of LAWS' decisions[109].

109 Jonathan Kwik, Tomasz Zurek, and Tom van Engers, "Designing International Humanitarian Law into Military Autonomous Devices," in *T.M.C. Asser Institute for International & European Law, Asser Research Paper 2022-06, Forthcoming in: Lecture Notes in Artificial Intelligence Series, Springer Verlag*, Lecture Notes in Computer Science (Cham: Springer International Publishing, 2022), 5–9, doi:10.1007/978-3-031-20845-4_1.

Differentiated responsibilities of the war industry under international law

As indicated in the Introduction, the war industry comprises states, private entities (business) and individuals involved in developing and deploying weapons systems for the purposes of armed conflicts. The responsibility regimes of each of these participants differ depending on various factors. The International Law Commission (ILC) dealt with the question of state responsibility at its very first session to guarantee the binding force of international legal order[110]. Unfortunately, the responsibility remains a sphere of international law that has not met any binding regulation yet[111]. Hence, *definiens* of a traditional concept of *international responsibility* consists of consequences of an internationally wrongful act of a state in the form of the violation of international obligation[112]. If attributed to the state, this act creates a new legal relationship determining forms of responsibility, while a victim state can invoke the responsibility and claim for one of the forms of responsibility (restitution, compensation, or satisfaction)[113]. While attempting to address the increased number of international participants, more contemporary scholars derive international responsibility from acts contrary to international law committed by *a subject* of international law with no need to prove the mental element of this act in primary rules of international law[114].

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110 Nikolaos Voulgaris, *Allocating International Responsibility Between Member States and International Organisations* (Oxford, UK; Chicago, Illinois: Hart Publishing, 2019), 24.

111 Władysław Czapliński and Anna Wyrozumska, *Prawo międzynarodowe publiczne* (Warszawa: C.H. Beck, 2014), 734.

112 Allain Pellet, "The Definition of Responsibility in International Law," in *The Law of International Responsibility*, ed. James Crawford et al., Oxford Commentaries on International Law (Oxford, New York: Oxford University Press, 2010), 5; Janina Ciechanowicz-McLean, *Zasady ustalania odszkodowania w prawie międzynarodowym publicznym* (Gdańsk: Wydawnictwo UG, 1989), 11, https://w.bibliotece.pl/2758084/Zasady+ustalania+odszkodowania+w+prawie+mi%C4%99dzynarodowym+publicznym.

113 PCIJ, Case concerning the Factory at Chorzów (Germany v. Poland) (Claim for indemnity. Jurisdiction), Publications of the PCIJ (PCIJ 1927).

114 For the responsibility of states see: UNGA, "Resolution 56/83: Responsibility of States for Internationally Wrongful Acts" (UNGA, January 28, 2002), https://undocs.org/pdf?symbol=en/A/res/56/83.

With the expansion of international law into new areas of state-reserved activities, international responsibility has lost its homogenous character[115]. This expansion results from an increasing admission of new subjects and participants in the international society, including international organisations[116], individuals and private entities[117]. All can aspire to the status of an international legal person. Although only one – international organisations – has already been granted the functional international personality, others have struggled with significant obstacles in this respect. While traditionally only states and international governmental organisations have been granted the capacity to enter into treaties, the system of international responsibility is deeply rooted in the concept of a state. Hence, the paradigm for international responsibility, albeit slowly shifting, is derived from the primary responsibility of states[118] and there is a substantive difference between international legal personality and responsibility. A traditional state-centric approach links legal personality with law-making capabilities, thus granting states exclusively a status of an international legal person[119]. The international community's needs are crucial

115 Bartłomiej Krzan, *Odpowiedzialność państwa członkowskiego z tytułu działalności organizacji międzynarodowych* (Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego, 2013), 14.

116 ILC, "Draft Articles on the Responsibility of International Organizations," Pub. L. No. Yearbook of the ILC, § Part Two, II Yearbook of the ILC (2011), https://legal.un.org/ilc/texts/instruments/english/draft_articles/9_11_2011.pdf.

117 WTO, "Marrakesh Agreement Establishing the World Trade Organisation, Marrakesh *Adopted 15 April 1994, Entered into Force 1 January 1995*," Pub. L. No. 1867, 1858, 1869 UNTS 31874 (1994), https://www.wto.org/english/docs_e/legal_e/04-wto_e.htm; "Convention on the Settlement of Investment Disputes between States and Nationals of Other States *Adopted 18 March 1965, Entered into Force 14 October 1966*," 575 UNTS 159 § (1965). See also legislation enabling private parties to petition governments before the WTO bodies (e.g. Trade Barriers Regulation of the European Communities), adopted thereof. https://www.wto.org/english//tratop_e/dispu_e/disp_settlement_cbt_e/c1s4p1_e.htm (accessed 2 February 2022).

118 Markus Krajewski, "Towards a More Comprehensive Approach in International Investment Law," in *Shifting Paradigms in International Investment Law. More Balanced, Less Isolated, Increasingly Diversified*, ed. Steffen Hindelang and Markus Krajewski (Oxford: Oxford University Press, 2016), 21.

119 PCIJ, Jurisdictions of the Courts of Danzig Pecuniary Claims of Danzig Railway Officials Who Have Passed Into the Polish Service, Against the Polish Railway, No. Publications of the PCIJ, Series B.-No. 15 (PCIJ March 3, 1928); Christian Walter, "Subjects of International Law," *MPEPIL*, 2007, https://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e1476.

in admitting or denying certain entities or persons with international legal personality[120]. However, since 1949, international law has already experienced expensive transformation[121], and it is not only states and international governmental organisations that influence this transformation anymore, with the individual's rights and obligations[122]. Jan Klabbers argues that scholars fall into a realistic vain, where considerations of personality are relatively futile. He notes: "After all is said and done, personality in international law, like 'subjectivity', is but a descriptive notion: useful to describe a state of affairs, but normatively empty, as neither rights nor obligations flow automatically from a grant of personality"[123].

The substantive relationship between international personality and responsibility is dynamic. In the case of state responsibility, the two concepts overlap, because responsibility constitutes an inherent element of a state's primary subjectivity in international law. However, in the case of other actors, the latter is not necessarily dependent on international personality. Rosalyn Higgins suggests that the term *participant* should be used instead of *person* here[124]. Despite considering personality in international law to be an important element of granting certainty to the international legal order, at the end of the day, only states benefit from the whole spectrum of international rights and

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120 Beyond doubt, legal personality is crucial in domestic legal orders, allowing public authorities to determine their jurisdiction over persons and objects. It seems that, for a long time, international law had been suffering from the perception that it was a doctrinal law created not by any empowered body but by eminent scholars. Andrew Clapham, "Thinking Responsibly about the Subject of Subjects," in *Human Rights Obligations of Non-State Actors* (Oxford: Oxford University Press, 2006), 70–71.

121 ICJ, Reparation for injuries suffered in the service of the United Nations (Advisory Opinion), No. ICJ Reps 1949, p. 174 (ICJ November 4, 1949).

122 There were a variety of proposals as to the personality of individuals in international law, opposing states (members of the international community, active, full, normal or ordinary subjects) to individuals (subjects of the international community, passive, limited, extra-ordinary, extra-normal subjects). E.g. as early as in 1956, Marek St. Korowicz categorised individuals as "potential subject of international law". See: Marek St. Korowicz, "The Problem of the International Personality of Individuals," *The American Journal of International Law*, 50, no. 3 (1956): 535, doi:10.2307/2195506.

123 Jan Klabbers, *An Introduction to International Institutional Law* (Cambridge: Cambridge University Press, 2002), 57.

124 Rosalyn Higgins, *Problems and Process: International Law and How We Use It* (Oxford: Oxford University Press, 1995), 48.

obligations. At the same time, other entities and individuals are equipped with only limited rights and obligations that are international in nature. Therefore, the concept of international personality keeps in line with already polycentric law-making processes, thus securing international law against excessive law creation from unauthorised (unrecognised) persons. Also, the development and deployment of LAWS by various actors in internationally sensitive fields and outsourcing of previously state domains blur the distinction between international persons and international participants for the purpose of responsibility.

In the wider sweep of cultural and legal diversity in decision-making processes, debates on LAWS force re-evaluating the common international values and goals, including responsibility[125]. In the context of LAWS-related responsibilities, more and more hazardous activities evading a state's territory or pursued abroad have led to new, diverse legal regimes addressing the consequences of acts that do not violate international law[126]. For these reasons, the traditional definition of international responsibility has been reduced to describing a legal relationship occurring from a breach of the rule of international law and the possibility of attributing the act to a participant in international relations. Therefore, a clear distinction is made between the subject of rights (the holder) and the subject of obligations. Through treaties and customary law, states grant certain limited rights and obligations to non-state actors (particularly individuals, collectives and private entities) in such areas as human rights, diplomatic protection, internal self-determination of indigenous people, and protection under IHL. Although international law has undergone a significant humanisation and *pro personae* arguments enter the discussion on improving specific branches of international law[127], Yasuaki notes that non-state actors cannot

125 Carrie McDougall, "Autonomous Weapon Systems and Accountability: Putting the Cart before the Horse," *Melbourne Journal of International Law*, 20, no. 1 (July 2019): 58–87, doi:10.3316/informit.585304597979165.

126 The consequences of hazardous activities become the subject of the ILC work. See: ILC, "Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising out of Hazardous Activities, with Commentaries," Pub. L. No. Yearbook of the ILC, vol. II, Part Two, § Part Two, II Yearbook of the ILC (2006), https://legal.un.org/ilc/texts/instruments/english/commentaries/9_10_2006.pdf.

127 *Pro personae* arguments have been entering more and more branches of international law, such as sources of international law, the law of the treaties, diplomatic and consular protection, subjects of international law, procedural rights of individuals to individual communication, international criminal law, law of the sea.

replace states in maintaining international legal order[128]. Therefore, non-state actors, especially individuals, are concerned least significantly in the category of international legal participants. The phenomenon of distancing right holders and duty bearers, with not necessarily corresponding right-obligation relationship, leads to a blurring diffusion of protection that lies at the heart of IHL.

Consequently, obligations and subsequent responsibility enforcement under international law are fragmented and depend on the involved regime of international law. In this sense, state responsibility is, in principle, better organised and relatively homogeneous. States, as subjects of conduct (assessed by compliance with an international obligation), can be held responsible for non-observance with the required conduct and become subjects of responsibility[129]. However, such closed organisation of state responsibility impacts its enforcement, because this responsibility is usually pursued more cautiously by international courts and tribunals through deference.

There are three concepts related to the consequences of acts and behaviours in international law: responsibility (of states, criminal responsibility of individuals, of business), liability and accountability[130]. Responsibility is used in varying terms. It can refer to the classic consequences provided in law that result from attributing unlawful conduct to a particular person (actor, participant)[131]. In these terms, international law explicates the responsibility of its subjects (states, international governmental organisations) for internationally wrongful acts. The Articles on the responsibility of states for internationally wrongful acts of 2001 (ARSIWA) are the result of decades of work and complex debates, particularly by the ILC[132]. This extract of international responsibility

128 Onuma Yasuaki, *International Law in a Transcivilizational World* (Cambridge: Cambridge University Press, 2017), 186, https://www.cambridge.org/core/books/international-law-in-a-transcivilizational-world/3A88D001AB9DC1BF792081263AB118CB.

129 Krzan, *Odpowiedzialność państwa członkowskiego z tytułu działalności organizacji międzynarodowych*, 14–15.

130 Marek Zieliński, *Międzynarodowe decyzje administracyjne* (Katowice: Wydawnictwo Uniwersytetu Śląskiego, 2011), 226; Daniel Wacinkiewicz, Ewelina Cała-Wacinkiewicz, and Beata Podgórzyńska, *Encyklopedia Zagadnień Międzynarodowych* (Warszawa: Wydawnictwo C.H. Beck, 2011), 15–17.

131 Czapliński and Wyrozumska, *Prawo międzynarodowe publiczne*, 734.

132 However, the discussions took place earlier, by way of either private initiatives or at the conferences in the framework of the League of Nations.

is usually exercised by the peaceful settlement of disputes or *via* certain bodies of international organisations. The law of state responsibility is secondary to other rules of international law[133], which is an apparent reference to the concept of law proposed by Hart, in which the author distinguishes between primary and secondary rules[134]. During the discussions on ARSIWA, it was clearly stated that the Articles should refer to secondary rules only[135]. Nevertheless, this distinction has not been consistently applied even by the ILC[136]. On the other end of the spectrum, the term *responsibility* refers to individual criminal responsibility for international crimes. This responsibility is characterised by 1) its criminal nature; 2) international adjudication based on the principle of complementarity; 3) exceptionality; 4) decentralised implementation[137]. While the international criminalisation of behaviour may arise out of either international agreement or customary law, penalisation is carried out by domestic legislation and left to domestic jurisdiction. Therefore, even though one can identify that specific development or deployment of LAWS violates IHL, it will firstly be addressed by domestic legal systems.

Just as individual responsibility, business responsibility for violations of obligations under international law is firstly enforceable through municipal

133 Eric David, "Primary and Secondary Rules," in *The Law of International Responsibility*, ed. James Crawford et al., Oxford Commentaries on International Law (Oxford, New York: Oxford University Press, 2010), 27–29.

134 The primary rules refer to lawful or unlawful conducts that give rise to certain obligations (of measures or results). Secondary rules establish procedures through which the primary rules can be implemented, modified or enforced. K.-K. Lee, "Hart's Primary and Secondary Rules," *Mind*, 77, no. 308 (1968): 561–564; H.L.A. Hart et al., eds., *The Concept of Law*, third edition, Clarendon Law Series (Oxford, New York: Oxford University Press, 2012), 94.

135 For example, the substantive rules that constitute the basis of primary international obligations relating to LAWS remain outside the scope of the codification of responsibility for internationally wrongful acts. *Prima facie*, introducing such a division may seem to allow reformulating the rules concerning responsibility without referring to the primary rules that create obligations. James Crawford, *State Responsibility*, Cambridge Studies in International and Comparative Law (Cambridge: Cambridge University Press, 2013), 65–66; Robert Ago, "Second Report on State Responsibility: The Origin of International Responsibility" (ILC, July 17, 1999), para. 178, https://legal.un.org/ilc/documentation/english/a_cn4_498.pdf.

136 For example, the reference to circumstances precluding the wrongfulness of an act relates directly to the state's primary obligations. The circumstances determine whether a given obligation arises at all. David, "Primary and Secondary Rules," 32.

137 Pellet, "The Definition of Responsibility in International Law," 7–8.

laws. Similarly to domestic institutions that play an essential role in applying international law, corporate personality does not imply an equal position with states[138]. However, business responsibility under international law is a legal institution that has not fully developed yet. While, to some extent, there is a legal reluctance to regulate business impact on matters relevant to or directly regulated by international law (transnational activities follow with a great diversity of domestic statutes that regulate business conduct), a social need to reconceptualise corporate obligations and responsibilities under international law has increased. This disparity between political reluctance and the social need is especially burning in the field of arms manufacturers because most are state-owned or state-supported companies, which explains the post-Cold War conservative approach to addressing arms companies' impact on IHL. The social need concerning LAWS has been growing, since more and more states and civil society are concerned about severe damage to individuals and properties as well as the economic power of these participants of the war industry.

One can find differentiated regimes for addressing business obligations under international law, firstly in municipal legal systems, through criminal[139], civil, or administrative proceedings, and secondly international responsibilities reflecting corporate social responsibility (CSR). The two differ from each other in the sense that domestic responsibility is a type of responsibility with sanctions against the private entity that violated its obligation under international law. However, contrary to individual criminal responsibility for international crimes, there is a lack of consensus in determining corporate obligations under international law and even less consistency in addressing corporate responsibility for violating these obligations. CSR is partly meant to fill this gap by avoiding the discussion on the idea of "hard" responsibility. CSR focuses on the voluntary adherence to business models that are to guide companies in being socially accountable for their impact on society and environment. These business models depend on the size, nature, and impact of the business activities on the society and the environment as well as the region or a state in which

138 Markos Karavias, *Corporate Obligations under International Law* (Oxford: OUP, 2013), 1, https://academic.oup.com/book/3121.

139 Karol Karski, *Osoba prawna prawa wewnętrznego jako podmiot prawa międzynarodowego* (Warszawa: Wydawnictwo Uniwersytetu Warszawskiego, 2009), 249–254.

the company operates or is registered. The lack of compliance with CSR leads to inconveniences rather than sanctions against the company.

The significance of private entities in fields relevant to or directly regulated by international law has increased since the 20th century. Despite vivid debates surrounding the expansion of subjects of international law, any departure from a traditional (state-centred) approach to matters of international law would, especially for those that stick to the conservative approach, mean dangerously expanding the circle of international lawmakers. Such a traditional approach prevents scholars from taking realistic and pragmatic approaches to international law. Reluctance to recognise private entities' international legal personality results from two main reasons: states' fear of corporations' interference with political and economic affairs and the possibility of corporations abusing their personality in terms of diplomatic protection in host states. Consequently, more and more scholars suggest abandoning the notion of subjects and taking a functional approach to international personality[140]. This approach opens paths to consider the actual roles that participants in international affairs play while remaining cautious about them being lawmakers. It is centred on specific and different capacities of participants rather than a single legal capacity to act under international law[141]. The Basic Principles and Guidelines on the Right to Remedy and Reparations for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law underpin the importance of liability of non-state actors, including legal persons or other entities[142]. Moreover, an increasing reference to international law in bilateral agreements between states and private entities indicates the relevance of international law for assessing private entities' conduct. Private entities also possess positions relatively equal to states in trade-specific international dispute settlement mechanisms. Another approach, while arguing in favour of corporations' international personality, links business and international

140 Clapham, "Thinking Responsibly about the Subject of Subjects," 60–63, 78; Karavias, *Corporate Obligations under International Law*, 7.

141 Clapham, "Thinking Responsibly about the Subject of Subjects," 71.

142 Commission on Human Rights, "Basic Principles and Guidelines on the Right to a Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law" (UN General Assembly, December 16, 2005), https://www.ohchr.org/en/instruments-mechanisms/instruments/basic-principles-and-guidelines-right-remedy-and-reparation.

law through the lens of the effectiveness principle. Clapham suggests setting aside the domain of treaty-making, diplomatic relations and state jurisdictional immunity and focusing on ensuring human rights' protection. He states that "if international law is to be effective in protecting human rights, everyone should be prohibited from assisting governments in violating those principles, or indeed prohibited from violating such principles"[143]. Although Clapham appeals to human rights, one can *mutatis mutandis* expand this approach towards IHL (of course, while assuming that IHL covers more fundamental protection for human beings than international human rights law does).

Liability, sometimes associated with civil law, aims at acknowledging compensation for conduct not prohibited by international law[144] and means a burden, a charge or an obligation to pay compensation. In international law, it was initially linked to transboundary damages in the natural environment[145]. However, the consequences of technological and industrial revolutions have been more and more transboundary and disastrous. Therefore, liability focuses on the effects of these revolutions[146], and the regime of the Convention on the international liability for damages caused by space objects of 1972 is a good example of this approach[147]. The liability is objective, because its source derives from the result of the conduct and not from the conduct itself[148]. Scholars suggest that LAWS constitute a great opportunity to test this liability regime, including business enterprises offering services and products in the field of weapons systems.

143 Clapham, "Thinking Responsibly about the Subject of Subjects," 76–80.

144 Czapliński and Wyrozumska, *Prawo międzynarodowe publiczne*, 736.

145 Renata Sonnenfeld, "Podstawowe zasady odpowiedzialności państwa," in *Odpowiedzialność państwa w prawie międzynarodowym: praca zbiorowa* (Warszawa: Polski Instytut Spraw Międzynarodowych, 1980), 22–23.

146 Ciechanowicz-McLean, *Zasady ustalania odszkodowania w prawie międzynarodowym publicznym*, 25.

147 "Convention on the International Liability for Damage Caused by Space Objects, Washington, Moscow, London *Adopted 29 March 1972, Entered into Force 1 September 1972*," Pub. L. No. 961 UNTS 187 (1972).

148 Zdzisław Galicki, "Rozwój zasad odpowiedzialności międzynarodowej za działania kosmiczne," in *Dzialalność kosmiczna w świetle prawa międzynarodowego: praca zbiorowa*, by Andrzej Wasilkowski (Warszawa: Zakład Narodowy im. Ossolińskich, 1991), 53–65.

Eventually, accountability relates to reporting procedures on the use of public funds and is inherently associated with good governance and combat against corruption[149]. It initially concerned relationships between officials carrying out specific tasks and their superiors. Nowadays, the term is used to describe the relationship between an entity and a forum to which that entity has an obligation to explain and justify its behaviour[150]. The addressees of these justifications are entitled to ask the reporting official. This relationship arises in particular with organs of international organisations[151]. It is sometimes also argued that accountability is the broadest concept, within which responsibility and liability can also be distinguished[152]. However, accountability should be separated from responsibility and liability since reporting officials or bodies need the addressees' approval for their decisions and actions[153]. Accountability regimes can also be efficient with international obligations concerning LAWS. International organisations, especially the UN, play a tremendous role in increasing cooperation and exchange of information between states, other international organisations, business enterprises, civil society and academia. Several special rapporteurs appointed by the Human Rights Council (a subsidiary body of the UN General Assembly) have been working hard to raise awareness of the human aspects of deploying LAWS.

149 Edith Brown Weiss and Ahila Sornarajah, "Good Governance," *MPEPIL 2021*, 2021.

150 Zieliński, *Międzynarodowe decyzje administracyjne*, 226–227.

151 Simon Burall and Caroline Neligan, "The Accountability of International Organizations" (Berlin, Global Public Policy Institute, May 1, 2005), 7, https://gppi.net/media/Burall_Neligan_2005_Accountability.pdf.

152 Wacinkiewicz, Cała-Wacinkiewicz, and Podgórzyńska, *Encyklopedia zagadnień międzynarodowych*, 17.

153 Brown Weiss and Sornarajah, "Good Governance."

Chapter 2
International humanitarian law-related targeting rules and LAWS

Chapter 2 refers to the normative framework of using LAWS in the conduct of hostilities. In the regulatory attempts, IHL has been adopted through the reciprocal behaviour of the opposite party to a conflict. It means that, even though some LAWS pose challenges to IHL compliance, their development generally relies on other states' approaches to RMA and weapons. Therefore, as far as weapons are concerned, although compliance with IHL does not rely on the principle of reciprocity, any development in IHL is determined by reciprocity.

Chapter 2 adjusts the consequences to breaches of IHL principles, since scholars widely argue that these principles object to the legality of LAWS. Hence, the chapter applies this protective myriad of IHL principles to the use of LAWS, such as humanity, distinction, proportionality, and military necessity. Finally, the chapter underpins the importance of transparency of review procedures relating to weapons in increasing IHL compliance.

(Un)limited development of weapons

The Martens Clause, as adopted in the Preamble to the Hague Convention II of 1899, initially focused on protecting resistance movements. Two elements of the Martens Clause, namely 1) the laws of humanity and 2) requirements of the public conscience, raise a concern about the normative value of the whole Clause and significantly impact the discussion on LAWS. It is because the two elements can interfere with targeting processes, especially decisions on using a specific means or method of warfare. The introduction of such elements and their combination require a deeper reflection on the normative scope of the Clause as a whole and its separate elements[1]. A refusal to give

1 Louise Doswald-Beck, "International Humanitarian Law and the Advisory Opinion of the International Court of Justice on the Legality of the Threat or Use of Nuclear Weapons,"

them such a character would lead to its solely ideological perception that the parties to an armed conflict should pursue without any possibility of being independently violated.

Consequently, implementation mechanisms, including responsibility, would cover violations of neither the Martens Clause as a whole nor its two elements[2]. International courts, tribunals, and scholars[3] have widely discussed this problem. In relation to LAWS, the Martens Clause is the most critical (but ethical and not necessarily legal) argument for preventing the deployment of LAWS in hostilities.

However, the combination of elementary considerations of humanity and the dictates of public conscience makes identifying the Clause's nature challenging. The Hague Convention II of 1899 and the Hague Convention IV of 1907 were adopted when exclusive legal positivism prevailed in the doctrine[4]. In this sense, the Clause was a progressive solution indicating that IHL was not only created by the explicit consent of states, as expressed in treaties. As a result, a state could evade neither the application of customary international law nor generally recognised principles of law[5].

Nowadays, the Martens Clause spreads to the entire IHL[6]. It has found its place alongside treaty and customary law. In the four Geneva Conventions of 1949, the Martens Clause is no longer present in the preamble but placed among the denunciation clauses. Pursuant to these provisions, termination of

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International Review of the Red Cross, 37, no. 316 (February 1997): 47–48, doi:10.1017/S0020860400084291.

2 Antonio Cassese, "The Martens Clause: Half a Loaf or Simply Pie in the Sky?" *EJIL*, 11, no. 1 (September 12, 2001): 188, doi:10.1093/ejil/11.1.187.

3 Theodor Meron, "The Martens Clause, Principles of Humanity, and Dictates of Public Conscience," *The American Journal of International Law*, 94, no. 1 (2000): 78–89, doi:10.2307/2555232.

4 Miodrag A. Jovanović, *The Nature of International Law*, ASIL Studies in International Legal Theory (Cambridge: Cambridge University Press, 2019), 18.

5 D.W. Greig, "The Underlying Principles of International Humanitarian Law," *The Australian Year Book of International Law Online*, 9, no. 1 (January 1, 1985): 49–50, doi:10.1163/26660229-009-01-900000010.

6 Rosario Domínguez-Matés, "New Weapons Technologies and International Humanitarian Law: Their Consequences on Human Being and the Environment," in *The New Challenges of Humanitarian Law in Armed Conflicts*, ed. Pablo Antonio Fernandez-Sanchez, 1st Edition (Leiden; Boston: Martinus Nijhoff, 2005), 103.

the Conventions does not affect the obligations of a state party to an armed conflict arising from "the usages established among civilised peoples, from the laws of humanity and the dictates of the public conscience"[7]. Due to the contemporary unquestionable customary nature of the four Geneva Conventions of 1949 and the lack of any state denunciating them, this provision would seem to lose its practical significance. However, it proves that the decision-makers intended to make the Clause's two (legal and natural) elements binding, irrespective of treaties and customs.

The Martens Clause was then incorporated into the Additional Protocol I of 1977. Following the Geneva Conventions practice, from then on, it is not included in the Preamble[8]. Due to the scanty regulations of NIACs, the place of the Clause remains unchanged in the Preamble to the Additional Protocol II of 1977. Furthermore, civilians and combatants are replaced by "people", who are left under the protection of the principles of humanity and the dictates of public conscience. The subtle difference in the Clause's position and wording used in the two Additional Protocols is of great practical significance. Customs have been removed from the Preamble to the Additional Protocol II of 1977, leaving civilians and combatants, in cases not regulated by international law, only under the protection of the principles of humanity and the dictates of public conscience. The motive behind this solution results from the reluctance of states to adhere to new international obligations in NIACs, which greatly impacts the lawful circumstances under which LAWS can be used, particularly in asymmetric warfare. Under-regulation of NIACs, for many years preceding the adoption of the Additional Protocol II of 1977, the principles of humanity and the dictates of public conscience (along with Article 3 common to the four Geneva Conventions of 1949) have been the only basis for protecting the victims of NIACs.

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7 Articles 63, 62, 142 and 158 of the four Geneva Conventions of 1949 respectively.

8 Under Article 1(2) of the Additional Protocol I of 1977, "in cases not covered by this Protocol or by other international agreements, civilians and combatants remain under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and the dictates of public conscience". "Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts, *Adopted 8 June 1977, Entered into Force 7 December 1978*," Pub. L. No. 1125 UNTS 3 (1977).

As to the first element of the Clause, namely *the laws of humanity*, there has been a terminological change in the noun, as it was replaced by *the principles of humanity*. Some scholars use *a principle of humanity* (singular instead of plural)[9], *elementary considerations of humanity*[10], or *sentiments of humanity*[11]. In the context of responsibility for IHL violations, the laws of humanity became the basis of the Report of the Commission for the Responsibility of the Authors of the War and of Enforcement of Penalties, which was presented to the 1919 Versailles Peace Conference. The Report considered the war waged by Germany to be barbaric and, consequently, contrary to the laws and customs of war and the fundamental laws of humanity. It is worth adding that the list of violations committed by Germany contained a reference to the use of means of warfare, including exploding or expanding projectiles and other *inhumane* weapons. Including the laws of humanity alongside the laws and customs of war was to constitute the legal basis for individual criminal responsibility[12]. However, during the 1919 Versailles Peace Conference, the USA opposed the inclusion of the laws of humanity into the drafting provisions. The ratio was that the concept itself (which was influenced by the time, place and circumstances of application) was somewhat vague, as well as that there were hardly any established and universal standards determining the international criminal responsibility[13] that would interfere with the primary jurisdiction of an injured state. As a result, in the Treaty of Peace between the Allied and Associated Powers

9 Marcin Marcinko, "Główne założenia i zasady międzynarodowego prawa humanitarnego konfliktów zbrojnych," in *Międzynarodowe prawo humanitarne konfliktów zbrojnych: materiał szkoleniowy dla szeregowych*, ed. Zbigniew Falkowski (Warszawa: Wojskowe Centrum Edukacji Obywatelskiej, 2013), 32.

10 Matthew Zagor, "Elementary Considerations of Humanity," in *The ICJ and the Evolution of International Law*, ed. Karine Bannelier, Théodore Christakis, and Sarah Heathcote, 1st edition (Routledge, 2011), 29.

11 Judge Alvarez, Corfu Channel (The United Kingdom v Albania) (Judgment), *Individual Opinion by Judge Alvarez*, No. Reps (ICJ September 4, 1949).

12 Commission on the Responsibility of the Authors of the War and on Enforcement of Penalities, "Report Presented to the Preliminary Peace Conference, *Adopted 29 March 1919*," *The American Journal of International Law*, 14, no. 1/2 (1920): 115–117, doi:10.2307/2187841.

13 Commission on the Responsibility of the Authors of the War and on Enforcement of Penalities, "Report Presented to the Preliminary Peace Conference, *Adopted 29 March 1919*."

and Germany of 1919[14], the laws of humanity were abandoned. The *ratione iuris* jurisdiction of the future tribunal, as expressed in Article 228 of the Treaty, was to be exclusively that of the laws and customs of war (and not humanity).

Nevertheless, the exception was provided on the grounds of the individual responsibility of the former German Emperor William II of Hohenzollern. Under Article 227 of the Treaty of Versailles, the tribunal shall have considered "the validity of international morality" alongside the solemn obligations of international undertakings. Therefore, the tribunal was to be simultaneously guided by the highest motives of international policy, international agreements, and international morality. International morality was admitted to the same binding nature as international treaties and policies for the responsibility of a head of state. The dubious grounds for Kaiser's responsibility were not of a legal but moral nature, as they referred to the considerations of morality[15]. It was due to a *novum* of means and methods of warfare used during the First World War and the lack of legal instruments addressing the responsibility of a head of a state[16]. Eventually, any trial of the former Emperor was not enforced, and the proceedings against the other alleged perpetrators led to the so-called "Leipzig Farce"[17].

14 "Treaty of Versailles, *Adopted 28 June 1919, Entered into Force 10 January 1920*," Pub. L. No. 55 For. Rel. (Paris Peace Conference XIII) 740 (1919), https://www.oxfordreference.com/view/10.1093/oi/authority.20110803115537510.

15 United Nations War Crimes Commission, *History of the United Nations War Crimes Commission and the Development of the Laws of War. Compiled by the United Nations War Crimes Commission* (London: His Majesty's Stationery Office, 1948), 44, http://www.unwcc.org/wp-content/uploads/2017/04/UNWCC-history.pdf.

16 Wolfgang Form, "Law as Farce: On the Miscarriage of Justice at the German Leipzig Trials: The Llandovery Castle Case," in *Historical Origins of International Criminal Law*, ed. Morten Bergsmo, Wui Ling CHEAH, and Ping YI, vol. 1, FICHL Publication Series 20 (Brussels: Torkel Opsahl Academic EPublisher, 2014), 299–300.

17 It was due to the Kaiser's flee to the Netherlands and Germany's immediate reaction to the difficulties of implementing the Treaty of Versailles of 1919. German authorities invoked the primacy of the rule of nationality in exercising criminal jurisdiction. Consequently, Germany quickly took over the jurisdiction over the alleged war criminals. Perhaps these suspended processes would have prevented the need for a more in-depth look at the principles of humanity after the Second World War. Joanna Nowakowska-Małusecka, *Odpowiedzialność karna jednostek za zbrodnie popełnione w byłej Jugosławii i w Rwandzie* (Katowice: Wydawnictwo Uniwersytetu Śląskiego, 2000), 17; United Nations War Crimes Commission,

Acts that violate the principles of humanity, by some called *sentiments of humanity*, fall within international delinquency. They are acts contrary to the sentiments of humanity that, when committed by a state at the territory of another, give rise to the latter's compensation. According to the Separate Opinion of Judge Alvarez in the *Corfu Channel case*, such international delinquency can take three forms, namely 1) acts committed by a state on its territory (even to defend its security and vital interests); 2) acts committed by a state that causes damage on the territory of another state, but with the latter's consent (the other state is considered an accomplice); 3) acts committed on the territory of a state by another state, not with the former's consent but knowledge, which resulted in damage to the third state[18]. Also worth mentioning is the view that gives the principles of humanity the character of a fundamental rule ("Grundnorm" of international law), based on which all other rules of international law and its branches are shaped. This view reiterates the position of the ICJ expressed in the *Corfu Channel case*, according to which the principles of humanity are required both in times of peace and war[19]. This position is confirmed by the role the principles of humanity play in international human rights law. Their protection appears as a touchstone principle for universalism and the fundamental nature of human rights[20]. In other fields of international law, such as the law of the sea or the environmental law, the principles of humanity have a legally binding character in situations affecting the very essence of humanity, where human rights or compliance with IHL may be at risk[21]. The view can also be found that the principles of humanity constitute a source of state sovereignty, becoming the guiding principle of international law[22]. In this sense, one can consider the classification of the principle of humanity as a general

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History of the United Nations War Crimes Commission and the Development of the Laws of War. Compiled by the United Nations War Crimes Commission, 44.

18 Alvarez, *Separate Opinion by Judge Alvarez* at 45.

19 Corfu Channel (The United Kingdom v Albania) (Judgment), No. ICJ Reps 1949, p. 4 (ICJ September 4, 1949).

20 Zagor, "Elementary Considerations of Humanity," 287.

21 For example, the obligation to provide humanitarian assistance on the sea (search and rescue) or the anthropocentric perspective of sustainable development.

22 Emily Kid White, "Humanity as the Λ and Ω of Sovereignty: Four Replies to Anne Peters," *EJIL*, 20, no. 3 (2009): 545, http://www.ejil.org/pdfs/20/3/1852.pdf.

principle of law within the meaning of Article 38 of the ICJ Statute[23] and consequently establish its normative value.

The argument about the relativity of the concept of the principles of humanity may indicate that they occupy a special place among the sources of IHL, granting them a role of a tacit assumption of the legal system. It is recognised as a category of principles of law that formulates permanent and relatively unchanging and undisputable requirements for the legislator. Although such an assumption does not necessarily have to be explicitly expressed in a legal act, its binding force is not questioned in the discourse. The tacit assumption results from the fact that it precedes existing legal acts, ensuring a continuity of a particular legal system. It constitutes a legacy of the past and can be implemented through legal acts in various ways, strengthening the meaning of specific rules. Simultaneously, its shape is subject to changes with the amendments to the legal system, as it protects society from undesirable behaviours that could conflict with commonly accepted notions of the law and its values[24]. At the ICRC Conference in Lugano, Jean Pictet stated that the principles of IHL are stable. In comparison, how hostilities are conducted may evolve in an unpredictable direction, but neither human nature nor sensitivity for suffering decreases. Principles are created for the protection of human beings, so technology should adapt to the principles in force, whereas human beings are served and supported by technology[25].

The second element of the Martens Clause – the dictates of public conscience – can take the form of either public opinion or expression of the legal element of a customary rule. Public opinion consists of opinions expressed by the open society, NGOs and the media, which influence the behaviour of the parties to an armed conflict and promote the development of IHL, especially the customary one[26]. Public opinion may, in some instances, lead to an increased interest of stakeholders, including the participants of the war industry,

23 Zagor, "Elementary Considerations of Humanity," 291.

24 Sławomir Tkacz, *O zintegrowanej koncepcji zasad prawa w polskim prawoznawstwie* (Toruń: Adam Marszałek, 2014), 357.

25 "Report of the Conference of Government Experts on the Use of Certain Conventional Weapons *(Second Session - Lugano, 28.1.–26.2.1976)*" (Geneva: Conference of Government Experts on the Use of Certain Conventional Weapons, 1976), 79, https://www.loc.gov/rr/frd/Military_Law/pdf/RC-conf-experts-1976.pdf.

26 Meron, "The Martens Clause, Principles of Humanity, and Dictates of Public Conscience," 85.

in a particular problem. Despite the lack of appropriate practice, it can impact the emergence of the *opinio iuris*[27] or a treaty provision prohibiting the use of a specific means or method of warfare (as was the case with biological weapons)[28]. However, it is not normative in itself[29].

Antonio Cassese distinguishes three functions assigned by scholars to the Martens Clause: interpretative, creative, and moral[30]. The acceptance of each of them leads to significant practical consequences. In the first case, the principles of humanity and the dictates of the public conscience serve as the interpretative tools for applicable rules[31]. It is indicated that international agreements concerning means and methods of warfare are composed of two types of rules. On the one hand, general clauses make the law more flexible and adapt to changing technological powers of the parties to an armed conflict. On the other hand, specific (*ad hoc*) rules refer to means and methods of warfare existing at the time of adopting a particular treaty. These specific rules shall adjust to the general clauses in question. Furthermore, here applies a guiding function of the Martens Clause.

The Clause has had no direct effect on the judgments so far. While examining the customary nature of the rule prohibiting reprisals against civilians, the ICTY in *the Kupreškić case* stated that the Martens Clause required a maximum of discretionary power to be given to the parties of an armed conflict so that those not taking part in an armed conflict remain under the broadest possible protection[32]. According to the ICTY, the reason for such a broad approach is the elementary considerations of humanity resulting from the Martens Clause, which becomes part of customary international law[33]. Nonetheless,

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27 Grigory I. Tunkin, *Theory of International Law* (London: Harvard University Press, 1974), 186–189; Robert Heinsch, "Methodology of Law-Making: Customary International Law and New Military Technologies," in *International Humanitarian Law and the Changing Technology of War*, ed. Dan Saxon (Leiden: Martinus Nijhoff Publishers, 2013), 23.

28 Meron, "The Martens Clause, Principles of Humanity, and Dictates of Public Conscience," 84.

29 Tunkin, *Theory of International Law*, 188.

30 Cassese, "The Martens Clause," 189–192.

31 Tadeusz Cyprian, Jerzy Sawicki, and International Military Tribunal, *Walka o zasady norymberskie, 1945–1955* (Warszawa: PWN, 1956), 230–31.

32 Prosecutor v Kupreškić (Judgment), No. IT-95-16-T (ICTY (Trial Chamber) January 14, 2000).

33 Ibid., 525; Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion), No. Reps (ICJ August 7, 1996).

the Clause only served as an argument stressing the fundamental role of the elementary considerations of humanity for the whole IHL. When any LAWS regulation is missing, the interpretative function is applied in discussing a possible treaty regulating LAWS. It can also be helpful for victims in interpreting particular rules (especially of the CCW Convention of 1980, the ATT of 2013 or other arms export control laws when applicable) to address harms and damages resulting from the performance of LAWS.

Secondly, the creative function contributes to the emergence of two new sources of IHL: the principles of humanity and the dictates of public conscience. Within this function, the international humanitarian law-makings extract from the customary or treaty processes and moral rules that transformed into legally valid ones. Their binding force results from iterative repetition in legal acts and positions of states, international organizations and businesses[34]. Another frequently invoked view suggests that both moral elements of the clause have become separate principles of IHL. Their content is determined *ad casu* in the light of the changing circumstances of the particular case. The US Military Tribunal No. III, in the *Krupp case*, adopted a position in favour of the clause's creative function, considering the laws of humanity and the dictates of public conscience to be legally binding. It was at the time when the Hague Convention IV of 1907, with its Regulations, did not regulate certain situations arising during the Second World War[35]. The Tribunal described the Clause as a general clause of a normative nature that complements issues not covered by any IHL treaties. However, in the *dictum* of the *Krupp case*, the Tribunal neither invoked the Clause nor denied its customary nature. In terms of criminal responsibility, the judgment lacked any deeper justification for attributing the Clause's normative meaning. It only served as a supporting tool in the reasoning adopted by the Tribunal[36]. Among the cases of war criminals dealt with by national courts after the Second World War, the Clause was further invoked by the Norwegian Supreme Court in the *Klinge case*. The accused appealed against his conviction, referring to the prohibition of retroactivity and the

34 Cassese, "The Martens Clause," 212–215.

35 The USA v Alfried Krupp and others (Judgment), No. 9 Trials of War Criminals Before the Nuremberg Military Tribunals Under Control Council Law No. 10 (US Military Tribunal No. III July 31, 1948).

36 Cassese, "The Martens Clause," 203.

nullum crimen sine lege principle. However, the Supreme Court found that the acts committed by the accused were contrary not only to Norwegian law but also to the principles of humanity and the dictates of public conscience as expressed in the Martens Clause[37]. The judgment was criticised as an incompetent use of IHL, since other rules could have been applied in the case. The Court could, at most, use the principles of humanity and the dictates of public conscience as the interpretative guidelines for the already existing rules (in the case Article 46 of the Hague Regulations and the corresponding customary rule)[38]. The far-fetching view within the creative approach presents the Clause as directly regulating the behaviour of the parties to an armed conflict. Consequently, each of the Clause's elements is binding[39]. Assuming the exclusion of synonymous interpretation (two terms cannot mean the same thing), putting the two elements (elementary considerations of humanity and the dictates of public conscience) alongside the principles of the law of nations suggests their substantive difference and binding force. They constitute an opening up towards natural law[40] and grant the value of principles of international law that create obligations on any state[41]. It assigns the Clause as a key and autonomous principle of IHL[42]. Alleged perpetrators can use the creative function of the Martens Clause to demonstrate a lack of sufficient public conscience, especially among states and businesses developing LAWS, to prohibit LAWS.

The least common view is that of the moral function of the Martens Clause as expressing reasons for initiating the development of IHL[43]. Despite the moral

37 Trail of Karl-Hans Hermann Klinge (Judgment), No. Case No. 11 (Supreme Court of Norway February 27, 1946).

38 Cassese, "The Martens Clause," 203.

39 Doswald-Beck, "International Humanitarian Law and the Advisory Opinion of the International Court of Justice on the Legality of the Threat or Use of Nuclear Weapons," 49.

40 Theodor Meron, *War Crimes Law Comes of Age: Essays* (Oxford: Oxford University Press, 1999), 9–10, https://oxford.universitypressscholarship.com/10.1093/acprof:oso/9780198268567.001.0001/acprof-9780198268567.

41 Judge Shahabudden, Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion) *Dissenting Opinion of Judge Shahabudden*, No. Reps (ICJ August 7, 1996).

42 Domínguez-Matés, "New Weapons Technologies and International Humanitarian Law: Their Consequences on Human Being and the Environment," 104.

43 Zagor, "Elementary Considerations of Humanity," 278.

motive attributed to Fyodor Fyodorovich Martens[44], he only intended to resolve the diplomatic problem and prevent the Hague Convention II of 1899 from sharing the fate of the Brussels Declaration of 1856 (the Declaration did not gain the treaty binding force). The Clause's normative nature does not stem from the *travaux préparatoires* of the Hague Convention II of 1899 but from the jurisprudence of international courts and official statements. In this context, IHL can be compared to a living organism that develops and interferes with the changing reality of armed conflicts[45], where international morality occupies a fundamental place. This approach can be voluntarily adopted by private entities or states that develop LAWS to determine whether or not a particular product raises ethical concerns and if the company or the state has the power to address these concerns (for example, by not producing or transferring weapons to non-state armed groups).

The proceedings in the advisory opinion on the legality of nuclear weapons constituted the ground for elaborating on the Martens Clause's meaning. If adjusted to the development and deployment of LAWS, the Martens Clause is a useful tool addressing rapidly changing military technology as applying to means and methods of warfare in general[46]. As such it can be interpreted progressively in light of the changing nature of armed conflicts. It is worth emphasising that during the proceedings in the advisory opinion, Russia excluded the application of the Martens Clause in any situation regulated by a treaty. On the other hand, the USA, United Kingdom and France invoked the Martens Clause as a rationale for fleeing from the classic and long-lasting principle of international law, namely the Lotus principle[47]. According to this interpretation, the Clause allows for determining the treaty's substantive scope

44 Martens acted as a Chairman of the Subcommission on the Laws of Land Warfare and as the Russian delegate at the same time.

45 Manfred Lachs, *War Crimes: An Attempt to Define the Issues*, 1st edition (London: Stevens London, 1945), 7–8.

46 Bonnie Docherty, "Banning 'Killer Robots': The Legal Obligations of the Martens Clause," *Arms Control Association*, October 2018, https://www.armscontrol.org/act/2018-10/features/remarks-banning-%E2%80%98killer-robots%E2%80%99-legal-obligations-martens-clause.

47 Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion) paragraphs 21, 78–87; Nobuo Hayashi, "The Role and Importance of the Hague Conferences: A Historical Perspective," *UNIDR Resources*, February 21, 2017, 13, https://unidir.org/publication/role-and-importance-hague-conferences-historical-perspective.

and customary norms by challenging the *a contrario* argument from the Lotus principle[48] which assumes that what is not prohibited for states, is allowed[49].

As the Martens Clause was initially included in the preambles of early declarations and treaties dealing with IHL and was subsequently repeated in the four Geneva Conventions of 1949 and two Additional Protocols of 1977, states seem to accept it as an intrinsic part of IHL. The Martens Clause complements the absence of any treaty or customary provisions directly prohibiting particular means and methods of warfare[50]. However, it allows for a certain leeway for each state to decide which means can and cannot be used in armed conflicts[51].

To sum up, the Clause is beyond doubt not just the proof of Martens' diplomatic skills in searching for a compromise among states. It has subsequently been cited by international courts and tribunals (even in such an important issue as the legality of using nuclear weapons). It links morality and IHL, which is crucial in discussing the legality of using LAWS[52]. It is used by the members of the international community (and not only by NGOs or individual experts in the field of AI) which covers also participants of the war industry[53]. Therefore,

48 The Lotus principle origins from a dispute between Turkey and France. Because of the ship collision on the high seas, eight Turkish citizens died, and the Turkish vessel sank. After arriving in Istanbul, Turkish authorities instigated criminal proceedings against the French officers. France requested the transfer of its nationals, but Turkey refused. A dispute was submitted to the Permanent Court of International Justice by a compromise. The Court expressed that the limitation of state independence could not be presumed. Therefore, states are entitled to do whatever is not prohibited by international law.

49 The case of S.S. Lotus (France v Turkey) (Judgment), No. Ser. A No. 10 (PCIJ September 7, 1927).

50 Meron, "The Martens Clause, Principles of Humanity, and Dictates of Public Conscience," 79.

51 The exclusion of the presumption of unlimited state sovereignty with regard to the Martens Clause is further confirmed in the Commentary to Additional Protocol of 1977. There, the Clause elements are perceived as accelerating the development of IHL in general. They shall be applied regardless of any developments in technologies. Sandoz, Swinarski, and Zimmermann, *Commentary to APs*, 39.

52 Davison, "A Legal Perspective," 8.

53 "General Principles on Lethal Autonomous Weapons Systems Submitted by the Bolivarian Republic of Venezuela on Behalf of the Non-Aligned Movement (NAM) and Other States Parties to the Convention on Certain Conventional Weapons" (Geneva: Group of Governmental Experts on LAWS, March 28, 2018), https://reachingcriticalwill.org/disarmament-fora/ccw/2018/laws/documents.

it is a factor to take into account while adopting a new international agreement regulating the use of LAWS. However, given the low hope of success of the initiative, it still plays a subsidiary role in interpreting any existing treaty and customary rules. Besides, by virtue of the Clause, states question or at least consider a serious reflection on the admissibility of using all available means and methods of warfare, including LAWS. Concerning LAWS without meaningful human control, it is suggested that they violate each element of the Martens Clause[54]. The principles of humanity in using LAWS are linked to the emotional sphere that puts certain limitations on killing humans in armed conflicts. Even by developing the machine's ability to distinguish between combatants and civilians, it is because of the principle of humanity that the admissibility of using LAWS has been undermined (primarily by questioning the machine's right to kill a human being)[55]. The dictates of public conscience are interpreted as the opposition expressed by some states and other participants of international relations against using LAWS and the following call for a ban on these systems. These actors' statements are to prove the binding force of the dictates of public conscience as imposing an obligation to maintain human control over the system and objecting against fully autonomous weapons systems[56]. Although the dictates of public conscience constitute a legal element in assessing the use of such systems in armed conflicts, it is controversial whether the opposition of scientists, ethicists, and organisations themselves is sufficient to embody the dictates of public conscience.

Prohibition of superfluous injury or unnecessary suffering

Some scholars argue that allowing LAWS to be used in military operations would violate the principle of humanity in three ways. Firstly, the ceding of the "licence to kill" by a human to a machine interferes with the dignity of civilians

54 Docherty, "Banning 'Killer Robots': The Legal Obligations of the Martens Clause."

55 Thompson Chengeta, "Measuring Autonomous Weapon Systems Against International Humanitarian Law Rules," *Journal of Law and Cyber Warfare*, 5, no. 1(c) (January 27, 2015): 116, doi:10.2139/ssrn.2755184.

56 Docherty, "Banning 'Killer Robots': The Legal Obligations of the Martens Clause."

and combatants[57], on which the principle of humanity is based. Secondly, in the event of LAWS use, there is a real risk that exercising the right to surrender (the rule derived from the principle of humanity) is impossible[58]. After all, a member of the enemy forces or a non-state armed group loses the status of an enemy at the moment of laying down their arms and surrendering, becoming an "ordinary" human being whose protection is determined by the principle of humanity on the one hand and the principle of military necessity on the other[59] (and further by international human rights law, when applicable). Thirdly, the use of LAWS dehumanises the use of force to a level in which any death resulting from such an action becomes even more insignificant than is the case with the human factor[60]. One can also encounter the view that LAWS do not directly violate Article 35(2) of Additional Protocol I of 1977 since this provision refers only to the effects caused by the weapons system against the individual and not to the manner in which the weapon is used (in this case autonomously).

As discussed above, the unlimited right to choose the means and methods of warfare can be excluded based on the principle of humanity. Along with the Martens Clause, the principle of humanity further covers the prohibition of causing superfluous injury or unnecessary suffering to combatants (the SIrUS rule)[61]. The third element of the principle is linked to the obligation to treat

57 Chengeta, "Measuring Autonomous Weapon Systems Against International Humanitarian Law Rules," 135–136.

58 R. Sparrow, "Twenty Seconds to Comply: Autonomous Weapon Systems and the Recognition of Surrender," *International Law Studies*, 91 (2015): 702, https://www.semanticscholar.org/paper/Twenty-Seconds-to-Comply%3A-Autonomous-Weapon-Systems-Sparrow/f8ff08e2134e5ee2bb42cfee88eeafa66e0f7ed3.

59 Nils Melzer, *Interpretative Guidance on the Notion of Direct Participation in Hostilities under International Humanitarian Law* (Geneva: ICRC, 2009), 82, https://www.icrc.org/en/doc/assets/files/other/icrc-002-0990.pdf.

60 Chengeta, "Measuring Autonomous Weapon Systems Against International Humanitarian Law Rules," 136.

61 For the first time, the analysed prohibition was placed in the St. Petersburg Declaration of 1868, according to which the only legitimate aim of actions during an armed conflict was to weaken the enemy's armed forces. It is a transgression of such legitimate aims to use weapons that would uselessly aggravate the sufferings of those already disabled. This rule was recapitulated in Article 23(e) of the Hague Regulations of 1907. It referred to the use of weapons, projectiles or means calculated to cause unnecessary suffering as correlated to

humanely persons as not taking part in hostilities (including civilians and persons *hors de combat*)[62]. The core of the obligation of human treatment is contained in Article 3 common to the four Geneva Conventions of 1949, Article 75(1) of Additional Protocol I of 1977 and 4(1) of the Additional Protocol II of 1977. It obliges a belligerent party to treat non-combatants humanely[63], without discrimination on race, colour, religion or belief, sex, birth or property, or other analogous grounds. The protection extends not only to civilians but also to members of the armed forces who have laid down their arms and to persons unable to fight because of illness, injury, deprivation of liberty or any other reason. Consequently, attacks on their lives, bodily integrity and personal dignity, as well as convictions and executions without prior judicial sentence, are prohibited. In the context of LAWS, the adjective "human" is difficult to assess. LAWS operate in pre-programmed conditions. It is doubtful whether they can determine *hors de combat* status if he or she still holds arms openly but is not able to use them anymore. Training and testing LAWS in various circumstances of recognizing *hors de combat* would be required. Pre-programmed behaviours of LAWS further exacerbate compliance with the SIrUS rule due to the controversial ability of LAWS to assess the effectiveness of means used while respecting the limit of proportionality of the suffering and injuries inflicted on the enemy. Software is programmable by a human so far, so it is difficult (but not impossible) to predict, prior to the engagement phase, the degree of damage and suffering inflicted on the enemy without risking any violation of the SIrUS

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the lack of an unlimited right to choose means of warfare (expressed in Article 22 of the Regulations). Article 35(2) of Additional Protocol I of 1977 prohibits using weapons, projectiles, means and methods of warfare that are likely to cause excessive injury or unnecessary suffering. In the Preamble to the CCW Convention of 1980, prohibition is recognised as a guiding principle for the whole CCW framework. Patrycja Grzebyk, *Cele osobowe i rzeczowe w konfliktach zbrojnych w świetle prawa międzynarodowego* (Warszawa: Wydawnictwo Naukowe Scholar, 2018), 56.

62 Geoffrey S. Corn, "Humanity, Principle Of," *Oxford Public International Law*, MPEPIL, July 2013, 1, https://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e1810.

63 Constitutional Case No. 10P concerning the situation in Chechnya, No. Published in: Rossiyskaya Gazeta, No. 155, 11.08.1995 (The Russian Federation Constitutional Court July 31, 1995). Russia, Constitutional Court of the Russian Federation, *Presidential Decrees and Federal Government's Resolution on the Situation in Chechnya,* judgment, 31.07.1995, p. 135 in "Human Rights Journal," 1996, vol. 17, 3–6.

rule[64]. LAWS could perform better in calculating the bodily damage and proceed with targeting or abstaining from the actual attack if circumstances change.

The SIrUS rule is of tremendous importance for ensuring a required level of protection for combatants who engage in targeting. Any protection concerning this group of persons taking part in hostilities derives from the principle in question. It is applied as a customary norm in both IACs and NIACs[65], while treaty norms lack direct protection for this group besides the SIrUS principle. However, most regulations remain rather general and vague on the scope of the prohibition[66]. An individual applying the SIrUS rule is obliged to pre-assess the effects of the planned use of means of warfare on the proportionality of objectives.

Regarding responsibility for violations of this principle, the Report of the Responsibility Commission of 1919 enlisted the use of inhumane weapons in violations of the laws and customs of war that should be penalised[67]. Subsequently, Article 3 of the ICTY Statute placed the prosecution of acts involving the use of weapons intended to cause superfluous injury or unnecessary suffering within the jurisdiction of the Court. Violations of the prohibition (albeit only in the context of an international armed conflict) are criminalised as war crimes by way of Article 8(2)(b)(xx) of the ICC Statute. Unfortunately, criminalisation depends on accepting the comprehensive list of weapons annexed to the ICC Statute. However, this is hardly ever to happen, even concerning nuclear weapons, not mentioning LAWS[68].

Given the frequency with which the prohibition is invoked in jurisprudence, the ICJ declared the SIrUS principle a guiding customary principle protecting

64 Mark Gubrud, "The Principle of Humanity in Conflict," *ICRAC*, November 19, 2012, https://www.icrac.net/the-principle-of-humanity-in-conflict/.

65 Tim McCormack and Meredith C. Hagger, "Regulating the Use of Unmanned Combat Vehicles: Are General Principles of International Humanitarian Law Sufficient?" *Journal of Law, Information & Science*, 21, no. 1 (December 27, 2011): 80.

66 Greig, "The Underlying Principles of International Humanitarian Law," 64.

67 Commission on the Responsibility of the Authors of the War and on Enforcement of Penalities, "Report Presented to the Preliminary Peace Conference, *Adopted 29 March 1919*," 115.

68 Frits Kalshoven and Liesbeth Zegveld, *Constraints on the Waging of War: An Introduction to International Humanitarian Law* (Geneve: ICRC, 2001), 41.

combatants[69]. According to the ICJ, it is prohibited to cause superfluous injury or unnecessary suffering to combatants, from which the prohibition of using weapons causing such effects is derived. Finally, states do not have unlimited freedom in their choice of means of warfare. The limit is an injury or suffering necessary to achieve a legitimate military objective. Consequently, the enemy shall experience only such suffering as sufficient to render them incapable of fighting or surrendering. Using an appropriate means of warfare should be considered first and foremost in the whole targeting cycle[70]. The balancing of expected military advantage combines the principle with the proportionality of measures. This balancing leads to the impossibility of making a clear-cut decision that is distanced from a direct targeting phase, and an individual carrying out the attack should select means to avoid violating the prescribed limit of suffering or injury. It does not mean, however, that the belligerent party should choose the least harmful means of combat. The choice is limited by means of military necessity[71].

Programming an ethical governor of LAWS used for targeting purposes[72] can cover data-driven calculations indicated in the SIrUS project conducted by the ICRC. The SIrUS Project aimed to establish objective criteria for considering weapons as causing superfluous injury or unnecessary suffering. These criteria were primarily the occurrence of greater injury, mortality, the number of treatments required, the need for blood transfusions, the length of time spent in hospital, extent and nature of disability caused by a weapon[73]. The study considered foreseeable effects by designing a weapon that may be used against persons. Exceeding the given limits should result in a prohibition on the use of the weapon in question, regardless of whether the victim belongs to the category

69 Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion) at 78.

70 Marcin Marcinko, "Podstawowe zasady międzynarodowego prawa humanitarnego konfliktów zbrojnych," in *Międzynarodowe prawo humanitarne konfliktów zbrojnych*, ed. Zbigniew Falkowski and Marcin Marcinko (Warszawa: Wojskowe Centrum Edukacji Obywatelskiej, 2014), 65–66.

71 Grzebyk, *Cele osobowe i rzeczowe w konfliktach zbrojnych w świetle prawa międzynarodowego*, 56.

72 Arkin, Ulam, and Duncan, "An Ethical Governor for Constraining Lethal Action in an Autonomous System."

73 Robin M Coupland, *The SIrUS Project: Towards a Determination of Which Weapons Cause "Superfluous Injury or Unnecessary Suffering"* (Geneva: ICRC, 1997), 7.

of combatants or civilians[74]. Despite the lack of widespread acceptance among states, military and doctors, the SIrUS Project at least drew attention to the need for greater care in selecting means and methods of warfare. It also led to an increased discussion on the effective implementation of the SIrUS rule[75] in the context of weapon-related issues, namely design and the use of weapons. It was emphasised that the nature of the injury caused is closely related to the weapon's characteristics, so only in this respect can the legality of a weapon be considered. The number and category of victims depend on decisions made by an actor using the weapon, since the attack may be carried out (the weapon used) in various ways, not necessarily linked to the weapon's characteristics. In turn, the scale of inflicted injuries may result from both the design and the way the weapon was used. The ICRC considered it crucial to separate the effects of the weapon dependent on the design and those dependent on users. Only the first category of effects was considered because of the potential of a weapon from which the user can benefit. The project's scope further included only the foreseeable effects of using a given weapon[76]. However, the effects of using LAWS encroach on both spheres; the private sector could focus on the outcomes of the SIrUS project in designing LAWS to account for the type and degree of injuries or suffering inflicted at the following phases of targeting: target development and capabilities analysis.

On the other hand, military manuals rather consistently prohibit weapons that cause unnecessary suffering. Nevertheless, some states require that the prohibition be expressed through the practice of states refraining from using weapons, expressly considering that the weapon does not cause unnecessary suffering. In other words, the recognition of the illegality of a specific weapon requires the coherent practice of other states that do not use the weapon directly for reasons of unnecessary suffering. For example, in the *Agent Orange case*, the US Eastern States District Court held that the prohibition on causing unnecessary or superfluous suffering applies to combatants who have already

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74 Marcinko, "Podstawowe zasady międzynarodowego prawa humanitarnego konfliktów zbrojnych," 66.

75 "Protection of Victims of Armed Conflict through Respect of International Humanitarian Law" (Geneva: 27th International Conference of the Red Cross and Red Crescent, 31 October to 6 November 1999), accessed February 9, 2022, https://www.icrc.org/en/doc/resources/documents/misc/57jpzn.htm.

76 Coupland, *The SIrUS Project*, 10–11.

been incapacitated. The prohibition does not apply to situations when the weapons used only occasionally cause injury or suffering (and are intended to achieve an acceptable military objective of incapacitating the enemy's armed forces)[77]. The Court shared that the prohibition of weapons causing unnecessary suffering is too imprecise to be of practical significance[78]. Except in cases of explicit agreement among states, there can be no unilateral abandonment of the use of a weapon already available in the state's arsenal, simply because the effect of its use is to cause unnecessary suffering. The view is also confirmed by the failure to enlist a violation of the prohibition to a category of serious violations prescribed in Article 85 of the Additional Protocol I of 1977. Applying this view to LAWS may entail using LAWS against combatants as primary lawful, since no explicit (*ad hoc*) prohibition exists.

Principle of distinction and the potential prohibition of indiscriminate LAWS

Distinction obliges parties to an armed conflict to distinguish at all times between lawful objects of attack (combatants) and civilians, between combatants and persons *hors de combat*, and between military and civilian objects[79], it is also applicable in non-international armed conflicts by means of customary international law. Notably, the ILC Report on the fragmentation of international law refers to the prohibition of attacks against civilians as a peremptory rule

77 "Agent Orange" Product Liability Litigation (Judgment), No. 04-CV-400, MDL No. 381 (United States District Court, E.D. New York March 28, 2005). Argentina, *Leyes de Guerra,* RC-46-1, Publico, II Edicion 1969, Ejercito Argentino, Edicion original aprobado por el Comandante en Jefe del Ejercito, 9.05.1967.

78 Kalshoven and Zegveld, *Constraints on the Waging of War*, 41.

79 A treaty (Article 48 of Additional Protocol I of 1977) and a corresponding customary rule constitute a source of this obligation. Under treaty law, this provision is the only one explicitly named as a fundamental principle of IHL. Although it has no equivalent in Additional Protocol II of 1977, Article 13 of Additional Protocol II does not recite Article 48 of the Additional Protocol I of 1977. It only recalls Article 52 of Additional Protocol I of 1977 by providing protection of civilians from the dangers of military operations. Jean-Marie Henckaerts and Louise Doswald-Beck, *Customary International Humanitarian Law: Volume 1: Rules*, vol. 1 (Cambridge: Cambridge University Press, 2005), 3, https://www.cambridge.org/core/books/customary-international-humanitarian-law/9F4A7A9222814BF47BF62221C7B581BA.

of international law[80]. In the *Kupreškić case*, the ICTY underlined that deliberate attacks against civilians or civilian objects are entirely prohibited in IHL. A derogation from this rule is permissible in two cases: first, when a civilian abuses their rights (by taking direct part in hostilities); second, when, despite the inherently military nature of a target, the party to an armed conflict allows the occurrence of incidental harm[81]. The principle of distinction allows only for incidental, not accidental, harm when civilians may be legitimately (but not directly) targeted if the expected military advantage requires launching an attack in their presence or close proximity (proportionality assessment)[82].

The approach to the problem of distinction by LAWS is threefold. On the one hand, there are views (especially of the IHL community of ethicists and lawyers) expressing their great concern about the ability of LAWS to assess the situation correctly. It is due to the impossibility of taking into account all available circumstances of an attack (including the human intent necessary to assess a potential military target)[83], as well as software errors or mistakes resulting in an attack against an incorrectly acknowledged (and hence potentially unlawful[84]) target[85]. This point of view usually corresponds with a call for a rule explicitly prohibiting LAWS[86]. The core of the objections made is the failure of LAWS to meet three criteria directly related to the obligation of

80 "Report of the Study Group of the International Law Commission: Fragmentation of International Law: Difficulties Arising From the Diversification and Expansion of International Law" (ILC, April 13, 2006), 189, https://legal.un.org/docs/?symbol=A/CN.4/L.682.

81 Prosecutor v Kupreškić (Judgment) at 522.

82 Proportionality provides a rule excluding the application of the principle of distinction.

83 HRW and International Human Rights Clinic, "Mind the Gap: The Lack of Accountability for Killer Robots" (Human Rights Watch, April 9, 2015), 8, https://www.hrw.org/report/2015/04/09/mind-gap/lack-accountability-killer-robots.

84 Including, for example, civilian employees, aircrew members, war correspondents, military doctors, clergy, civilian drivers, porters, but also soldiers *hors de combat*.

85 U.C. JHA, "Lethal Autonomous Weapon Systems and International Humanitarian Law," *Indian Society of International Law Yearbook of International Humanitarian and Refugee Law*, 16–17 (2017 2016): 118.

86 Campaign to Stop Killer Robots, https://www.stopkillerrobots.org/. See: CCW Meeting of Experts on LAWS, *Elements Supporting the Prohibition of Lethal Autonomous Weapon Systems. Working Paper submitted by the Holy See,* Geneva, 7 April 2016; "Losing Humanity: The Case against Killer Robots" (Human Rights Watch, November 19, 2012), 30, https://www.hrw.org/report/2012/11/19/losing-humanity/case-against-killer-robots.

distinction. First, sensor data processing systems are not sufficiently developed to become the basis for a decision qualifying a target (especially in an asymmetric armed conflict)[87]. Sensors are capable of detecting the human body and even the human face, but it is difficult to say how accurate these data, collected from the air or during fog, actually are. Secondly, the programming language does not allow for an accurate reflection of the definition of *hors de combat* and non-combatants (which is an objection rather against the wording of IHL)[88]. Thirdly, such a system lacks the battlefield – human – awareness and common sense that should accompany discriminating decisions. Because any *ad hoc* regulation concerning LAWS is missing, it is necessary to take a closer look at the targeting requirements in the Additional Protocol I of 1977 and the CCW Convention of 1980. In Chapter 4, it will be argued that, with individual criminal responsibility, the ICC Statute only hypothetically prohibits using indiscriminate weapons under Article 8(2)(b)(xx).

Notwithstanding the ICC Statute, states can incur responsibility for using indiscriminate LAWS[89]. Under Article 52(2) of the Additional Protocol I of 1977, a military objective is only one which effectively contributes to the enemy's military activity by its nature, deployment, purpose or use. An objective of which total or partial destruction, seizure or neutralisation results in a specific military advantage regarding the circumstances prevailing at the time of the attack constitutes a military one. Any object which does not meet the above criteria is a civilian object and shall not be the subject of attack. The prohibition of using indiscriminate weapons, for example, weapons that cannot be directed against a legitimate military target, should not be confused with the prohibition of using discriminatory weapons indiscriminately[90]. An example of the

87 Noel Sharkey, "The Evitability of Autonomous Robot Warfare," *International Review of the Red Cross*, 94 (June 2012): 788, doi:10.1017/S1816383112000732.

88 Sharkey, "Grounds for Discrimination," 87.

89 A non-discriminatory attack is an attack which is not directed against a military object or which uses a method or means of warfare whose effects cannot be directed or limited to a military objective. JHA, "Lethal Autonomous Weapon Systems and International Humanitarian Law," 118.

90 Michael N. Schmitt and Jeffrey Thurnher, "'Out of the Loop': Autonomous Weapon Systems and the Law of Armed Conflict," *Harvard National Security Journal*, 4, no. 231 (February 5, 2013): 246, https://papers.ssrn.com/abstract=2212188.

latter was the SCUD missile used by Iraq during the Gulf War in 1990–1991[91], where the missiles were inaccurate but not illegal *per se*[92]. However, in the case of the armed conflict in the Persian Gulf, it was the manner in which the missiles were used, not the weapons themselves, that was unlawful.

While both cases (using indiscriminate weapons and indiscriminate use of discriminative weapons) constitute a violation of IHL, the second case leaves legitimate uses outside the scope of the prohibition, which applies to LAWS. Although a weapons system may be lawful, the manner of use may not satisfy the IHL requirements. It can be argued that LAWS may be used lawfully only under certain (rather sterile) circumstances (for example, away from sea lanes in the open seas or distanced from the civilian population). Unfortunately, because of changes in the conduct of hostilities, the status of participants of armed conflicts and the dynamic environment of hostilities, it is difficult to clearly distinguish between combatants and civilians, even for humans. Non-state armed groups and states sometimes deliberately take advantage of the immediate proximity of civilians and civilian property to protect their members or to carry out hostilities. It does not exempt the other party from the obligation to respect IHL. The limit of direct participation in hostilities also presents challenges, requiring a case-by-case assessment. These problems are not only LAWS-specific. They result from the (sometimes artificial) wording of IHL obligations, different sets of protection depending on the type of armed conflict, and the dynamic nature of contemporary armed conflicts that may require simultaneously applying IHL and international human rights law.

Article 51(4)(b) of Additional Protocol I of 1977 and the corresponding customary rule prohibit the use of means or methods of warfare that cannot be directed against a specific target. Such weapons are prohibited *per se*, because their primary feature is to attack both military and civilian targets without distinction. According to Schmitt and Thurner, LAWS would violate

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91 R.W. Apple Jr and Special to the New York Times, "War in the Gulf: Scud Attack; Scud Missile Hits a U.S. Barracks, Killing 27," *The New York Times*, February 26, 1991, sec. World, https://www.nytimes.com/1991/02/26/world/war-in-the-gulf-scud-attack-scud-missile-hits-a-us-barracks-killing-27.html.

92 It was due to circumstances in which they could be used following the obligation to distinguish (for example, in open spaces against combatants or against military installations without serious danger to the civilian population). Schmitt and Thurnher, "'Out of the Loop,'" 246.

this prohibition if circumstances allowing a system to be used in a discriminatory manner were not established when deciding on an attack[93]. An example would be a system constructed for use in populated areas with a convergence of combatant and civilian locations. Such a system should be equipped with appropriate sensors and neural networks capable of distinguishing between types of individuals. Otherwise, it is discriminatory.

On the other hand, a system designed to work in an environment where there are essentially no civilians is not in itself illegal. However, it should still be capable of self-limiting the geographical scope of operation (for example, by limiting the maximum range or endurance) to prevent entry into areas of civilian presence. LAWS should also be equipped with a mechanism to temporarily limit its operation, as few areas in which hostilities are conducted exist where there is no threat of the presence of civilians. It should be recognised as a breach of the obligation to distinguish as expressed in Article 51(4)(a) of Additional Protocol I of 1977 to use LAWS capable of distinguishing between lawful and unlawful objects but in an environment where, for example, there is a risk of appearance of civilian aircraft. It relates to an accident with Iran Air Flight 655 on 3 July 1988, which was shot down by a guided surface-to-air missile. The accident took place during the Iran–Iraq War and resulted in 290 deaths. Although no individual was held criminally responsible, the peaceful settlement between Iran and the US led to *ex gratia* compensation to the victims' families.

The second approach to determining LAWS distinction capabilities, represented primarily by the military and arms manufacturers and dealers, positively evaluates the effects of deploying LAWS in armed conflicts. It is suggested that it is precisely the ability of LAWS to distinguish that argues for admitting their use in armed conflicts. Such systems are more accurate in gathering information about a target, considering possible collateral damage, and selecting means of warfare more accordingly than a human being does.

According to Anderson and Waxman, in the middle is a proposal for a gradual evolution of the interpretation of norms based on traditional legal and ethical principles concerning weapons and military actions that should be considered in developing and evaluating emerging weapons systems. It would imply a need for due diligence in LAWS development and the introduction of

93 Ibid., 250.

national regulations and common international standards for the development of LAWS[94]. The common standards should be based primarily on IHL's customary obligation of distinction and proportionality, which, together with ethical, strategic and engineering challenges, would then be communicated and adequately explained to those working on weapons systems, including business enterprises.

Proportionality in autonomous targeting

Even an attack carried out by LAWS in compliance with the duty to distinguish may be unlawful when other rules, including proportionality and an obligation to take precautions, are not respected[95]. Therefore, using LAWS has also been considered from the lack of ability to assess proportionality to the expected outcomes of targeting operation. Articles 51(5)(b) and 57(2)(a)(iii) of the Additional Protocol I of 1977 constitute customary rules and prohibit attacks causing accidental (but not incidental) death or harm to civilians or damage to civilian objects that would be excessive in relation to the concrete and direct military advantage achieved[96]. The obligations do not extend to all attacks in the conduct of hostilities but only to those directed against military targets (and not, for example, against civilians or civilian objects, which are prohibited *per se*)[97]. Significantly, the assessment of a breach of that rule is made *a priori* in the light of the circumstances available to the decision-maker at the moment of a decision on the attack[98].

94 Kenneth Anderson and Matthew Waxman, "Law and Ethics for Autonomous Weapon Systems: Why a Ban Won't Work and How the Laws of War Can," *Stanford University* The Hoover Institution Jean Perkins Task Force on National Security&Law Essay Series (January 1, 2013): 22–23, https://scholarship.law.columbia.edu/faculty_scholarship/1803.

95 Schmitt and Thurnher, "'Out of the Loop.'"

96 Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion) at 79.

97 Marcin Marcinko, "Między Humanitaryzmem a Koniecznością Wojskową – Znaczenie Zasady Proporcjonalności w Planowaniu i Prowadzeniu Operacji Militarnych," *Polski Rocznik Praw Człowieka i Prawa Humanitarnego* 6 (2015): 185–186.

98 William J. Fenrick, "The Rule of Proportionality and Protocol in Conventional Warfare," *Military Law Review*, 98 (1982): 127.

Proportionality as such is not defined in the Additional Protocol I of 1977, which merely sets out precautionary measures to minimise collateral damage. Estreicher points out that the Additional Protocol I of 1977 also does not reflect on the essence of obligations aimed at preventing excessive loss to civilians and civilian property and thus corresponds more closely to the law on the use of force (*ius contra bellum*)[99]. This lacking definition is further confirmed by the linguistic change in the discourse relating to Article 51 of the Additional Protocol I of 1977. Its precursor (Article 46 of the Draft Additional Protocol I) contained the term *disproportionate loss*[100], which was subsequently changed to *excessive loss*. This also contributes to distinguishing proportionality for IHL from the identical term found in other fields of international law, for example criminal law, when a balance is made between two values[101].

However, given the widespread use of the term *proportionality* in IHL, it refers to the prohibition of causing excessive civilian loss. According to Article 85(3)(b) of the Additional Protocol I of 1977, contrary to the prohibition of causing excessive suffering to combatants, intentional infliction of excessive civilian losses or civilian property constitutes a grave breach of the Protocol and, therefore, also a war crime. It is worth noting that under Article 8(2)(b)(iv) of the ICC Statute, the threshold for a violation of the rule of proportionality has been limited by adding the adjective phrase "clearly excessive". In contrast, military advantage has been reformulated into a *direct overall* military advantage. Therefore, individual criminal responsibility in domestic laws implementing Article 85 Additional Protocol I of 1977 and the ICC Statute only partially overlap.

Marcin Marcinko notes that in law, proportionality is assigned a key role in achieving justice. It guarantees the law's neutrality while considering the necessity of valuation in particular circumstances. In IHL, proportionality has the character of a rule containing ambiguous phrases that ensure better adapting to the realities of military necessity and humanity. It causes significant

99 Samuel Estreicher, "Privileging Asymmetric Warfare (Part II)?: The 'Proportionality' Principle under International Humanitarian Law," *Chicago Journal of International Law*, 12, no. 1 (June 1, 2011): 146–150, https://chicagounbound.uchicago.edu/cjil/vol12/iss1/7.

100 International Committee of the Red Cross, *Draft Additional Protocols to the Geneva Conventions of August 12, 1949. Commentary* (Geneva: ICRC, 1973), 57.

101 Estreicher, "Privileging Asymmetric Warfare (Part II)?" 152.

difficulties for combatants by requiring them to consider the interplay between values at opposite sides and through the prism of a subjective standard of "excessiveness"[102]. A stem of excessiveness is not directly defined in IHL but is somewhat shaped by case law and doctrine through the prism of reasonableness required in the given circumstances[103]. It provides a more appropriate basis for determining IHL violations than the vague "proportionality"[104]. The greater the military advantage expected from carrying out an attack, the more incidental loss is permissible.

There are three approaches to evaluating the excessiveness of measures in the context of programming software: subjective, objective, and mixed. The subjective approach shifts the burden of fulfilling the duty of evaluation to a commander, who should make an assessment with good faith and consider circumstances known at the moment of decision-making. This approach leaves a commander free to assess the proportionality of means, as it is based solely on the information known to the commander and his or her good faith[105]. The conduct of hostilities occurs in the circumstances requiring immediate decision-making. Fritz Kalshoven compares this situation to a game of golf in which a player cannot be required to have free time to analyse the chosen means and methods[106]. The decision on the methods and means to be used on the battlefield is not only a decision on what means to use but also on a balance between humanity and military necessity, which is implemented through the rule of proportionality[107]. On the other hand, a combatant cannot be expected to behave ideally when previously equipped with a number of different "balls" in the form of means of warfare, he or she chooses the one they believe will cause the least harm to the opposing side[108]. Such a solution

102 Marcinko, "Między humanitaryzmem a koniecznością wojskową," 184–193.

103 Jason D. Wright, "'Excessive' Ambiguity: Analysing and Refining the Proportionality Standard," *International Review of the Red Cross*, 94, no. 886 (June 2012): 820, doi:10.1017/S1816383113000143.

104 Estreicher, "Privileging Asymmetric Warfare (Part II)?" 146.

105 Wright, "'Excessive' Ambiguity," 839.

106 Fritz Kalshoven, "The Soldier and His Golf Clubs," in *Reflections on the Law of War: Collected Essays*, ed. F Kalshoven, International Humanitarian Law Series (Leiden: Martinus Nijhoff Publishers, 2007), 371.

107 Marcinko, "Między humanitaryzmem a koniecznością wojskową," 185.

108 Kalshoven, "The Soldier and His Golf Clubs," 370.

would be impractical and would not find acceptance among those obliged to apply IHL[109]. Moreover, at least in armed forces, the decision on available means of warfare is made at a high level of command which can personally coincide with those discussing the legality of new weapons. Thus, the decision on the proportionality of measures which in part comes well before an attack is carried out[110]. The subjective approach would require disabling LAWS' action to make proportionality assessments when it independently gives more than one proposed solutions to the attack but rather to present the possible options to a military commander.

Adopting a purely objective standard of a reasonable commander is found in the jurisprudence of international tribunals. In the case *Prosecutor v Galić*, the ICTY found that during the siege of Sarajevo, there had been a violation of Article 3 of the ICTY Statute by committing acts of violence against civilians not taking a direct part in the hostilities. It resulted in the deaths of civilians violating the rule of proportionality (attacks carried out using snipers were very frequent). The ICTY noted that to assess the proportionality of an attack, it is necessary to examine whether a reasonable and well-informed person in the circumstances available to a perpetrator, making reasonable use of that information, could have expected excessive civilian casualties resulting from the attack[111]. A similar approach was taken previously in the Report of the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia[112]. This approach would allow to equip LAWS with the standard of a reasonable person and decide on its own in case more than one possible decision is available.

The last (mixed) standard combines the commander's discretionary authority based on known circumstances and good faith with rationality. In essence, it sharpens the rigours associated with proportionality and is most commonly

109 "Conference of Government Experts on the Use of Certain Conventional Weapons, Report *(Lucerne, 24.9–18.10.1974)*" (Geneva: ICRC, 1975), 9, https://www.loc.gov/rr/frd/Military_Law/pdf/RC-conf-experts-1974.pdf.

110 Kalshoven, "The Soldier and His Golf Clubs," 375.

111 Prosecutor v Galić, No. IT-98-29-T (ICTY (Trial Chamber) May 12, 2003).

112 "Final Report to the Prosecutor by the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia" (ICTY, August 6, 2000), 1271, https://www.icty.org/en/press/final-report-prosecutor-committee-established-review-nato-bombing-campaign-against-federal.

applied by military lawyers[113]. Regardless of the approach adopted, the assessment of the implementation of the rule of proportionality remains individually oriented, meaning that there is neither a single standard for assessing human life nor a universally accepted algorithm for military advantage commensurate with the requirements of humanity[114].

LAWS must be able to assess both one (the expected military advantage) and the other (the expected collateral damage) of the effect of a planned attack. In this regard, a collateral damage estimate methodology (CDEM) is useful. It is a procedure in which an attacking person considers factors such as weapon precision, blast strength, attack tactics, the likelihood of civilian presence in the architecture surrounding a target, and the architectural layout for estimating the amount of collateral damage. The CDEM is more an instrument of the strategy used to determine the level of command at which a decision on an attack causing harm to civilians should be made. Thus, the greater the likelihood of such damage and the more civilians or civilian objects are likely to be affected, the higher the level of command at which the decision should be made[115]. To ensure the legitimacy of the operation, a decision to use LAWS should take into account the risk of exceeding acceptable harm, which could increase precisely because of the parameters of LAWS. Moreover, in estimating CDEM outcomes, LAWS would prove more accurate than a human[116].

A more significant challenge arises in assessing an expected military advantage. It is measured on a case-by-case basis and has to be pre-programmed into software, similar to acceptable limits of collateral damage. Such estimation is risky in the case of algorithmic decision-making. In a human environment, decision-making takes place at the level of common sense and good faith of a military commander. If the commander decides to use LAWS, he or she should simultaneously exercise control over it and have the ability to manipulate

113 Marcinko, "Między humanitaryzmem a koniecznością wojskową," 198–199.

114 Wright, "'Excessive' Ambiguity," 840.

115 Jefferson D. Reynolds, "Collateral Damage on the 21st Century Battlefield: Enemy Exploitation of the Law of Armed Conflict, and the Struggle for a Moral High Ground," *Air Force Law Review*, 56 (2005): 100.

116 Steven Dillenburger, "Minimization of Collateral Damage in Airdrops and Airstrikes" (Air Force Institute of Technology, 2012), https://scholar.afit.edu/etd/1204.

proportionality ratios, both on the military advantage and civilian loss side[117]. Only in such a case would the use of LAWS be lawful. However, a determination of rigid evaluation criteria is pointless because, in this evaluation, humanity is argued as prevailing[118]. The decision remains partly subjective, though and should express the human dimension of the rule of proportionality, which cannot be transposed to software.

Two challenges to proportionality arise in using LAWS. The first concerns minimising collateral damage by selecting the most appropriate weapon or ammunition and then targeting it accordingly. For example, one of the US military drone programmes uses "bugsplut" software designed to reduce collateral damage and predict the range of the dropped bomb[119]. Previously, the US armed forces determined collateral damage by drawing a circle around the target (leading to increased collateral damage and, thus, unlawful collateral damage). The second challenge involves deciding on the weapons' used, including lethal or non-lethal. This decision should be left to humans[120].

Michelle Lesch notes that responsibility for IHL violations linked to proportionality may arise from two sources. First, the maintenance of precautions in the conduct of an attack involves constant care over the validity of the use of means and methods of warfare. The adjective "continuous" allows the obligation to extend to both the pre-attack (planning) and the post-attack stage (assessment of compliance with proportionality requirements). Secondly, the subjective dimension of proportionality should also be assessed after the attack. It would contribute to tipping the balance of proportionality in favour of protecting civilians and civilian objects[121].

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117 Schmitt and Thurnher, "'Out of the Loop,'" 257.

118 Marcinko, "Między humanitaryzmem a koniecznością wojskową," 203.

119 "'Bugsplat Predicts Bomb's Impact," *Military.Com*, November 28, 2017, https://www.military.com/defensetech/2003/02/22/bugsplat-predicts-bombs-impact.

120 Sharkey, "The Evitability of Autonomous Robot Warfare," 789–790.

121 M. Lesh, "Accountability for Targeted Killing Operations: International Humanitarian Law, International Human Rights Law and the Relevance of the Principle of Proportionality," in *Accountability for Violations of International Humanitarian Law: Essays in Honour of Tim McCormack*, by Jadranka Petrovic (London: Routledge, 2017).

Military necessity as a non-justification for using LAWS

Another question concerning using LAWS is whether military necessity is a gap-filling argument in the lack of *ad hoc* regulation on LAWS. According to the Preamble to the IV Hague Convention of 1907, cruelties resulting from the conduct of hostilities should be reduced as far as military necessities allow. Military necessity is, therefore, placed initially at the forefront of permissible conduct of hostilities. As subsequently expressed in Article 52(2) of the Additional Protocol I of 1977, military necessity is linked to the admissibility and nature of attacks against military targets, for example, those which, by their nature, deployment, purpose or use, make a significant contribution to the military operation and whose total or partial destruction, seizure or neutralisation offers a concrete military advantage in a given situation. However, the concepts of military necessity and advantage should be distinguished. The latter is understood as an expression of the strategic interests of a party to an armed conflict. At the same time, military necessity allows the party to apply such quantity and quality of force sufficient to surrender the enemy with the least possible expenditure of time, finances, and casualties[122]. Military necessity limits the use of means or methods of warfare to those necessary to achieve a legitimate military objective resulting from defeating the enemy. Understood in this way, necessity is linked to the SIrUS rule, since both norms oblige to assess the effectiveness of the means to be used[123].

To recognise the legality of using LAWS through military necessity, one has to ensure that the purpose of the attack is lawful (which refers primarily to the principle of distinction). In this sense, military necessity further incorporates the principle of humanity[124]. It legitimises using only those measures not prohibited by international law and which aim at the prompt and complete surrender of the enemy[125]. In case of doubts, it imposes the obligation to be-

122 United States Military Tribunal at Nuremberg, United States v Wilhelm List, 8 [1949] Law Reports of Trials of War Criminals (US Military Tribunal in Nuremberg 1947).

123 Michael Press, "Of Robots and Rules: Autonomous Weapon Systems in the Law of Armed Conflict," *Georgetown Journal of International Law*, 2017, 1350.

124 Marcinko, "Między humanitaryzmem a koniecznością wojskową," 189.

125 G.D. Solis, *The Law of Armed Conflict: International Humanitarian Law in War* (Cambridge; New York: Cambridge University Press, 2010), 258.

have humanely. Only after an affirmative answer has been given to questions of distinction and humanity can the level of expected military advantage – the standard determining military necessity – be analysed[126]. The circumstances prevailing at the time of the decision to use LAWS may significantly reduce or even eliminate the risk of violating IHL. Therefore, military necessity is an equal to considerations of humanity argument through increasing the humanisation of armed conflict by means of its dehumanisation (hence reducing the number of persons involved in the conduct of hostilities)[127].

Military necessity has been described in three contexts: material, normative and juridical[128]. The first of these directly relate to the behaviour of those carrying out military action and implies an amoral calculation of the balance between the measures taken or intended and the expected outcome through the circumstances existing at the time. A person making the decision determines the immediate result of the action, the expected operational, tactical and strategic results, and the paths leading to it. In the final phase, s/he makes a final choice of means based on the operation's probability of success and efficiency while assuming the maximisation of its combat capabilities and avoidance of failures[129]. It seems that it is in this context that one can speak

126 Bradan Thomas, "Autonomous Weapon Systems: The Anatomy of Autonomy and the Legality of Lethality," *Houston Journal of International Law*, 37, no. 1 (January 1, 2015): 266, https://papers.ssrn.com/abstract=2503872.

127 Armin Krishnan, *Killer Robots: Legality and Ethicality of Autonomous Weapons* (Farnham, England; Burlington, Vt.: Ashgate, 2009), 91; Kaja Kowalczewska, "The Role of Ethical Underpinnings of International Humanitarian Law in the Age of Lethal Autonomous Weapons Systems," *Polish Political Science Yearbook*, 48, no. 3 (2019): 473.

128 Nobuo Hayashi, "Military Necessity as Normative Indifference," *Georgetown Journal of International Law*, 44, no. 2 (April 30, 2013): 681, https://papers.ssrn.com/abstract=2263691. Also Górbiel referred to military necessity as an ambiguous term used to describe three different concepts. Military necessity is used in either a material or formal sense as an IHL principle. In the material sense, military necessity relates to means necessary to conduct hostilities. As the principle, it performs as a paradigm for the whole IHL, whereas in a formal sense it is understood as an excluding clause incorporated into a particular treaty. Andrzej Górbiel, *Konieczność wojskowa w prawie międzynarodowym* (Kraków: Państwowe Wydawnictwo Naukowe, 1970), 48–50.

129 Nobuo Hayashi, "Contextualizing Military Necessity," *Emory International Law Review*, 27, no. 1 (January 1, 2013): 193–210.

of the acceptability of using LAWS. The systems increase the probability of the action's success while minimising losses on the own-side[130].

The normative dimension of military necessity imposes a framework of IHL on the material necessity with a certain degree of freedom to achieve the objective. It provides a rationale for creating IHL norms[131] irrespective of the contextual elements of material military necessity. Military necessity determines whether the conduct in question leads or is likely to lead to military advantage and whether and how IHL should address the military necessity so outlined (for example, to oblige, entitle, restrict or prohibit the conduct chosen). It is then necessary to transfer the planned situation from a material context to a pattern behaviour and further assess the situation giving expression to the material military necessity. It is done by determining what IHL should do with the pattern so established[132]. Referring to the legally assessed material context, not everything that constitutes material military necessity is consistent with IHL, and conversely, not everything that does not constitute material military necessity is illegal. An early example of the normative layer imposed on material military necessity is the substance of the Petersburg Declaration of 1868[133]. It obliges to evaluate the ability of a means or methods of warfare exclusively by rendering a target person *hors de combat*. The opposition to the legality of the use of LAWS, however, concerns precisely the ability of the system to assess whether a person or an object can be a target. In this case, the answer must be sought in the other IHL principles, including the principle of humanity[134].

The judgment in the case *Trial of Wilhelm List and Others (The Hostages Trial)* underpinned that the prohibitions of the Hague Regulations of 1907 should have taken precedence over military necessity unless the Regulations themselves provided otherwise[135]. This statement expressed the last of the contexts in which military necessity occurs, namely juridical. It refers to military necessity existing as an exception justifying a specific action that constitutes

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130 Krishnan, *Killer Robots*, 90.

131 Other premises influencing law-making are the principle of humanity, justice, good faith, common interest, economic values, religion, culture.

132 Hayashi, "Contextualizing Military Necessity," 222–223.

133 Kalshoven, "The Soldier and His Golf Clubs," 370.

134 "Losing Humanity," 34.

135 *The Hostages Trial*, 8 [1949] Law Reports of Trials of War Criminals at 69.

a deviation from the essential provisions of IHL if its rule expressly permits it (rules containing a military necessity clause are, for example, Article 23(g) of the Hague Regulations of 1907, Article 53 of the IV Geneva Convention of 1949). Juridical military necessity allows conduct that, in principle, is prohibited under IHL, a form of evaluation applied to interpreting rules in specific circumstances[136]. This dimension allows for an evaluation dependent on the circumstances of the case by an interpretation of rules containing the military necessity clause[137]. The clause is interpreted as an urgent and admitting no delay need of the commander to take measures allowing the fastest and complete surrender of the enemy. At the same time, the measures are not prohibited by the laws and customs of war. The definition of the concept thus consists of four elements: (1) urgency, (2) limitation of the measures used to those necessary, (3) temporal and spatial control of the force used, as well as (4) consistency of the measures with the absolute IHL prohibitions[138].

In principle, military necessity should not apply outside IHL unless expressly provided otherwise. Article 31(1) of the ICC Statute provides a prerequisite for excluding criminal responsibility that is, among other things, an action taken in self-defence or necessary for the survival of that or another person, as well as for the survival of property necessary for the fulfilment of the military mission, against the direct and unlawful use of force. In turn, Article 8(2) of the ICC Statute contains four cases in which failure to observe military necessity constitutes an element of a war crime. Most of these refer to acts directed against property rather than persons[139]. Under Article 67(1)(i) of the ICC Statute, the burden of proving the absence of military necessity is then on the Prosecutor.

Given the above, it is impossible to clearly state whether, in juridical terms, military necessity justifies the illegality of using LAWS. Only the circumstances of the case will make it possible to assess the act and establish the existence

136 Hayashi, “Contextualizing Military Necessity,” 254.

137 Hayashi, “Military Necessity as Normative Indifference,” 681–685.

138 W.G. Downey Jr., “The Law of War and Military Necessity,” in *The Development and Principles of International Humanitarian Law*, ed. Michael N Schmitt and Wolff Heintschel von Heinegg (London; New York: Ashgate, 2012), 498.

139 Among war crimes that are not justified by military necessity are serious damage or appropriation of property, damage or appropriation of the enemy’s property, ordering the displacement of civilian population for reasons of armed conflicts.

of military necessity justifying the proceedings in question. The existence of urgency and the need to recognise LAWS as a means necessary to attain the objective and the temporal and spatial limitation of its use must be established. In the absence of an express treaty provision prohibiting LAWS, the position must be shared that there is no apparent contradiction between the use of LAWS and the unconditional prohibitions of IHL, as long as the strict requirements for such a system and the attack itself are respected.

Chapter 3
Transparency in LAWS

One of the basic tools for cooperation in the area of building trust and security is the exchange of information on the transferred weapons. Most often, in disarmament agreements, transparency of arms transfer is one of the objectives of the agreement, but the information provided is made available taking into account state secrecy. The right to request information on the implementation of the provisions of the agreement is therefore a common practice in disarmament agreements. For example, the 1993 Chemical Weapons Convention introduced the most advanced consultation mechanism, which entitles a state party to request explanations from a state suspected of violating the provisions of the agreement.

Chapter 3 presents the significance of transparency for discussions around LAWS, both through weapons review and arms export control laws. The importance of weapons review increased with the development of technology, when new weapons began to appear that could significantly change the nature of armed conflicts. Transparency is key to achieving IHL's objectives and closing gaps in enforcing compliance with the law. On the other hand, armed conflict requires a balancing test between information transparency and state secrecy, guaranteeing its security. However, as Ben-Naftali and Peled point out, there cannot be any initial presumption of state secrecy *vis-à-vis* transparency of information relating to armed conflicts. Any decision regarding the secrecy of information should be taken on a case-by-case basis[1]. The authors highlight challenges in granting advancing technologies in LAWS a state secrecy status. These can increase IHL compliance deficits[2].

1 Orna Ben-Naftali and Roy Peled, "How Much Secrecy Does Warfare Need?" in *Transparency in International Law*, ed. Andrea Bianchi and Anne Peters (Cambridge: Cambridge University Press, 2013), 344–345, https://www.cambridge.org/core/books/transparency-in-international-law/how-much-secrecy-does-warfare-need/E38E169DF997BE13EAEB5D47681A2149.

2 Ibid., 348–349.

Weapons review. Evasive point for protection against LAWS

Stakeholders have noted a significant role in implementing the obligation of weapons review, and some have even considered its implementation a sufficient response to the controversy surrounding LAWS[3]. On behalf of the SIPRI Institute, Anthony presented the possible use of transparency mechanisms within the states parties to the CCW[4]. The purpose of these mechanisms is to prevent violations, but also to foster public debate and increase trust between states. Transparency mechanisms contribute to identifying points of commonality and critical flashpoints. According to SIPRI, while transparency mechanisms alone mean little, they can complement backbreaking efforts in adopting new regulations. In pursuing transparency in arms-related procedures, it is crucial to balance the legitimacy and objectives of transparency and the need for state secrecy[5].

A potential for IHL violations concerning less advanced technologies in weapons systems (drones) used for targeted killings was already highlighted in 2010 by the Special Rapporteur on arbitrary executions[6]. Transparency and accountability of perpetrators are of crucial importance for IHL compliance. The persistent denial by states carrying out targeted killings concerning information on policies and laws violates international ramifications that aim at limiting illegal uses of lethal force against individuals.

A positive state obligation concerning the use of LAWS refers to transparency procedures. Alston indicates that a source of this obligation is included in Article 1 common to the four Geneva Conventions of 1949[7], which covers

3 "Informal Meeting of Experts, Report 2015," 16.

4 Ian Anthony, "LAWS at the CCW: Transparency and Information Sharing Measures," (SIPRI, April 17, 2015), https://www.unog.ch/80256EDD006B8954/(httpAssets)/AB45D472E8B7A60DC1257E2A004016A4/$file/20150416_CCW_TRANSPARENCY.pdf.

5 "Informal Meeting of Experts, Report 2015," 21.

6 Alston, "Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Philip Alston," 87.

7 Additionally, Articles 11 (medical records for human body donations shall be available for inspection), 85 (grave breaches) and 87(3) of the Additional Protocol I of 1977 (the duties of a commander to prevent IHL violations and, if necessary, to initiate proceedings against violators) further develop the obligations provided in Article 1 common to the four Geneva Conventions. Ibid., 87–92.

the obligations to respect and to ensure respect for IHL. In terms of procedural guarantees, states should ensure that armed forces have access to reliable information which constitutes a basis for a decision on targeting. Armed forces should be further provided with comprehensive information on the consequences of weapons that are deployed, as well as on the number of civilians in the vicinity of the attack. If there is a clear error or mistake on the LAWS side, those carrying out the attack should be able to abstain from or suspend the attack. A significant guarantee of transparency relates to adopting measures to investigate unlawful attacks[8].

Information concerning LAWS that should be covered by transparency includes legal and strategic information on LAWS and the maintenance of proper procedures for accountability and responsibility. In SIPRI's view, to ensure the effectiveness of such mechanisms, the addressees of such information should be identified[9]. The structure of the procedure should be designed to ensure the appropriate frequency of information published, whether *ad hoc* or in the form of regular reports prepared by a dedicated oversight body or a fully-fledged inspection regime. The involvement of civil society, including NGOs, journalists and academics, in such procedures plays an important role. Transparency mechanisms are also a field for publishing information about implementing the weapons review obligation. Because of the above, SIPRI has proposed the creation of an information exchange platform based on the voluntary provision of information on states' approaches to various aspects of LAWS[10].

The importance of the review obligation increased with the development of technology when new weapons began to appear, which could significantly change the nature of armed conflicts[11]. There is currently no treaty law directly addressing LAWS, and states seem reluctant to engage in discussions on the subject. Besides, the recent attempt to regulate a (new) armament – cluster munitions – revealed how difficult it is for states to engage in discourse on

8 Ibid., 89.

9 The addressees can be domestic or international actors, public and private organizations supporting victims of weapons systems.

10 Anthony, "LAWS at the CCW: Transparency and Information Sharing Measures."

11 Vincent Boulanin and Maaike Verbruggen, "SIPRI Compendium on Article 36 Reviews" (Stockholm: SIPRI, December 2017), 1, https://www.sipri.org/publications/2017/sipri-background-papers/sipri-compendium-article-36-reviews.

the legality of armaments. Some states have already presented their review procedures concerning LAWS[12], as it is up to each state to determine a form of review. Concerns about the legality of using LAWS have shifted the debate on arms review to the international level[13]. A more significant role should therefore be assigned to customary law, especially norms of targeting, which are "on the front line" and responsible for ensuring the legality of using means and methods of warfare.

Article 36 of Additional Protocol I of 1977 does not define terms such as *weapon*, *means*, or *method of warfare*. LAWS constitute a means of warfare and should therefore be covered in legal reviews[14]. However, Thompson Chengeta notes that to fall within the scope of the obligation of weapons review, LAWS should be under direct and meaningful human control[15]. LAWS were contrasted with animals used in an armed conflict. The latter are not subjected to legal review under Article 36 of the Additional Protocol I of 1977[16]. Despite their appropriate training, the use of animals is, after all, still subject to the risk of unpredictable behaviour. It would therefore make it impossible to comply with the obligation to distinguish[17]. A more far-reaching comparison has also been made comprising a robot with a human combatant. Chengeta believes that fully autonomous weapons systems transfer the concept of the robotic combatant from a weapon to a combatant, who is not subject to weapons review[18]. Like LAWS, combatants are weapon carriers (platforms carrying weapons) and

12 "Informal Meeting on Laws, Report 2016," 9.

13 Thompson Chengeta, "Are Autonomous Weapon Systems the Subject of Article 36 of Additional Protocol I to the Geneva Conventions?" *U.C. Davis Journal of International Law and Policy*, 23, no. 1 (2016): 98, doi:10.2139/ssrn.2755182.

14 Ibid., 71.

15 Ibid., 80.

16 Patrick Lin, "Could Human Enhancement Turn Soldiers Into Weapons That Violate International Law? Yes," *The Atlantic*, January 4, 2013, https://www.theatlantic.com/technology/archive/2013/01/could-human-enhancement-turn-soldiers-into-weapons-that-violate-interna tional-law-yes/266732/.

17 Ibid.

18 Chengeta, "Are Autonomous Weapon Systems the Subject of Article 36 of Additional Protocol I to the Geneva Conventions?" 77; Lin, "Could Human Enhancement Turn Soldiers Into Weapons That Violate International Law?"

decide to engage a target[19]. However, they are not included in the review because they do not fall into any of the categories listed in Article 36 of Additional Protocol I of 1977. For example, the US initially did not want to count LAWS as weapons for the review obligation[20]. In response, HRW considered that weapons should be understood broadly as major components and final products[21]. As a result, the US Directive 3000.09 of 2012 (as changed in 2017) has covered LAWS in the legal review.

Even though Article 36 of Additional Protocol I of 1977 performs a crucial function of linking the disarmament law with IHL[22], weapons reviews are argued to have little relevance in the discourse on the legality of LAWS[23]. LAWS are not illegal *per se*, because their autonomy does not warrant the assumption of a likelihood of causing unnecessary suffering. Nor does it exclude the targeting of AWS against combatants and military installations, and it does not necessarily produce effects that the attacker cannot control[24]. Discussions on legality refer to the weapons prohibited *per se* and not to all possible situations in which weapons may be used[25]. As Schmitt and Thurner point out, the use of weapons is contextual, so that, for example, the rule of proportionality should not be taken into account in development phases and, consequently, during the initial review. The proportionality test is contextual, and one cannot pre-assess whether a weapon can comply with the rule. In their opinion, legal reviews do not address the issue of using a weapon[26].

While it is true that the primary purpose of the review is to determine whether a particular weapon or weapons system is illegal *per se*, the Commentary to the Additional Protocol I of 1977 has already considered weapons with an increasing degree of automation, which contributes to reducing the

19 Heyns, "Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Christof Heyns," April 9, 2013, 6.

20 "Losing Humanity."

21 Ibid.

22 Sandoz, Swinarski, and Zimmermann, *Commentary to APs*, 423.

23 Schmitt and Thurnher, "'Out of the Loop,'" 274–276.

24 Michael N. Schmitt, "Autonomous Weapon Systems and International Humanitarian Law: A Reply to the Critics," *Harvard National Security Journal Features*, 2013, 35.

25 Schmitt and Thurnher, "'Out of the Loop,'" 243.

26 Ibid., 274–276.

combatant's role on the battlefield[27]. The review obligation, irrespective of the basis for its implementation (Article 36 of the Additional Protocol I of 1977 or the customary rule), constitutes one of the procedural barriers against the use of both an illegal means of warfare and the unlawful use of a lawful means of warfare. The rule of proportionality is a very important part of the decision-making process. The inclusion of lawful weapons, or weapons that may be lawfully used in certain situations, however, equips the commander with tools that can be used in armed conflicts. The temporal scope of the rule of proportionality is thus a matter of interpretation. When the review obligation arises, it may be postponed to the stage of the inclusion of armaments in the state's arsenal[28]. Indeed, a final decision to use a weapon results from decisions taken at previous stages, including during the legal review.

When reviewing LAWS, several factors have been listed. First, it is important to define what is being reviewed. Secondly, the weapons and targeting laws play an important role in the review. However, there is a difference between a rule prohibiting indiscriminate weapons and an obligation to distinguish. The former relates to the inclusion of weaponry, while the latter imposes corresponding obligations directly on the combatant and/or a commander. The two laws are interrelated, and their core aim is protecting non-combatants in armed conflict. A similar relationship exists between the prohibition of weapons causing serious injury or unnecessary suffering, and the rule of proportionality. Consideration of the prohibition of weapons causing such effects is the duty of the state authorities in general, whereas the observance of the proportionality rule directly concerns the combatant. Thirdly, for a long time, the legality of weapons was determined solely by the weapon's design. Nowadays, the aspect of use shall also be taken into account. In relation to LAWS, this aspect refers to the ability to injure and kill and the system's autonomy within the critical functions. To consider LAWS illegal *per se*, both the degree of autonomy and the potential to kill must be considered. Consequently, systems with significant or full autonomy may (but need not) conflict with international weapons law[29].

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27 Sandoz, Swinarski, and Zimmermann, *Commentary to APs*, 427.

28 Kathleen Lawand, "Reviewing the Legality of New Weapons, Means and Methods of Warfare," *International Review of the Red Cross*, 88, no. 864 (2006): 927–928.

29 Chengeta, "Are Autonomous Weapon Systems the Subject of Article 36 of Additional Protocol I to the Geneva Conventions?" 99.

Plenty of definitions of autonomy in weapons systems also impact the review obligation. Among the various degrees of autonomy, the ability to engage a target is probably the most controversial, so it should be given particular attention in reviewing. This process requires evaluations on multiple levels to ensure the attack's compliance with IHL. A fully autonomous weapons system should be capable of performing tasks following the three basic IHL norms, namely the obligation to distinguish, the rule of proportionality and the obligation to take precautions. Some weapons systems have the ability to autonomously identify simple targets. However, no existing weapons system has sufficient situational awareness to determine the correct assessment of military benefit or expected collateral damage. It does not mean that LAWS are illegal *per se*. To date, using LAWS capable to identify and attack without direct human involvement indicates that such operations can be conducted lawfully. It is done under certain conditions, including the authority of a human being to determine the target type and assess the observance of the proportionality rule before launching an attack. A person should be empowered to determine the maximum acceptable collateral damage. Using LAWS against persons or in an environment where civilians may be present may violate IHL if the human fails to maintain direct oversight or control over the system's behaviour[30].

Modern weapons systems are often equipped with autonomous functions to support decision-making. Autonomous target recognition helps the human operator to identify the target, track it and prioritise it accordingly. From a legal review perspective, functions of this type should raise several questions. The key issue is not necessarily whether the system can perform tasks under the targeting law. What is important is to determine whether the system assures proper target identification to ensure compliance with IHL. The reviewing body should determine the type of information the system provides to humans, the ability to confirm this information, how the operator is trained on how the system behaves, and the system's technical limitations[31]. A reliable assessment of the above aspects is a prerequisite for IHL compliance. In addition to the legality of the system *per se* and the typical cases of its use, it is desirable to determine the degree of risk of harm or damage resulting from

30 Boulanin and Verbruggen, "Article 36 Reviews," 17.

31 Intelligence uses such terms as likely, highly likely, which give rise to different scope of certainty that should be confirmed by other sources.

the malfunction of the system or loss of control over it. Loss of control can occur through a cyberattack, software error, or even by an unauthorised entity or person[32] (including non-state armed groups or terrorists).

In summary, the reviewer should consider the following elements. Concerning technical parameters covering system capabilities and induced effects, the system should, under normal and planned conditions of use, be capable of ensuring IHL compliance. In particular, consideration should be given to factors such as causing serious injury or unnecessary suffering, targeting civilians or civilian objects, or causing long-term, widespread and serious harm to the environment[33]. With regard to weapons with autonomous target engagement functions, it should be determined whether they are capable of complying with the obligation to distinguish, the rule of proportionality and the obligation of precautions. If the weapon does not have a specific operational context capabilities, then one has to consider the necessary limitations to be adopted. On the other hand, should the weapon be capable of complying with the afore-mentioned obligations and rules, it is necessary to examine to what extent the autonomous functions improve compliance with them (compared to the weapons used so far). If the weapon is equipped with autonomous target engagement functions, it is necessary to determine the conditions under which the use of the system may lead to any IHL violations or, in the event of the violation, cause a responsibility gap[34].

Depending on the outcome, the reviewer should advise appropriate restrictions or recommendations on using LAWS. These may then be incorporated into software code (if possible), rules of engagement, and armed force training programmes. Restrictions that are programmable in the system may relate to the environment of the lawful use, a predetermined location, and the time of the system's operation. In turn, recommendations on the relationship between humans and the system in the chain of command and control may include, for example, the requirement for continuous surveillance of the system and the possibility of cancelling its mission[35].

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32 Boulanin and Verbruggen, "Article 36 Reviews," 22–24.

33 Alston, "Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Philip Alston," 10.

34 Boulanin and Verbruggen, "Article 36 Reviews," 4.

35 Ibid., 24.

In discussing the legality of using LAWS, some scholars point to the insufficient role of Article 36 of Additional Protocol I of 1977. The reasons for this are the existing differences in the interpretation of international law, the lack of a uniform standard for the review procedure, and a common international document, which would define the essential, from the IHL perspective, points admitting no delay. The legal framework provided by the CCW and the ongoing work at the CCW working group is important. The CCW Convention was adopted to develop international law and to introduce collective restrictions or prohibitions on questionable weapons. Further to the recommendations on the importance of the review obligation through information-sharing, Article 36 proposed to share information on LAWS that have received a negative assessment in legal reviews. In addition, it would be helpful not necessarily to publish the actual results of reviews, but the evaluation criteria are taken into account when examining the legality of LAWS and their use[36].

The USA are carrying out the most advanced legal review concerning LAWS. Besides, it has been the first country to adopt a regulation on AWS[37]. Directive 3000.09 of 21 November 2012, in addition to the concept of autonomy, regulates the responsibility for developing and using autonomous and semi-autonomous functions in weapons systems. An annex to the Directive is the Guidelines for Review of Certain Autonomous or Semi-Autonomous Weapon Systems. The review should occur twice before the decision on formal LAWS deployment in the armed forces and before the final decision on use[38]. The Guidelines identify specific considerations that determine the legality of using LAWS. Before any development stage, the characteristics of the system should be considered. They are an appropriate level of human judgement in the use of force, a time range of the system's combat capability (consistent with the commander's and operator's objectives), and appropriate security mechanisms that would prevent unintended attacks or loss of control over the system. In addition, an appropriate plan should be developed to ensure the system's reliability, effectiveness and sustainability under realistic combat conditions. The Guidelines

36 "Article 36 Reviews and Addressing Lethal Autonomous Weapons Systems" (Geneva: Article 36, 15.04 2016), 2, https://article36.org/updates/a36-laws-paper/.

37 "Department of Defense Directive 3000.09."

38 Ibid.; "Instruction 51–402, Legal Review of Weapons and Cyber Capabilities" (6 U.S. Air Force, July 27, 2011), https://nsarchive2.gwu.edu/NSAEBB/NSAEBB424/docs/Cyber-053.pdf.

condition the review by conducting an initial pre-review of a weapons system. Moreover, before the deployment phase, adequate training should be provided to the operator and a commander to ensure an understanding of the system's operation, capabilities and limitations under combat conditions. In addition, the system interface should be understandable to the qualified operator, giving them adequate information on the system's status and ways to activate and deactivate certain functions. The Directive further introduces rationales for the responsibilities of the various individuals involved in developing and using AWS.

The position has been expressed in the doctrine that, in addition to examining weapons law review and targeting law review, the reviewer should consider the issue of responsibility for possible IHL violations. One of the main topics in the discussion on using LAWS is, after all, responsibility for IHL violations. However, the fact that LAWS perform a task uncontrolled by the operator does not necessarily render the weapon unlawful[39]. However, the UN Special Rapporteur on extrajudicial killings pointed out that the gap in responsibility for IHL violations caused by using LAWS should make AWS illegal[40].

The customary nature of Article 36 of the Additional Protocol I of 1977, albeit relevant in determining participants responsible for reviewing LAWS, is questionable[41]. First, few states disclose information on the fulfilment of the obligation. Secondly, even when a state introduces review instruments, it does not make public the details of the review. However, this should not be seen as a negative phenomenon. States do not disclose information concerning their military capabilities primarily because the legal review is a hybrid between IHL and disarmament law. The latter does not permanently exclude the right to possess arms whose use might be prohibited or restricted by IHL standards.

After the Second World War, states were more willing to enter into international agreements, resulting in the extensive development of treaty-based IHL.

39 Press, "Of Robots and Rules: Autonomous Weapon Systems in the Law of Armed Conflict," 1353, 1362.

40 Heyns, "Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Christof Heyns," April 9, 2013, 15.

41 Natalia Jevglevskaja, "Weapons Review Obligation under Customary International Law," *International Law Studies*, 94 (2018): 190–191.

The situation changed at the end of the 20th century, when the international community faced new challenges, such as armed conflicts in the former Yugoslavia or the genocide in Rwanda. The ICTY was not given clear information on whether and which war crimes, as listed in the ICTY Statute, included non-international armed conflicts. In the *Tadić case*, the panel noted the difficulty of identifying state practice in an armed conflict. The reason for this was primarily the lack of access to information about the conduct of the parties to an armed conflict. Sometimes the information may be concealed by the parties to the conflict or deliberately manipulated. According to the ICTY, to find customary rules of international law, it is necessary to rely on verbal practice, including state statements, military instructions and judicial decisions[42]. Secondly, the identification of customary rules is hindered by their very prohibitory nature (concerning *non facere* obligation)[43]. According to *the Lotus* principle, a state's refraining from a particular conduct may be a manifestation of a customary law rule if it is based on the state's belief that it is obliged to do so (which constitutes evidence of *opinio iuris*)[44].

The customary rule may therefore be expressed by not carrying out indiscriminate attacks using LAWS. Consequently, a customary prohibition on using a particular weapon may be evidenced by its non-use. Such evidence, however, requires a clear position by the state which expresses its willingness to be bound by the obligation. Determining such a proof is difficult in many cases. A state's non-use of a particular weapon may result not only from a sense of being bound by the prohibition but also from a lack of technical capacity to possess and/or use the weapon. The only way to prove an obligation of a customary nature related to weaponry is an express *opinio iuris.* In searching for verbal practice, a helpful tool is an official statement by state organs or an act of national law that implements IHL[45]. The ICJ in the *Nicaragua case* confirmed

42 Prosecutor v Dusko Tadic (Decision on the Defence Motion for Interlocutory Appeal on Jurisdiction), No. IT-94-1 (ICTY October 2, 1995).

43 Heinsch, "Methodology of Law-Making: Customary International Law and New Military Technologies," 23.

44 The case of S.S. Lotus (France v Turkey) (Judgment) at 28.

45 Heinsch, "Methodology of Law-Making: Customary International Law and New Military Technologies," 26; Ian Brownlie, *Principles of Public International Law*, 3rd ed. (Oxford: Clarendon Press, 1979), 6. "Verbal acts may consist of: diplomatic correspondence, policy statements, press releases, the opinions of official legal advisers, official manuals on legal questions, but

that verbal practice might be evidence of the simultaneous existence of both custom elements[46]. Such reasoning has become a proper interpretative tool in the practice of international tribunals and courts[47].

Nor can the immediate development of custom be considered extraordinary in contemporary international law. In relation to IHL, international courts and tribunals often refer to a double standard of verbal practice, which includes a reduction in the frequency and consistency of practice and the predominant role of *opinio iuiris*[48]. The predominant role of *opinio iuris* may indicate a reduction in the requirements to prove the formation of a particular practice in armed conflicts. IHL is primarily based on moral norms and the principle of humanity; therefore, since military activities are central to shaping IHL, considerations of humanity require that the customary norm of IHL be formed even before it is applied in practice[49].

Some use similar reasoning for LAWS when giving normative meaning to the Martens Clause as part of customary law. Both arguments are regarded as sources of IHL, allowing a lower standard of proof as to the frequency and consistency of practice leading to a customary IHL norm. However, the Martens Clause was adopted not to change the way law is made, but to ensure that, regardless of *ad hoc* rules, the conduct of parties to an armed conflict will always be governed by existing principles of international law[50], which would prevent the *non liquet* situation. The ICTY used the Martens clause in the *Kupreškić case* to make up for the inconsistency of states' practice concerning the prohibition of retaliation against civilians. In essence, however, the ICTY used a lowered standard of proof to determine the existence of a customary

also the practice of international organs and resolutions relating to legal questions in the UN General Assembly".

46 Military and Paramilitary Activities in and against Nicaragua (Nicaragua v United States of America), Merits (Judgment), No. Reps (ICJ June 27, 1986).

47 Heinsch, "Methodology of Law-Making: Customary International Law and New Military Technologies," 30.

48 Ibid., 31.

49 This phenomenon took place when regulating blinding laser weapons before these weapons were used in combat.

50 Heinsch, "Methodology of Law-Making: Customary International Law and New Military Technologies," 32–34.

rule, giving a more significant role to the legal element[51]. It should be emphasised that even against the IHL rule, the relevant practice of states must be demonstrated, so there is no room for legislative jurisprudence[52].

The treaty form of the obligation of weapons review is more specified. The original draft presented by the CDDH working group stipulated that, in situations not covered by international agreements, each state had an individual obligation to consider whether the use of a particular new weapon or method of warfare violated the prohibition on causing unnecessary suffering[53]. During the preparatory work, a clear distinction was made between the use of weapons (employment) and their acquisition and storage, with only the first case being covered by the regulation[54]. Activities other than use were left to a separate section of international law, namely the law on arms control. Nevertheless, the legal review obligation, as prescribed in Article 36 of the Additional Protocol I of 1977 is the only direct link (and a safeguard) between IHL and states' deployment of new weapons[55]. The review performs a preventive function in that it should prevent the use of prohibited weapons in all cases[56]. It also aims to prevent the use of weapons restricted only in certain circumstances. All these preventative measures should happen even before a specific armament is deployed in the state's arsenal. The review obligation takes place

51 Prosecutor v Kupreškić (Judgment) at 527. "This is however an area where opinio iuris sive necessitatis may play a much greater role than usus, as a result of the aforementioned Martens Clause".

52 Heinsch, "Methodology of Law-Making: Customary International Law and New Military Technologies," 35.

53 "Conference of Government Experts on the Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflicts. Second Session 3 May – 3 June 1972. *Report on the Work of the Conference. Volume I*" (Geneva: ICRC, July 1972), 107, https://www.loc.gov/rr/frd/Military_Law/pdf/RC-Report-conf-of-gov-experts-1972_V-1.pdf.

54 "Official Records of the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflicts. Vol. XIV" (Geneva: CDDH (1974-1976)), 252, accessed November 2, 2022, https://www.loc.gov/rr/frd/Military_Law/pdf/RC-records_Vol-14.pdf.

55 Sandoz, Swinarski, and Zimmermann, *Commentary to APs*, 423.

56 Boulanin and Verbruggen, "SIPRI Compendium on Article 36 Reviews," 1; Chengeta, "Are Autonomous Weapon Systems the Subject of Article 36 of Additional Protocol I to the Geneva Conventions?" 68.

based on national procedures. Thus, it complements international law by seeking to resolve the legality of a particular armament[57].

The content of the obligation expressed in Article 36 of the Additional Protocol I of 1977 is as follows: a state should consider whether the use of a new weapon, means or method of warfare could be subject to the prohibitions introduced by the Protocol or other norms of international law. To ensure clarity, these three terms – a weapon, a means or a method of warfare – are referred to collectively as *armaments*, since the review obligation relates to all of them on an equal basis. The development of LAWS should be consistent not only with the SIrUS prohibition but with all, binding on a state, international law[58]. Such an extension indicates that it is a new weapons system that should "fit in" with existing law and not the law with the new weaponry. The scope of the obligation is broad, as it considers both the legality of the weaponry itself and the possible ways of using it. The review should cover the final deployment of new weaponry into armed forces and previous stages, such as research, development and acquisition. However, Article 36 of the Additional Protocol I of 1977 does not oblige to anticipate every possible (over)use of the weaponry[59], only to consider IHL in the production phase. The obligation refers to states to determine internally whether the use of LAWS may, in all or some circumstances, be prohibited under international law. Simultaneously, the review covers only such arms use which is foreseeable at the time of the review[60].

The scheme for reviewing new means and methods of warfare should consider particularly those provisions of Additional Protocol I of 1977 and customary international law which directly relate to the use of weapons, means or methods of warfare. The literature distinguishes between weapons law and that part of IHL which directly relates to the targeting law[61]. Consequently, the

57 Sandoz, Swinarski, and Zimmermann, *Commentary to APs*, 424.

58 Proposals to merge Articles 35 and 36 of the Additional Protocol I of 1977 were rejected.

59 "Official Records of the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflicts. Vol. XV" (Geneva: CDDH (1974-1977)), 269, accessed November 2, 2022, https://www.loc.gov/rr/frd/Military_Law/pdf/RC-records_Vol-15.pdf.

60 Sandoz, Swinarski, and Zimmermann, *Commentary to APs*, 423.

61 Chengeta, "Are Autonomous Weapon Systems the Subject of Article 36 of Additional Protocol I to the Geneva Conventions?" 66; Press, "Of Robots and Rules: Autonomous Weapon Systems in the Law of Armed Conflict," 1345.

weapons law review is divided into two corresponding parts: the weapons law review and the targeting law review. The former seeks to determine whether a weapon violates IHL *per se*, whereas the latter aims at determining whether, in particular circumstances, the use of LAWS could lead to any IHL violations[62].

The primary determinant of the legality of the use of means or methods of warfare is Article 35 of the Additional Protocol I of 1977, according to which, first, the limitations arising from Articles 22 and 23(e) of the 1907 Hague Regulations remain relevant[63]. Article 35(3) of Additional Protocol I of 1977 also prohibits using weapons, projectiles, materials and methods of warfare causing widespread, long-term and serious environmental damage. In addition, indiscriminate attacks are prohibited under Article 51(4)(b) and (c) of Additional Protocol I of 1977. The following attacks are considered to be the use of means and methods of warfare: (1) ones which cannot be limited to a specific military objective, or (2) the effects of which cannot be limited to purposes permissible under the Protocol.

The requirements set above are followed by norms prohibiting specific armaments when the law is made *ad hoc* (law on the use of specific weapons). As a special rule, a given prohibition or restriction cannot be applied by analogy to weapons not covered by the regulation. Such *ad hoc* rules may include prohibitions on the use of bullets that flatten into the human body (in both international and non-international armed conflicts), exploding bullets (based on a customary international law), poisons, chemical weapons, biological weapons, blinding laser weapons, anti-personnel mines, cluster munitions. Weapons of all types are reviewed, including those intended for use against persons and objects, lethal and non-lethal, and weapons systems. Therefore, LAWS fall into this category and are covered by the obligation of weapons review for states parties to the Additional Protocol I of 1977. Unfortunately, non-states parties and non-state armed groups are not bound by the obligation determined under Additional Protocol I of 1977. Therefore, the substance of the LAWS review differs from subject to subject. Nevertheless, there are safeguards for states developing and acquiring LAWS to comply with their international obligations.

62 Press, "Of Robots and Rules: Autonomous Weapon Systems in the Law of Armed Conflict," 1347.

63 These concern the absence of an unlimited right to choose means and methods of combat and, secondly, the prohibition on causing excessive or unnecessary suffering.

For Article 36 obligation, the term *new* is broadly interpreted. It covers weapons, means or methods of warfare (1) which are yet to be developed; (2) that a state wishes to acquire; (3) which are under modification; as well as (4) which have already been developed but a state has entered into an international agreement regulating its use (*ad hoc* law)[64]. Therefore, the obligation's personal and temporal scope is broad in applying to states that produce, acquire or modify weaponry, and the review should occur as early as possible in the development phase[65].

No international agreement concerning the review has been adopted. However, there is a guideline prepared by the ICRC on the topic that indicates which obligations should be considered while reviewing new weaponry. A Guide to the Legal Review of New Weapons, Means and Methods of Warfare stipulates that besides weapons law obligations as they stand, a review should consider compliance with the Martens Clause, including the principles of humanity and the dictates of public conscience[66]. The reflection on the Martens Clause in weapons review leads, for example, to the UK accounting for a progressive manner in reviewing weaponry by considering current trends in international law development to prohibit or restrict a weapon[67]. In addition to likely international law developments, Norway considers positions taken by the state at international forums[68]. Sometimes the already conducted review is allowed to be revised if new information comes to light (Belgium), and the review includes political and environmental considerations (the Netherlands). In some cases, international human rights law (especially in the context of the right

64 Kathleen Lawand, "A Guide to the Legal Review of New Weapons, Means and Methods of Warfare" (Geneva: ICRC, January 2006), 937–38, https://www.icrc.org/en/publication/0902-guide-legal-review-new-weapons-means-and-methods-warfare-measures-implement-article.

65 Ibid., 951.

66 Ibid., 945.

67 "The review process takes account not only of the law as it stands at the time of the review but also attempts to take account of likely future developments in the law of armed conflict". See: "The Joint Service Manual of the Law of Armed Conflict" (UK Joint Doctrine and Concepts Centre, October 23, 2004), 119, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/27874/JSP3832004Edition.pdf.

68 "Direktiv Om Folkerettslig Vurdering Av Våpen, Krigføringmetoder Og Krigføringsvirkemidler" (Norwegian Ministry of Defence, June 18, 2003), https://ihl-databases.icrc.org/applic/ihl/ihl-nat.nsf/0/B9A43D15948E1CA8C1256DAD003399FF. Par. 2(6).

to life and law enforcement), disarmament law and domestic law broaden the scope of reviewed obligations as set forth by Article 36 of the Additional Protocol I of 1977. On the other hand, some states have excluded nuclear weapons or weapons of mass destruction from the material scope, limiting the review exclusively to conventional weapons[69].

The construction of obligation of Article 36 of the Additional Protocol I of 1977 has been shaped in a way that significantly weakens the importance of the obligation also concerning LAWS. There were proposals to create a separate institution responsible for review mechanisms. According to Article 86*bis* of the Draft Additional Protocol I of 1977, the body was supposed to be responsible for preparing the list of prohibited means and methods of warfare and overseeing the implementation of the review obligation[70]. However, some states agreed to be bound by the entire Protocol conditional on removing this proposal[71]. The final text of the Additional Protocol I of 1977 thus introduced a review obligation without specifying sanctions for non-compliance. Article 36 of the Protocol provides for the obligation to take appropriate measures to suppress other than serious violations of the Protocol by means of new weaponry. It does not mean, however, that other states parties cannot act in the event of a state's failure to comply with the obligation. The ICRC Guide to the Review Mechanism highlights the importance of Article 84 of Additional Protocol I of 1977, according to which the states parties are obliged to make available information on the regulations adopted to implement the provisions of the Protocol[72]. States may therefore request information on the implementation of the review obligation (in fact, a request has not been applied yet). This wording does not imply an obligation to make available the complete results of the review concerning LAWS. A state should only make public the regulation establishing the review

69 UK made reservation do the Additional Protocol I of 1977 excluding the application of the Protocol to nuclear weapons. Similarly, German review considers only conventional weapons, therefore excluding chemical, biological and nuclear weapons. See: UK, "Reservations to Protocol Additional I to the Geneva Conventions of 1949" (ICRC, February 7, 2002), https://ihl-data bases.icrc.org/ihl/NORM/0A9E03F0F2EE757CC1256402003FB6D2.

70 Sandoz, Swinarski, and Zimmermann, *Commentary to APs*, 422.

71 A reason was the shift of discussion on legality or limitation of conventional weapons to the UN disarmament conferences. See: Ibid.

72 Lawand, "A Guide to the Legal Review of New Weapons, Means and Methods of Warfare," 949; Lawand, "Reviewing the Legality of New Weapons, Means and Methods of Warfare," 927.

procedure. Besides, not all states parties expressed interest in developing or modifying already developed LAWS. Consequently, the review obligation does not arise for them (this concerns, among other things, mini-states and permanently neutral states, which do not need to develop new weapons systems). It is worth noting that the right to request information on the implementation of the agreement is a frequent practice in disarmament agreements. The Chemical Weapons Convention of 1993 has introduced the most advanced consultation mechanism, which entitles a state party to request an explanation from a state suspected of violating the agreement. An obligation then arises on the part of the suspected state, within a time limit set by the agreement, to submit a response to the Organisation for the Prohibition of Chemical Weapons.

Some scholars observe no need to establish a separate institutional framework to monitor national review procedures[73]. Dorn and Scott explain this by criticising the existing control mechanisms adopted within the ramification of disarmament agreements. Few such agreements provide for actual sanctions for non-compliance. Determination of violations is rare, despite justifications on the site of a violating state and the need for an impartial forum to assess justifications and justified conduct[74]. Therefore, the primary control mechanism seems to be establishing an international institution. It bases its conclusions on regular state reports (sometimes subject to verification by local inspections)[75]. Some disarmament treaties additionally introduce an obligation to enforce

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73 Justin McClelland, "The Review of Weapons in Accordance with Article 36 of Additional Protocol I," *International Review of the Red Cross*, 85, no. 850 (2003): 415.

74 A. Walter Dorn and D.S. Scott, "Compliance Mechanisms for Disarmament Treaties," in *Verification Yearbook 2000*, ed. Trevor Findlay (London: Verification Research, Training and Information Centre, 2000), 230–239.

75 Treaties that provide to establish or deploy a separate control mechanism are as follows: "Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, New York, *Adopted 10 December 1976, Entered into Force 5 October 1978*," Pub. L. No. 1108 UNTS 151 (1976); "Treaty on the Non-Proliferation of Nuclear Weapons, Washington, Moscow, London, *Adopted 1 July 1968, Entered into Force 5 March 1970*," Pub. L. No. 729 UNTS 161 (1968); "Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, London, Moscow, Washington *Opened for Signature 10 April 1972, Entered into Force 26 March 1975*," Pub. L. No. 1015 UNTS (1972); "Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, Geneva *Adopted 3 September 1992, Entered into Force 29 April 1997*," Pub. L. No. 1975 UNTS 45 (1992).

provisions of the agreement through appropriate domestic regulations intended at prosecuting individuals. However, relying solely on coercive mechanisms would be inefficient in relation to LAWS, as would establishing a uniform review model[76]. States have varying needs and access to human and financial resources to conduct the review[77]. Introducing the same review model for all states could undermine a state's ability to integrate the review process into the domestic legal system. It can be concluded that the obligation of weapons review has been devoted to safeguarding IHL provisions relating to weapons law and targeting law. However, it further allows states to adapt the performance of the obligation to resources and changing needs. Under no circumstances does it make the obligation a dead letter of subjectivity and relativity, but rather a reactive legal instrument keeping safeguards set forth by IHL obligations. It is noted that the very introduction and maintenance of the review procedure is more important than the form it takes[78]. Non-governmental organisations which publish periodic reports on the implementation of international agreements play an essential role in this respect. The remedy proposed by the ICRC is also to increase the number of states voluntarily complying with the obligation and exchange experience[79].

Another objection against the review obligation is that there is no indication of how the review should be conducted. The construction of the obligation is based solely on whether the use of weaponry would be prohibited or restricted by international law. The interpretation of the word "consider" is aided by the general interpretative tools provided by the customary rule expressed in Article 31 of the Vienna Convention on the Law of Treaties of 1969. According to paragraph 1 of that Article, "[T]he treaty shall be interpreted in good faith under the ordinary meaning to be attributed to the words used therein in their context and the light of its object and purpose". Assuming that a purpose is

76 Patricia Lewis and Ramesh Thakur, "Arms Control, Disarmament and the United Nations," *Strenghtening Disarmament and Security*, 2004, 27, http://www.igntu.ac.in/eContent/IGNTU-eContent-797428525749-MA-PoliticalScience-4-Dr.NameirakpamSurjitkumar-ELECTIVE5INDIAANDUNITEDNATION-2.pdf.

77 Boulanin and Verbruggen, "Article 36 Reviews," 5.

78 W. Hays Parks, "Conventional Weapons and Weapons Reviews," *Yearbook of International Humanitarian Law*, 8 (December 2005): 107, doi:10.1017/S1389135905000553.

79 "Declaration Agenda for Humanitarian Action. Resolutions" (Geneva: 28th International Conference of the Red Cross and Red Crescent, December 2, 2003), 20, https://www.icrc.org/en/doc/assets/files/other/icrc_002_1103.pdf.

attributed to each norm[80], the introduction of weapons review seeks to ensure that a state does not use means and methods of warfare that IHL would prohibit. A failure to comply with the obligation could only occur if a state did not conduct a legal review. Hypothetically, the legal consequences of a breach of the obligation may arise. However, given the state's unwillingness, at least initially, they seem unlikely (the exercise of the right to information on the implementation of the review obligation has not yet occurred).

In most of the available information concerning the implementation of the obligation, an advisory body is established only to make recommendations[81]. For example, in Belgium, a permanent Commission for the Legal Review of New Weapons, New Means and New Methods of Warfare was established in 2002. The Commission is an element of the legal review, as its decisions are forwarded to the Ministry of Defence, which makes the final decision on the legality of use. In the Netherlands, the Advisory Commission on International Law and Conventional Weapons has been operating since 1978, also within the Ministry of Defence. If decisions need to be made quickly and the advisory body cannot gather, the review is carried out by legal advisers engaged in a specific military operation. Within the Polish Ministry of Defence, a Legal Department has been established to give legal opinions on draft legal acts issued by the Ministry of Defence units, as well as to define the main directions and tasks in the field of IHL dissemination. The competencies of such bodies are not uniform. Where it is considered that the use of weaponry should be restricted, only some states' bodies can recommend appropriate training to ensure that the use of arms is lawful (for example, Belgium). The review or appeal procedure is not a uniform practice either. New Zealand, for example, does not allow for an appeal against a decision rendered under review. Despite not being bound by the provisions of the treaty obligation, the US has been reviewing weaponry even prior to the adoption of Additional Protocol I of 1977. The differentiated but existing review mechanisms being fielded have opened discussions about the customary nature and scope of the obligation of weapons review[82], which is relevant in using LAWS.

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80 Iwona Bogucka, *Funkcje prawa: analiza pojęcia* (Kraków: Kantor Wydawniczy "Zakamycze," 2000), 61.

81 McClelland, "The Review of Weapons in Accordance with Article 36 of Additional Protocol I," 403.

82 Jevglevskaja, "Weapons Review Obligation under Customary International Law," 213–214.

Export control

Arms export control laws differ among states[83]. The universal Arms Trade Treaty of 2013 (ATT) is an international agreement of general application regulating the international transfer of arms[84]. However, most major exporters of advanced military equipment, such as China, Israel, USA, Russian Federation, and Türkiye are not parties to the ATT. Transparency is included in Article 1 of the Treaty as its main objective, in addition to promoting cooperation and responsible action of states parties in the field of international trade in conventional weapons. Pursuant to Article 2 of the Treaty, the material scope of the transfer regulated by this agreement applies to all conventional weapons.

From the perspective of ensuring compliance with IHL, the Preamble to the ATT reiterates the obligation to respect and ensure respect for IHL. In this respect, an obligation under Article 7(1)(b) of the ATT, which provides that, before consenting to a transfer, states parties are obliged to assess whether such weapons would contribute to consolidating or endangering peace and security or could be used to commit or facilitate the commission of a serious violations of IHL, international human rights law, terrorism-related offenses or organised crimes. This means that, for example, if the UN Security Council imposes an arms embargo, the transfer of arms to an embargoed entity also violates the obligation of the states party expressed above. Compliance with IHL was therefore included as a criterion for assessing whether the transfer could be carried out in accordance with the state's other obligations. The state should also consider whether the weapons could be used unlawfully and what the likelihood of such use is. It is true that ARSIWA also cover aiding or abetting the commission of an internationally unlawful act, but until the adoption of the ATT of 2013 there were no clear rules relating to aiding and abetting violations of IHL as part of

83 For example, within the EU, there is the Common Position on arms export control. The USA has its own arms export control legislation. "Council Common Position 2008/944/CFSP of 8 December 2008 Defining Common Rules Governing Control of Exports of Military Technology and Equipment," 335 OJ L § (2008), http://data.europa.eu/eli/compos/2008/944/oj/eng; "Arms Export Control Act (As Amended) [Public Law 90-629]," 22 U.S.C. § 2751 (2023), https://www.govinfo.gov/content/pkg/COMPS-1061/pdf/COMPS-1061.pdf.

84 "The Arms Trade Treaty *Adopted 2 April 2013, Entered into Force 24 December 2014*," 3013 UNTS 52373 § (2013), https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVI-8&chapter=26.

the arms transfer. These transfer evaluation criteria are as important as the universalisation of the Treaty and the increase in the number of states parties.

Article 13 of the ATT of 2013 provides two reporting obligations of states parties. First, states are obliged to submit an initial report, which should take into account national law, as well as checklists and other administrative measures adopted to implement the treaty. In addition to the preliminary report, in accordance with Article 13(3) of the Treaty, states should submit annual reports on transfers falling within the scope of the Treaty. The annual report is composed of three pillars. First, the ATT Secretariat checks whether the report meets the requirements of Article 13(3) of the Treaty. This includes, but is not limited to, information on the timeliness of report submission, the inclusion of consents, or the actual exports and imports of conventional weapons. The second pillar of the report concerns its transparency. The Treaty Secretariat checks whether the report contains detailed information broken down by arms exports and imports, whether the transfer includes only actual exports and imports or also transfer consents, and whether it includes data on the quantities of arms transferred. The third pillar covers information constituting a higher standard of transparency, i.e. whether the state provided additional information, indicated the nature of the transfer, indicated the reasons for keeping the information secret, and provided additional summaries and national reports. The obligation to provide national checklists is, pursuant to Article 5(4) of the ATT, subject to national regulations. This allows states to keep certain information, including military technical information, confidential on the basis of national security protection.

Recently, there has been an increase in information classified by states as part of reports submitted to the Secretariat of the ATT. Pursuant to Article 13(3) of the ATT, a report by a state party may be classified if the information contained in the report falls into the category of commercially sensitive information or information relating to state security. During the first ATT conference of states parties in 2015, several states requested public access to the reports. However, this proposal was rejected due to the wording of Article 13 ATT, which does not clarify whether reports must be public and therefore the decision rests with the discretionary authority of each state[85]. For example,

85 Andrew Clapham et al., *The Arms Trade Treaty: A Commentary* (Oxford: Oxford University Press, 2016), 387, https://opil.ouplaw.com/display/10.1093/law/9780198723523.001.0001/law-9780198723523.

Poland submitted its 2020 report, but did not indicate whether any data had been removed to protect sensitive commercial or national security information. Despite the practice of keeping reports secret from the public, it should be noted that the reports nevertheless remain public to other states parties to the Treaty. Another disturbing practice is the lack of consistency between reports under the ATT and the UNROCA. Some countries submit a public report to the UNROCA but a classified report (or no report at all) to the ATT.

Several arms transfers to areas affected by or related to an armed conflict have attracted public attention. The first is arms transfers to Saudi Arabia and the United Arab Emirates in connection with Saudi Arabia's intervention in Yemen against the Houthi rebels. It is estimated that approximately 15,000 civilians died as a result of military operations, mainly coalition air attacks, including the use of weapons transferred by such countries as France, Canada, Germany, Great Britain and the USA. The intervention in Yemen did not contribute to restoring peace, but to the deepening of the humanitarian crisis and even IHL violations. Hence, in the discussion on stopping transfers, the obligation of countries supplying arms to Saudi Arabia and the United Arab Emirates to review, limit or even stop arms transfers was raised. Other examples include arms transfers to Afghanistan[86], Libya[87], and most recently Ukraine[88].

86 The arms transfer between the US and Afghanistan concerned support for the mujahideen during the USSR's invasion of Afghanistan. The US continued the transfer despite information about the mujahideen's repression and attacks on civilians, including the shelling of Kabul using weapons supplied by the US. In addition to the direct consequences of the transfer for the civilian population and non-compliance with IHL, the literature indicates a link between US military support for Afghanistan and the attacks on the World Trade Center on September 11, 2001.

87 In Libya, NATO countries and Russia supplied weapons to the Gaddafi regime. When it turned out that the resistance against the regime had increased, NATO countries launched air raids to recover previously transferred weapons. It turned out that ammunition storage warehouses had been stolen by civilians.

88 The least controversial example is the transfer of arms to Ukraine. The US Department of Defense report from January 2023 indicated the inability to exercise control over the final use of the weapons transferred to Ukraine due to the lack of presence of US military personnel on Ukrainian territory. On the other hand, it might seem that in 2022 Ukraine will be the largest arms importer, but in fact it receives second-hand and not necessarily advanced weapons (this applies, for example, to the refusal to transfer Raphael advanced combat aircraft, the transfer of which was agreed to by the US, for example to Qatar). See: "Joint Strategic Oversight Plan For Ukraine Response, January 2023" (US Department of

There are several ways in which states register their arms transfers, such as the UN Register of Conventional Arms[89], the Monitor of the ATT, and the Wassenaar Arrangement[90]. All of these registers meet participation and reliability of information challenges. The only global security cooperation arrangement responsible for the transfer and collection of information on conventional arms is the United Nations Register on Conventional Arms[91]. The register was established under General Assembly resolution 46/36 L of 1991 and is based on the voluntary participation of states[92]. States may submit reports on their arms exports and imports. The Register contributes to greater transparency in the field of weaponry. It is significant for building mutual trust between states and helps to determine whether there is an excessive or destabilising accumulation of arms by a state. Since its inception, reports have been submitted by more than 170 states. It appears that not all of them are coherent. There are several reasons for this, one of them being that not all states submit information on time. Moreover, there are differences in national interpretations of whether weapons should be classified under a particular category on the Register's list. However, to minimise discrepancies, states attempt to consult the details of arms transfers in the report's context with their partners[93].

It is indicated that, in general, AI is a dual-use technology, which makes it difficult to establish clear links to arms export control laws. This broad application makes export control challenging due to many actors involved in producing and transferring military equipment. For example, Iran has transferred unmanned aerial vehicles, including Shaheed-131, Shahed-136 and Qods

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Defence, January 2023), 13, https://www.dodig.mil/Portals/48/FY2023_JSOP_UKRAINE_RESPONSE.pdf.

89 "United Nations Register of Conventional Arms," *UNROCA*, accessed February 11, 2022, https://www.unroca.org/about.

90 "Wassenar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies" (1996), https://www.wassenaar.org/app/uploads/2021/12/Public-Docs-Vol-I-Founding-Documents.pdf.

91 R.J. Mathews and T.L.H. McCormack, "The Relationship between International Humanitarian Law and Arms Control," in *The Changing Face of Conflict and the Efficacy of International Humanitarian Law*, ed. Helen Durham and Thimothy L.H MacCormack (The Hague; London; Boston: Kluwer Law International, 1999), 93.

92 "Resolution 46/36: General and Complete Disarmament" (UNGA, December 6, 1991).

93 "United Nations Register of Conventional Arms."

Mohajer-6, to Russia, which were used to carry out indiscriminate attacks in Kyiv, Odessa, and Kharkiv. Iran claims that the drones were sent to Russia before the aggression[94]. Russia later re-branded these loitering munitions to Geran-1 and -2 models. The US imposed sanctions against Iranian state organs, corporations and individuals for transferring drones to Russia in the full knowledge that these weapons significantly contribute to the commission of war crimes[95]. The sanctions included, among others, the Iranian entities involved in the production and ongoing transfer of unmanned aerial vehicles to Russia (Islamic Revolutionary Guards Corps Aerospace Force, Qods Aviation Industries and Shahed Aviation Industries Research Center). On 16 November 2022, Ukraine recovered parts of these unmanned aerial vehicles partly manufactured by the EU member states, USA, Japan, Israel and others[96]. The US sanctioned the Iranian arms manufacturers, but no criminal case was brought against the companies supplying Iranian manufacturers. Even though some components manufactured by the EU-based companies were found on the crime scenes in Ukraine, Kanetake and Ryngaert have considered such deliveries through Iranian intermediaries as releasing the EU-based manufacturers from criminal responsibility[97].

94 Thomson Reuters, "Iran admits to supplying 'small number' of drones to Russia pre-invasion; Ukraine says that's a lie," *CBC*, November 5, 2022, https://www.cbc.ca/news/world/ukraine-power-blackouts-russian-drones-iran-1.6641922.

95 Anthony J. Blinken, "Imposing Sanctions on Entities and Individuals in Response to Iran's Transfer of Military UAVs to Russia" (Secretary of State, November 15, 2022), https://www.state.gov/imposing-sanctions-on-entities-and-individuals-in-response-to-irans-transfer-of-military-uavs-to-russia/.

96 Ian Talley, "Ukrainian Analysis Identifies Western Supply Chain Behind Iran's Drones," *Wall Street Journal*, November 16, 2022, sec. Politics, https://www.wsj.com/articles/ukrainian-analysis-identifies-western-supply-chain-behind-irans-drones-11668575332.

97 Machiko Kanetake and Cedric Ryngaert, "Due Diligence and Corporate Liability of the Defence Industry. Arms Exports, End Use and Corporate Responsibility" (Brussels: Flemish Peace Institute, May 10, 2023), 29.

Chapter 4
State responsibility

Chapter 4 identifies rules concerning state responsibility for using LAWS by taking the twofold perspective on consequences of using LAWS by a state, namely as an internationally wrongful act leading to state responsibility and an act not prohibited by international law leading to state liability. Regarding the primary regime of consequences for IHL violations, the traditional theory of international law has still been attached to the law on responsibility for internationally wrongful acts (with an exception for individual criminal responsibility). The law on state responsibility has been construed by the ILC as secondary to other rules of international law and only becomes operative upon a breach of the primary obligation[1]. IHL violations are wrongful acts interlinked with definitions of international crimes (particularly war crimes). What makes state responsibility challenging is that collective entities cannot be criminally responsible[2], except for some domestic laws specifically regulating it, and states are even more exceptional in this case[3]. Early works of the ILC on state responsibility involved controversial discussions concerning the concept of *international crimes of states*[4]. Consequently, unlike national law,

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1 Anna Zbaraszewska, "Dylematy międzynarodowej odpowiedzialności państw," *Ruch Prawniczy, Ekonomiczny i Socjologiczny*, 1 (2007): 47.

2 William A. Schabas, *Genocide in International Law* (Cambridge, UK: Cambridge University Press, 2000), 438.

3 Due to the immunity of a state before domestic organs of a foreign state.

4 In the work of the International Law Commission on the Law of Responsibility of States for Internationally Wrongful Acts, the proposal to divide acts into merely wrongful and punishable acts was rejected. It was then confirmed in the jurisprudence of the ICJ. See: James Crawford, "International Crimes of States," in *The Law of International Responsibility*, ed. James Crawford et al., Oxford Commentaries on International Law (Oxford, New York: Oxford University Press, 2010), 413; Case concerning the difference between New Zealand and France concerning the interpretation or application of two agreements concluded on 9 July 1986 between the two states and which related to the problems arising from the

the law on state responsibility under ARSIWA does not distinguish between types of wrongful acts[5].

Premises of state responsibility

The nature of responsibility supports a proper understanding of the subsequent forms of responsibility, especially regarding subjects entitled to invoke responsibility or claim compensation. However, the nature of responsibility – civil or criminal – is not clearly classified[6]. This ambiguity is because, in principle, states are not subjected to the compulsory jurisdiction of international courts, and even if they are, courts do not impose penalties in a domestic sense. The existing sanction mechanism within the UN is detached from the forms of responsibility (which are dependent on the consent of the state concerned), since it primarily aims at maintaining international peace and security[7]. In this case, compliance with international law is enforceable by sanctions that protect, for example, the collective security rather than react to a prior breach of international law. Likewise, despite the fact that self-help by states by means of countermeasures against offenders was incorporated to ARSIWA, the ILC was clear in detaching countermeasures from the punitive (penal) nature of consequences for breaches of international law[8]. The preventive nature of sanctions

Rainbow Warrior Affair (Decision of 30 April 1990), XX Reports of International Arbitral Awards 215 (1990).

5 James Crawford, "The System of International Responsibility," in *The Law of International Responsibility*, ed. James Crawford et al., Oxford Commentaries on International Law (Oxford, New York: Oxford University Press, 2010), 51.

6 Jovanovic criticises the perception of international law in terms of sanctions understood as "evil and pain". He suggests instead that the enforcement of international law should be explained as inflicting "inconveniences". Such an understanding breaks up with both criminal and civil nature of international responsibility. See: Jovanović, *The Nature of International Law*, 185.

7 As noted by Tom Ruys, sanctions can serve a variety of purposes, from preventing the proliferation of weapons of mass destruction, countering terrorism, promoting human rights, peace-building, but the list of aims is not exhaustive.

8 Tom Ruys, "Sanctions, Retortions and Countermeasures: Concepts and International Legal Framework," in *Research Handbook on UN Sanctions and International Law*, ed. Larisa van den Herik (Edward Elgar Publishing, 2017), 20.

partially explains why holding a state responsible for violating IHL through these means, particularly concerning using means and methods of warfare, is ineffective in practice. Sanctions do not aim to punish the state concerned, but to prevent further violations. Moreover, the state responsibility in case of IHL violations is secondary to individual criminal responsibility and the enforceability of IHL compliance through the law on peace and security. However, the two do not entirely exclude the state responsibility for IHL violations.

Using LAWS – does it violate state obligations?

The use of LAWS can interfere with both positive and negative IHL obligations of states. The first category refers to obligations that exist independently of the situation of an armed conflict. It covers two umbrella obligations, namely 1) to respect and 2) to ensure respect for IHL, as well as an obligation to conduct weapons review[9]. However, not every lack of performance of these obligations results in grave breaches or serious violations of IHL. Under Article 1 common to the four Geneva Conventions of 1949 and Article 1(1) of the Additional Protocol I of 1977, states are obliged to respect and ensure respect with the provisions of these treaties in all circumstances. States themselves shall ensure IHL compliance by preventing, prosecuting and punishing violations committed by their nationals or within their territory. States shall also conduct weapons reviews guaranteeing that all means and methods of warfare are lawful and lawfully used. A state party to the Additional Protocol I of 1977 can be held responsible for IHL violations arising from the use of LAWS. For states not parties to the Additional Protocol I of 1977, however, responsibility occurs solely if the state used LAWS that had not been first appropriately tested or subjected to legal review[10].

Although most often referred to only in an armed conflict[11], the obligation to respect reflects the general principle of international law of *pacta sunt*

9 Article 36 of the Additional Protocol I of 1977 and, albeit controversial, corresponding customary obligation of a pre-deployment review.

10 Davison, "A Legal Perspective," 16.

11 Marta Szuniewicz, "Wpływ norm międzynarodowego prawa humanitarnego na zakres dopuszczalności derogacji zobowiązań w dziedzinie praw człowieka," *Kwartalnik Prawa Publicznego*, 5/4 (2005): 62–63.

servanda. The principle applies to the compliance with treaties and means that every treaty in force is binding upon the parties to it and must be performed by them in good faith. In the context of the obligation to respect IHL, it does not apply exclusively in a situation of an armed conflict but also (or primarily) in peacetime as a safeguard clause in case an armed conflict occurs in the future. IHL supports establishing the minimum rights for human beings[12]. Respecting IHL entails several positive obligations, including taking action to ensure that respect for IHL occurs[13]. From this standpoint, every instance of using LAWS is observed through this obligation because LAWS are believed to comply with it better than humans do. For example, Marco Sassòli indicates that machines cannot commit gender-related IHL violations[14]. LAWS would comply with IHL upon objective criteria and without any emotions attached to behaviour that, in some circumstances, would lead to IHL violations.

Contrary to the obligation to respect, the obligation to ensure respect is not so easily defined, and neither is its status, ranging from mere moral commitment to a legal obligation of immense value. For example, Frits Kalshoven and Hans-Peter Gasser argue that the obligation to ensure respect is instead an expression of moral and political commitment, but does not impose any obligation on third-state parties (third states, non-state actors and business enterprises)[15]. Other scholars consider the obligation to ensure respect an *erga*

12 Tadeusz Jasudowicz, "Studium substancjalnych przesłanek dopuszczalności środków derogacyjnych," in *Prawa czlowieka w sytuacjach nadzwyczajnych: ze szczególnym uwzględnieniem prawa i praktyki polskiej*, ed. Tadeusz Jasudowicz (Toruń: Comer, 1997), 82.

13 Diakonia, "Accountability for Violations of International Humanitarian Law. An Introduction to the Legal Consequences Stemming from Violations of International Humanitarian Law" (Diakonia, 2013), 3, https://www.diakonia.se/globalassets/documents/ihl/ihl-resources-center/accountability-violations-of-international-humanitarian-law.pdf.

14 Marco Sassòli, "Autonomous Weapons and International Humanitarian Law: Advantages, Open Technical Questions and Legal Issues to Be Clarified," *International Law Studies*, 90 (2014): 310.

15 Frits Kalshoven, "The Undertaking to Respect and Ensure Respect in All Circumstances: From Tiny Seed to Ripening Fruit 1," *Yearbook of International Humanitarian Law*, 2 (December 1999): 54, doi:10.1017/S1389135900000362; Hans-Peter Gasser, "Ensuring Respect for the Geneva Conventions and Protocols: The Role of Third States and the United Nations," in *Armed Conflict and the New Law. Effecting Compliance*, ed. Hazel Fox and Michael A. Meyer (London: British Institute of International and Comparative Law, 1993), 48; Maya Brehm, "The Arms Trade and States' Duty to Ensure Respect for Humanitarian and

omnes obligation[16]. The phrase "to ensure respect" was initially understood as referring only to state obligations towards its armed forces and other state organs. Nowadays, it has been interpreted towards ensuring that also another state complies with IHL[17]. Measures may include initiatives to stop IHL violations by parties to the conflict. The obligation is not limited to preventing the commission of violations but to a range of preventive measures. States are obliged, among other things, to train their armed forces and disseminate basic information on IHL to their citizens (see: the four Geneva Conventions of 1949 – Articles: 47, 48, 127, 144, respectively). The ICJ, albeit rather idealistically, noted that this obligation does not arise solely from the four Geneva Conventions of 1949 but from general principles of IHL, which are only partially expressed in these Conventions[18]. Other states have several rights arising in the event of non-compliance. In the case of serious violations, Article 89 of Additional Protocol I of 1977 introduces the authority to take joint or individual action in cooperation with the UN and in conformity with the UN Charter. Other measures may take the form of diplomatic protests or collective measures to ensure compliance with IHL[19]. With regard to LAWS, the obligation to ensure compliance by third states may be fulfilled, for example, by taking lawful measures to suspend the transfer of a weapons system to a state or an armed group violating IHL or to impose economic sanctions against the violating state[20].

Human Rights Law," *Journal of Conflict and Security Law*, 12, no. 3, 21–50, doi:10.1093/jcsl/krn006.

16 Karl Zemanek, "New Trends in the Enforcement of Erga Omnes Obligations," *Max Planck Yearbook of United Nations Law Online*, 4, no. 1 (February 9, 2000): 5, doi:10.1163/187574100X00016; Brehm, "The Arms Trade and States' Duty to Ensure Respect for Humanitarian and Human Rights Law," 369.

17 Legal consequences of the construction of a wall in the occupied Palestinian territory (Advisory Opinion), No. Reps (ICJ July 9, 2004); Crawford, "International Crimes of States," 411.

18 Military and Paramilitary Activities in and against Nicaragua (Nicaragua v United States of America), Merits (Judgment) at 220.

19 Only peaceful measures are applicable. They do not authorise the use of force outside the provisions of the UN Charter.

20 Diakonia, "Accountability for Violations of International Humanitarian Law. An Introduction to the Legal Consequences Stemming from Violations of International Humanitarian Law," 4.

In addition, states are required to establish procedural norms to address IHL violations. These include three types of obligations[21]. First, effective criminal sanctions shall be established. Second, states have obligations to search for and prosecute or extradite alleged perpetrators. Under the four Geneva Conventions of 1949, states are obliged to adopt appropriate legislative acts establishing criminal sanctions against persons who have committed or ordered the commission of serious violations of these Conventions (Articles 49, 50, 129, 145, respectively). The obligation to prosecute war crimes derives from customary international law. Third, there is an obligation to establish universal jurisdiction over serious violations of IHL. It should be pointed out that only the comprehensive implementation of all the above obligations provides a guarantee of respect for IHL.

The first procedural rule concerns the obligation to adopt legislation to ensure effective criminal sanctions against those who commit serious IHL violations. A procedural framework is one of the rules ensuring respect for humanity, as it aims to prevent and punish the commission of serious IHL violations. It includes prosecuting war crimes committed by a state's nationals, including private entities, its armed forces or within its territory[22]. If a state develops or possesses LAWS that it plans to use, it should adopt or extend appropriate regulations that consider the specific use of systems in its possession.

Another obligation is to seek out persons suspected of having committed serious IHL violations and to either prosecute or extradite them to another state where proceedings against that person are pending (based on a principle of *aut dedere aut iudicare*)[23]. An alternative of the ICC jurisdiction, based on the principle of complementarity, is added to this obligation. With regard to using LAWS, a state should therefore investigate each violation separately. Given the problems associated with extradition, which may not be possible in LAWS-related violations (due to the exception for politically motivated offences

21 Jean-Marie Henckaerts, "The Grave Breaches Regime as Customary International Law," *Journal of International Criminal Justice*, 7, no. 4 (September 2009): 693, doi:10.1093/jicj/mqp058.

22 Ibid., 694.

23 "The Obligation to Extradite or Prosecute (Aut Dedere Aut Judicare). Final Report of the International Law," Yearbook II Part Two (ILC, 2014), 2.

or the absence of an extradition agreement), it is suggested that the prosecution be given priority[24].

The last procedural obligation is the establishment of universal jurisdiction over persons suspected of having committed serious IHL violations. The four Geneva Conventions of 1949 provide universal jurisdiction under which states should search for and prosecute persons suspected of having committed grave breaches of these Conventions, regardless of the perpetrator's nationality (Articles 49, 50, 129 and 146 of the Conventions, respectively). Universal jurisdiction is also provided for in other treaties that are or may apply to events during an armed conflict[25]. Therefore, it also applies to acts committed with LAWS. However, the problem is that the condition for exercising criminal jurisdiction is the existence of certain factual circumstances linking the case to a particular state (based on territoriality, nationality, and protective principle). Thus, the state developing or possessing LAWS would have to specify what this linkage relies on. However, the principle of universal jurisdiction breaks the connection between place/offender/act with a state, empowering any state to prosecute specific international crimes. This breaking occurs because of the common interest of all states in prosecuting and punishing perpetrators of this category of criminal acts. Universal jurisdiction is also called worldwide or universal repression[26]; therefore, universal implementation of this obligation constitutes another safeguard against the effects of LAWS to ensure actual

24 Nowakowska-Małusecka, *Odpowiedzialność karna jednostek za zbrodnie popełnione w byłej Jugosławii i w Rwandzie*, 27; Piotr Hofmański and Hanna Kuczyńska, *Międzynarodowe prawo karne* (Warszawa: Wolters Kluwer, 2020), 64.

25 "Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, New York, *Adopted 10 December 1984, Entered into Force 26 June 1987*," Pub. L. No. 1465 UNTS 85 (1984); "Convention on the Safety of United Nations and Associated Personnel, New York, *Adopted 9 December 1994, Entered into Force 15 January 1999*," Pub. L. No. 2051 UNTS 363 (1994); "Second Protocol to the Hague Convention of 1954 for the Protection of Cultural Property in the Event of Armed Conflict, The Hague, *Adopted 26 March 1999, Entered into Force 9 March 2004*," Pub. L. No. 2253 UNTS 172 (1999); "Inter-American Convention on Forced Disappearance of Persons, Belém Do Pará, *Adopted 9 June 1994, Entered into Force 28 March 1996*," accessed December 2, 2022, http://www.cidh.oas.org/basicos/english/basic11.disappearance.htm.

26 Tomasz Ostropolski, *Zasada jurysdykcji uniwersalnej w prawie międzynarodowym* (Warszawa: Instytut Wydawniczy EuroPrawo, 2008), 24–34.

respect for IHL[27]. Nonetheless, there is a difference between the principle of universal jurisdiction and the obligation *aut dedere aut iudicare*. While universal jurisdiction is based on customary international law, the obligation *aut dedere aut iudicare* is treaty-based and aims to ensure judicial cooperation between states. Due to its conventional nature, the obligation *aut dedere aut iudicare* binds only parties to a specific agreement. Universal jurisdiction, on the other hand, can be exercised by all states[28]. The two given obligations create a useful path in addressing at least some IHL violations committed while using LAWS. This path covers conduct amounting to war crimes, described in the next chapter.

The positive obligations accompanying the use of LAWS also include transparency obligations. According to Alston, these can be traced back to Article 1 common to the four Geneva Conventions of 1949 and Articles 11, 85 and 87(3) of the Additional Protocol I of 1977. Regarding procedural safeguards, states should ensure that armed forces have access to reliable information that underpins the decision to engage a target using LAWS. This access is linked to an appropriate command and control structure for individual decisions. In this regard, it is essential to provide members of the armed forces with adequate information about the possible effects of the weapons with which the state is equipped. Furthermore, if there is a clear error in the use of LAWS, surveillance tools are of immense value for those carrying out the attack, who should be provided with comprehensive information on the number of civilians in the vicinity of the attack and, if necessary, be able to cancel or halt the attack[29]. Therefore, the substance of information can be better achieved by using LAWS with advanced surveillance capabilities. They can simultaneously proceed with far more information than humans. It remains controversial whether data were correctly collected or processed by the system. Furthermore, collecting data would not be a problem in some cases, but with processing distinction on lawful and unlawful targets, which depends on the external circumstances. The dependency on external circumstances does not exclude using LAWS for

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27 Nowakowska-Małusecka, *Odpowiedzialność karna jednostek za zbrodnie popełnione w byłej Jugosławii i w Rwandzie*, 25–26.

28 Ostropolski, *Zasada jurysdykcji uniwersalnej w prawie międzynarodowym*, 41.

29 Alston, "Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Philip Alston," 26.

surveillance at all, since they can complement human-based information on a target. However, each such decision should be taken individually by a human.

While states are not obliged to prosecute every IHL violation, grave breaches and serious violations should receive an adequate response from states[30]. In practice, there has been a tendency to question the necessity to prosecute IHL violations, for example, by claims on the applicable law, denial of the facts or the realisation of the elements of crimes. Hence, it is necessary to articulate precisely the state's primary and secondary obligations relating to using LAWS.

Following the ICJ jurisprudence[31], the ILC distinguished three categories of state's obligations, namely 1) obligations towards the international community as a whole[32], 2) obligations towards a group of states, and 3) obligations towards another state. By virtue of the object of protection, all states have a legal interest in protecting the first category, consisting of obligations *erga omnes* and, in some cases, obligations arising from peremptory norms. The nature of the obligation breached determines the extent of measures for victims of the breach[33]. In the case of obligations towards another state, only an injured state may have a legal interest in pursuing the responsibility of the violating state. In the case of obligations owed to the international community as a whole, not only the directly injured state but also other than the injured state can invoke the responsibility of the violating state.

The ILC has construed the institution of serious violations in secondary rules on state responsibility under Articles 40 and 41 of ARSIWA. They refer to serious violations of obligations under peremptory rules. This relates to the distinction between grave breaches and serious violations of international law, which, in fact, originally referred to categories of IHL violations, namely war

30 Diakonia, "Accountability for Violations of International Humanitarian Law. An Introduction to the Legal Consequences Stemming from Violations of International Humanitarian Law," 3.

31 Barcelona Traction, Light and Power Company, Limited (Belgium v Spain), 1970 I.C.J. Reports 3 (International Court of Justice 1970).

32 The ILC avoided using *erga omnes* obligations in its Commentaries to ARSIWA. "Draft Articles on Responsibility of States for Internationally Wrongful Acts, with Commentaries," Yearbook of the International Law Commission Part Two (ILC, 2001), 126–127.

33 Sonnenfeld, "Podstawowe zasady odpowiedzialności państwa," 20; Władyslaw Czapliński, *Odpowiedzialność za naruszenia prawa międzynarodowego w związku z konfliktem zbrojnym* (Warszawa: Wydaw. Naukowe SCHOLAR, 2009), 209.

crimes (in international armed conflicts) and other criminal acts (in armed conflicts not of an international character). Other unlawful conduct, albeit without criminal character, remains outside this scope. The classification of a violated rule determines the beneficiaries of the rule and the measures available[34]. Under Article 40 of ARSIWA, with respect to peremptory rules, a violation is serious if it is gross or systematic. Two conditions are introduced to distinguish violations of peremptory rules from other violations giving rise to state responsibility. First, the nature of the breached obligation must derive from a primary rule of a peremptory nature. ARSIWA expressly avoid enumerating such rules, referring only to Article 53 of the Vienna Convention on the Law of Treaties of 1969 and to the jurisprudence of international courts and bodies[35]. While maintaining a clear distinction between primary and secondary rules, the fundamental IHL rules are among the few examples of peremptory rules. However, the ILC has failed to indicate which IHL rules are to be considered fundamental[36]. Second, the breach must be serious, meaning that not every violation of a peremptory rule gives rise to responsibility under Article 40 of ARSIWA. A violation must cross a threshold of severity to qualify as serious. A notorious or systematic breach must be carried out in an organised and intentional manner. The term *gross* refers to the intensity of the infringement itself or the intensity of its effects. Premises are, for example, the intention to violate a primary rule, the extent and number of individual violations, and the magnitude of the consequences for victims[37]. The ILC has not indicated a specific mechanism for determining such a violation. As an example, it merely points out the competencies of the Security Council and the General Assembly. Consequently, using LAWS would only amount to subsumption under Article 40 of ARSIWA if it led to the gross or systematic violation of IHL.

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34 Antonio Cassese, "The Character of the Violated Obligation," in *The Law of International Responsibility*, ed. James Crawford et al., Oxford Commentaries on International Law (Oxford, New York: Oxford University Press, 2010), 415–416.

35 Among examples, the prohibition of agression, the prohibition of genocide, and the prohibition of torture are found. Por.: Czapliński, *Odpowiedzialność za naruszenia prawa międzynarodowego w związku z konfliktem zbrojnym*, 204.

36 The ILC invoked only the Advisory opinion on nuclear weapons held by the ICJ.

37 "Draft Articles on Responsibility of States for Internationally Wrongful Acts, with Commentaries," 113.

Most of the "regular" attacks involving LAWS would remain outside the scope of this provision.

The second type of state obligation is an obligation to a particular group of states, protecting the collective interests of that group. For this type of responsibility to arise, two conditions must be met. First, an obligation that exists towards the group to which the violating state belongs has been breached. Secondly, the obligation has been established to protect the collective interest of that group. This obligation is sometimes referred to as an obligation *erga omnes partes*. The Commentary to Article 42 of ARSIWA gives an example of obligations concerning the protection of the environment or collective security[38]. Sometimes, the four Geneva Conventions of 1949 are referred to as creating obligations *erga omnes partes*, but this should be perceived by means of reciprocity in IHL.

The third specific type of state obligation is an obligation *erga omnes*. Some scholars point out that technological developments, especially military technology, have made armed conflicts a matter not only for the parties to the conflict themselves but for the entire international community[39]. According to Article 48(1)(b) of ARSIWA, a state other than an injured state is entitled to invoke state responsibility if the obligation breached exists in relation to the international community as a whole. However, the list of members of this community is not entirely clear. Article 53 of the Vienna Convention on the Law of Treaties of 1969 defines these members as states only. Similarly, the ICJ referred to the community of states which nowadays lacks any reference to international organisations. Therefore, the international community as a whole exists as a legal fiction only, based on which some rights related to responsibility are taken up[40]. Nonetheless, Article 48 of ARSIWA introduces an additional measure for third states, which can lead to the potential conflation of several actors entitled to invoke responsibility concerning the same unlawful act. On the one hand, it is the state affected by a specific violation, and on the other, another state or even a group of states.

38 Ibid., 117–119.

39 Sonnenfeld, "Podstawowe zasady odpowiedzialności państwa," 18.

40 Anne-Laure Vaurs-Chaumette, "The International Community as a Whole," in *The Law of International Responsibility*, ed. James Crawford et al., Oxford Commentaries on International Law (Oxford, New York: Oxford University Press, 2010), 1023–1024.

The core of IHL violations consists of grave breaches of the four Geneva Conventions of 1949. Any of the following acts, when committed against protected persons or objects, are considered grave breaches: wilful killing, torture or inhuman treatment, including biological experimentation, wilful infliction of any suffering or grievous bodily or health harm, destruction and misappropriation of property, not justified by military necessity and committed on a large scale unlawfully and arbitrarily[41]. In Article 85(3) of the Additional Protocol I of 1977, grave breaches of the Protocol are added. In addition, the following have been included in the list of grave breaches: attacks against civilians or civilian population; indiscriminate attacks that violate the rule of proportionality; attacks against structures or facilities containing dangerous substances; attacks against undefended villages and demilitarised zones; attacks against persons *hors de combat*; and the false use of protected signs. The acts listed in Article 85(3)(a–f), to be considered serious violations, must be committed intentionally and entail death or serious bodily harm. Thus, infringements involving civilian objects are excluded from the category of serious violations. Moreover, according to Article 85(4) of the Additional Protocol I of 1977, the following acts have been classified as serious violations: transfer of the population to occupied territory; unjustified delay in repatriating prisoners of war or civilians; apartheid; attacks against specially protected objects (cultural property); deprivation of the right of protected persons to a fair and impartial trial. To qualify as serious, these violations must be committed by the perpetrator with intentional fault.

Acts found to be serious give rise to responsibility for unlawful acts in breach of obligations to the international community as a whole under Article 48 of ARSIWA. In the case of violations of obligations under peremptory rules, Article 40 of ARSIWA becomes the basis for responsibility. The collective term of war crimes has referred to all the listed acts. Article 91 of Additional Protocol I of 1977 provides for state responsibility for any violations of the four Geneva Conventions of 1949 and the Protocol. Therefore, only some IHL obligations exist *vis-à-vis* the international community as a whole. The use of LAWS, which would violate these obligations, entitles to measures not only by an injured state but also by third states and the international community as

41 The exhaustive list is covered in Articles 50, 51, 130, 147 I–IV of the four Geneva Conventions of 1949 respectively, with further regulations to the Geneva Conventions III and IV specific to the scope of protection provided therein.

a whole. Non-grave and non-serious violations of IHL resulting from the use of LAWS give rise to responsibility only *vis-à-vis* an injured state.

A violation of an international obligation is objectively assessed, which means that the source of the violation itself is irrelevant to the attribution of the act to a state[42]. However, the material scope of the act has been subject to change. This results from the development of primary rules, including customary ones[43]. With regard to IHL, state responsibility has its primary basis in the Hague Convention IV of 1907. Among entities that can be held collectively responsible, states parties to armed conflicts occupy the first place[44]. According to Article 3 of the Hague Convention IV of 1907, the belligerent party which has violated the provisions of the foregoing Regulations shall be held indemnified if necessary. That party will be held responsible for any act of persons forming part of its armed forces. Bierzanek points out that the purpose of this provision was to strengthen discipline within the armed forces and ensure justice for armed conflict victims through compensation. The above provision can be interpreted narrowly or broadly. On the one hand, it can be interpreted literally in the light of responsibility only for violations of the Hague Regulations of 1907. However, most scholars accept a broad understanding, treating the obligation as a customary rule referring to the entire IHL[45].

Article 91 of the Additional Protocol I of 1977 reiterates this provision by stipulating that a party to the conflict who violates the provisions of the Convention or this Protocol shall, where appropriate, be responsible for reparation and shall be responsible for all acts committed by members of its armed forces. Since the four Geneva Conventions of 1949 do not contain a provision directly introducing the criminalisation of grave breaches against individuals[46], it is for Article 91 of the Additional Protocol I of 1977 to set forth state responsibility, but in addition to the criminal responsibility of individuals for grave breaches of the Conventions and the Additional Protocol I of 1977. In this context, the

42 Czapliński and Wyrozumska, *Prawo międzynarodowe publiczne*, 738.

43 Sonnenfeld, "Podstawowe zasady odpowiedzialności państwa," 39.

44 Kalshoven and Zegveld, *Constraints on the Waging of War*, 74.

45 Remigiusz Bierzanek, "Odpowiedzialność państwa w konfliktach zbrojnych," in *Odpowiedzialność państwa w prawie międzynarodowym*, ed. Renata Sonnenfeld (Warszawa: Polski Instytut Spraw Międzynarodowych, 1980), 297.

46 See: the four Geneva Conventions of 1949 – Articles 51, 52, 131, 148 respectively.

assimilation principle is irrelevant to whether acts were committed in an international or non-international armed conflict[47]. Serious and grave breaches of IHL cannot be limited to international armed conflicts because IHL protection covers the basic values of humanity, which remain the same, whatever the situation[48].

Article 85(1) of the Additional Protocol I of 1977 distinguishes between grave breaches and "regular" violations of IHL. Whereas violations include any conduct contrary to provisions of the four Geneva Conventions of 1949 and the Additional Protocol I of 1977, the catalogue of grave breaches is finite and precisely defined (primarily by requiring direct intent). This distinction is relevant in responsibility for negligence under Article 86 of the Additional Protocol I of 1977 and using LAWS accordingly. States shall repress grave breaches, which implies an obligation to introduce appropriate criminal law provisions in domestic law adapted to a state's warfare capabilities. Under Article 86(1) of the Additional Protocol I of 1977, a state shall also suppress other IHL violations resulting from negligence if there is a duty to act. State responsibility may even be more frequently invoked in this context[49]. The state shall impose a sanction proportionate to the type of breach[50].

With regard to using LAWS leading to a breach through negligence, it would be difficult to demonstrate a failure to take effective measures to prevent the breach. For example, proving a violation of the proportionality rule as a serious IHL violation requires demonstrating direct intent on the perpetrator's side. Therefore, responsibility for negligence would partly fill this gap[51], but it would mean that the state took responsibility also for the risks of LAWS' errors and mistakes which a final decision-maker accepted. In this case, the

47 Prosecutor v Dusko Tadic (Decision on the Defence Motion for Interlocutory Appeal on Jurisdiction) at 94; Chile Eboe-Osuji, "'Grave Breaches' as War Crimes: Much Ado About 'Serious Violations'?" (ICC), 14, accessed December 2, 2022, https://www.icc-cpi.int/NR/rdonlyres/827EE9EC-5095-48C0-AB04-E38686EE9A80/283279/GRAVEBREACHESMUCHADOABOUTSERIOUSVIOLATIONS.pdf.

48 Eboe-Osuji, "'Grave Breaches' as War Crimes: Much Ado About 'Serious Violations'?"

49 Sandoz, Swinarski, and Zimmermann, *Commentary to APs*, 975, 1007.

50 There can be administrative, disciplinary or criminal sanctions. Ibid., 975.

51 Bernard L. Brown, "The Proportionality Principle in the Humanitarian Law of Warfare: Recent Efforts at Codification," *Cornell International Law Journal*, 10, no. 1 (1976): 149, https://www.semanticscholar.org/paper/The-Proportionality-Principle-in-the-Humanitarian-Brown/a3c3126996475c8fe80406955f69cf1891351289.

obligation to investigate and impose penalties for other than grave breaches of IHL is crucial. A state, having failed to exercise due diligence in preventing or punishing acts committed by members of its armed forces that are prohibited by law, bears responsibility for these acts[52]. It explains why it is so important to the state-owned purchasers of weapons to conduct due diligence over manufacturers and military commanders, as they are in the place to ensure IHL compliance while deploying and using LAWS.

Attribution of AI performance to a state

More significant controversies in using LAWS arise in proving the attribution of conduct performed by an individual to a state. The attributable conduct must be performed by an agent or a representative who is institutionally or factually linked with the state[53]. In armed conflicts, the state bears responsibility for acts committed not only by its armed forces but also by other state organs and, in exceptional cases, by private persons[54]. Articles 4–11 of ARSIWA provide a list of such links if the conduct in question was committed by (1) state organs; (2) persons or entities authorised to exercise part of state authority; (3) persons or entities acting under instructions, direction or control of the state; (4) private persons or entities whose acts are recognised and accepted by the state as its own. If an act cannot be attributed to the above categories of persons, the conduct may still be assessed from the perspective of individual criminal responsibility[55].

52 British Claims in the Spanish Zone of Morocco (Spain v United Kingdom), II 1925 Reports of International Arbitral Awards 615 (1924).

53 Certain questions relating to settlers of German origin in the territory ceded by Germany to Poland (Advisory Opinion), Series B No. 6 Publications (PCIJ 1923); Krzan, *Odpowiedzialność państwa członkowskiego z tytułu działalności organizacji międzynarodowych*, 107; Bartłomiej Krzan, "Równoległe przypisanie czynu wielu podmiotom – o relacji pomiędzy organizacjami międzynarodowymi a państwami członkowskimi raz jeszcze," in *Odpowiedzialność międzynarodowa w związku z naruszeniem praw człowieka i międzynarodowego prawa humanitarnego*, eds. Michał Balcerzak and Julia Kapelańska-Pręgowska (Toruń: Uniwersytet Mikołaja Kopernika, 2016), 227.

54 Kalshoven and Zegveld, *Constraints on the Waging of War*, 74.

55 Chimène I. Keitner, "Categorizing Acts by State Officials: Attribution and Responsibility in the Law of Foreign Official Immunity," *Duke Journal of Comparative & International Law*, 26, no. 3 (August 2, 2016): 455.

Acts committed by state legislative, executive and judicial organs are attributable to a state regardless of their civil or military nature[56] , and a state is responsible for both acts or omissions of its organs. As provided for in Article 2 of ARSIWA, responsibility for the omission may arise if a state's organ fails to take an action it was obliged to take. For example, in the case of commanders and those authorised to make decisions involving LAWS, it relates to fulfilling the duty to prevent and punish war crimes. Pursuant to Article 7 of ARSIWA, conduct is attributable to a state even when an authority exceeds its powers or violates instructions from a state. This provision refers to acts *ultra vires*, for example, acts done in the absence of competence to perform them[57]. It can relate to using LAWS irrespective of the explicit prohibition on using them. To attribute such conduct to a state, an organ must appear to act in an official capacity[58]. This requirement is a guarantee of certainty and security in international relations. The rule of attribution only applies to acts which are apparently carried out under the authority of a state[59], which in the case of using LAWS for hostilities would not be difficult to prove. Under IHL, a state is responsible for acts of the members of its armed forces, which also covers acts contrary to orders or instructions (i.e. pre-programmed instructions for LAWS conduct). However, Article 7 of ARSIWA refers to conduct within the scope of governmental authority. Although this limitation may apparently exclude acts committed by members of the armed forces outside the exercise of their functions (as private persons)[60], in armed conflicts, a state is responsible for any conduct of members of its armed forces[61].

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56 Prosecutor v Eichmann, No. Criminal Case No. 40/61 (District Court of Jerusalem December 11, 1961); Prosecutor v A. Furundžija (Judgment), No. IT-95-17/1-T (ICTY (Trial Chamber) December 10, 1998).

57 Keitner, "Categorizing Acts by State Officials," 472.

58 Legal Status of Eastern Greenland (Judgment), Series A/B No. 53 Publications (PCIJ 1933); Sonnenfeld, "Podstawowe zasady odpowiedzialności państwa," 70.

59 Keitner, "Categorizing Acts by State Officials," 471; Bierzanek, "Odpowiedzialność państwa w konfliktach zbrojnych," 299.

60 "Draft Articles on Responsibility of States for Internationally Wrongful Acts, with Commentaries," 46; Petrolane, Inc., Eastman Whipstock Manufacturing, Inc. and others v Islamic Republic of Iran. Iranian Pan American Oil Company and others IUSCT Case No. 131, No. Award no. 518-131-2 (Iran-US Claims Tribunal August 14, 1991).

61 Remigiusz Bierzanek, "The Responsibility of States in Armed Conflict," *Polish Yearbook of International Law*, no. 1–2 (1981): 96–98.

Article 3 of the Hague Convention IV of 1907 and the corresponding Article 91 of the Additional Protocol I of 1977 are thus special to the rule expressed in Article 7 ARSIWA. Confirmation of the absolute responsibility of a state for the behaviour of the members of its armed forces is also provided by the fact that, compared to other state organs, a state exercises stricter control over members of armed forces. Moreover, members of armed forces exercise their functions continuously during an armed conflict and can rarely act solely as private individuals.

Limitation of responsibility for *ultra vires* acts remains relevant to bodies other than the armed forces and individuals and entities acting *de facto* as state organs[62]. Under Article 8 of ARSIWA, a state is responsible for the conduct of persons or entities acting *de facto* under the state's instructions, direction or control. In an armed conflict, this rule applies primarily to non-state armed groups supported by one state and fighting against the armed forces of another state. It would apply to circumstances when the state equips a non-state armed group with LAWS that it still controls or pre-programs to act in a certain way. The required standard of control is, however, not entirely clear. In the *Nicaragua case*, the ICJ indicated that for state responsibility to arise, it is necessary to show that the state exercised effective control over an armed group's military or paramilitary operations. Financing, organisation, training, armouring and equipping, target selection and planning of entire operations by a state as the basis for the state's responsibility was considered insufficient. As the Court stated, IHL violations can be committed by an armed group on its own, even without assistance from a third state. Accordingly, for an act to be attributed to a state, for example, equipping a group with LAWS, it would have to be shown that the armed group committed the act in execution of instructions, direction or control from that state (for example, the group followed the manual attached to LAWS)[63]. The ICTY adopted a different perspective in the *Tadić case*. Instead of effective, the Court proposed a test of overall state control over an armed group. For the act of such a group to be imputed to the

62 Marco Sassòli, "State Responsibility for Violations of International Humanitarian Law," *International Review of the Red Cross*, 84, no. 846 (June 2002): 406, doi:10.1017/S1560775500097753; Bierzanek, "Odpowiedzialność państwa w konfliktach zbrojnych," 300.

63 Military and Paramilitary Activities in and against Nicaragua (Nicaragua v United States of America), Merits (Judgment) at 115–16; Antonio Cassese, "The Nicaragua and Tadić Tests Revisited in Light of the ICJ Judgment on Genocide in Bosnia," *European Journal of International Law*, 18, no. 4 (September 2007): 660–661, doi:10.1093/ejil/chm034.

state, it was sufficient that the group remained under the overall control of that state[64]. It was the case regardless of whether the state imposed, demanded or directed the group's conduct (for example, regardless of whether the group followed the instructions of the LAWS manual). However, the case concerned only the classification of an armed conflict in the context of the jurisdiction of the ICTY (for example, over persons suspected of crimes under the ICTY Statute) and not state responsibility for acts committed by the group in question. The two views were confronted in the *Genocide case*. The ICJ noted that the ICTY's reasoning was oriented towards demonstrating the Court's jurisdiction rather than attributing acts of the armed group to a state. Therefore, the law on state responsibility was aimed solely at establishing the applicability of the four Geneva Conventions of 1949[65]. Besides, the overall control test would unduly expand the scope of state responsibility. According to the ICJ, there must be a link between the assessed conduct of organs or groups acting *de facto* as organs of the state and the responsibility of that state[66].

Under Article 9 of ARSIWA, attribution occurs in relation to persons or entities authorised to exercise state authority when an official government does not exist or has collapsed. According to the Commentary to ARSIWA, this provision refers to the institution of *levée en masse*. This status is enjoyed by individuals or a group of civilians who spontaneously take up arms against the enemy's armed forces. In the absence of regular armed forces, they are entitled to combatant status and the right to participate directly in the hostilities. A different situation is the responsibility of the insurgents or organised armed groups. The state is then responsible only to the extent that it failed to take measures necessary to prevent a violation[67]. An act of persons or entities which are not organs of the state may also be imputed to a state if they are authorised to exercise part of the state authority. The conduct of a private person or entity is directly attributable to the state if such a person acted *de facto* on behalf of

64 Prosecutor v D. Tadić (Judgment), No. IT-94-1-A (ICTY (Appeals Chamber) July 15, 1999).

65 Cassese, "The Nicaragua and Tadić Tests Revisited in Light of the ICJ Judgment on Genocide in Bosnia," 655.

66 Case concerning the application of the Convention on the prevention and punishment of the crime of genocide (Bosnia and Herzegovina v Serbia and Montenegro) (Judgment), Reps 43 (ICJ 2007).

67 Bierzanek, "Odpowiedzialność państwa w konfliktach zbrojnych," 306.

or with the consent of the state[68]. This provision is relevant to private military companies[69], which may perform particular tasks specific to the armed forces or other public authorities[70]. Private military and security companies are legal business entities[71] created on the basis of internal law and usually employ former special forces soldiers. They provide military services, such as protection of government, training armed forces in the field of new technologies, and planning and preparing for hostilities[72]. They also support the implementation of new technologies in the armed forces[73]. While operating in an area of armed conflict, these companies are not allowed to directly participate in hostilities[74]. They are usually not a part of the armed forces and are, therefore, not subject to the chain of command and responsibility mechanisms[75].

68 Sonnenfeld, "Podstawowe zasady odpowiedzialności państwa," 67.

69 To describe these entities, there are various terms used, such as private military and security companies, private military contractors, The Montreux Document of 2008 provided the term private military and security companies. Irrespective of the terminology, these companies are distinguished from mercenaries whose status is regulated by the Convention Against the Recruitment, Use, Financing and Training of Mercenaries of 1989. ICRC, "The Montreux Document on Pertinent International Obligations and Good Practices for States Related to Operations of Private Military and Security Companies during Armed Conflict," September 17, 2008, https://www.icrc.org/en/doc/assets/files/other/icrc_002_0996.pdf; "International Convention Against the Recruitment, Use, Financing and Training of Mercenaries, New York, *Adopted 4 December 1989, Entered into Force 20 October 2001*," Pub. L. No. 2163 UNTS 75 (1989); Ian Ralby, "Private Military Companies and the Ius Ad Bellum," in *The Oxford Handbook of the Use of Force in International Law*, eds. Marc Weller, Alexia Solomou, and Jake William Rylatt (Oxford; New York (N.Y.): Oxford University Press, 2015), 1133.

70 Sassòli, "State Responsibility for Violations of International Humanitarian Law," 410.

71 ICRC, "The Montreux Document on Pertinent International Obligations and Good Practices for States Related to Operations of Private Military and Security Companies during Armed Conflict."

72 Ralby, "Private Military Companies and the Ius Ad Bellum," 1133.

73 Christopher Kinsey, *Corporate Soldiers and International Security: The Rise of Private Military Companies* (London: Routledge, 2006), 16–17.

74 Nils Melzer, "Status of Private Military Security Companies Under International Humanitarian Law," in *Private Military and Security Companies. 35th Round Table on Current Issues of International Humanitarian Law (Sanremo, 6th–8th September 2012)*, eds. Gian Luca Beruto and Benoit D'Aboville (Milano: FrancoAngeli, 2013), 99.

75 Elżbieta Karska, "Gaps in International Human Rights and Humanitarian Law in Relation to Accountability Involving Private Military and Security Companies," *Polish Review of International and European Law*, 2, no. 2 (2013): 68, doi:10.21697/priel.2013.2.2.03.

The issue of responsibility is complicated by the nature of the link between the company and a state of registration, a contracting state and a state on whose territory their services are performed. The non-binding Montreux Document of 2008 lists the positive obligations of each of these states. They have an obligation to prosecute or extradite persons who have committed grave breaches of the four Geneva Conventions of 1949 and the Additional Protocol I of 1977. However, this obligation only applies to international armed conflicts. Notwithstanding the positive obligations, the state of registration may incur responsibility, including compensation for their actions, if there was one of the ties between it and the company that allows the act to be attributed to the state. The second case is when the conduct of a person or a private entity leads to an unlawful act in the territory of another state, and that person does not exercise any state functions[76]. A state may then incur responsibility for failing to prevent unlawful conduct by not taking remedial measures or punishing perpetrators[77]. It is not, however, indirect but direct responsibility for the failure of its authorities to take appropriate action[78]. Notwithstanding the private military and security companies, the propositions of the Montreux Document of 2008 are guidelines on how to approach LAWS that are produced by one state (parallel to a state of registration), sold to another state (parallel to the contracting state) and then used in the territory of another state. Along with the obligation of weapons review of each of these states, there are state obligations to prosecute, extradite, or compensate for harms caused by LAWS in the conduct of hostilities.

Last but not least, the rule of attribution covers, to some extent, the conduct of non-state armed groups. Although an international tribunal or court's personal jurisdiction allows claims only against either a state or an individual and not against a non-state armed group[79], an insurrectional or other movements would bear responsibility for using LAWS in the conduct of hostilities if it succeeds in establishing a new state by following the rules on succession

76 Sonnenfeld, "Podstawowe zasady odpowiedzialności państwa," 67.

77 Corfu Channel (The United Kingdom v Albania) (Judgment) at 18.

78 Sonnenfeld, "Podstawowe zasady odpowiedzialności państwa," 69.

79 Ezequiel Heffes and Brian Frenkel, "The International Responsibility of Non-State Armed Groups: In Search of the Applicable Rules," *Goettingen Journal of International Law*, 8, no. 1 (2017): 42.

(Article 10 of ARSIWA). Irrespective of state responsibility, it should be noted that opportunities in transferring LAWS to non-state armed groups would be limited. Pragmatic opportunities result in a relatively low interest of some non-state armed groups in purchasing LAWS due to the high costs of such weapons systems. Secondly, there is a big difference in distributing weapons systems between non-state armed groups and states, since the former relies heavily on foreign governments' support to minimise power disparities[80]. For example, Hezbollah received weapons and weapons training, among others related to precision-guided munitions, from its sponsors, including three officers in Iran's Islamic Revolutionary Guard Corps. Hezbollah used the precision-guided munitions acquired from Iran against Israel from the territory of Lebanon[81]. This and similar weapons programs reveal that the most probable transfer routes of LAWS would be through states[82].

Outsourcing LAWS as aid or assistance in a breach of state obligation

Under Article 16 of ARSIWA, a state may be held responsible if it provides assistance or aid in committing an internationally wrongful act. For example, there is mounting evidence that both the United Kingdom and Germany shared geolocation intelligence with the US armed forces to detect targets in the US drone programme in Pakistan, including by delivering phone numbers of targets. This operation led to significant civilian casualties[83]. Article 16 of ARSIWA is particularly relevant in transferring LAWS and providing logistical

80 Jonathan Kwik, "Mitigating the Risk of Autonomous-Weapon Misuse by Insurgent Groups," *Laws*, 12, no. 1 (February 2023): 5, doi:10.3390/laws12010005.

81 IDF Editorial Team, "Hezbollah's Precision Guided Missile Project," *Israel Defence Force*, September 19, 2019, https://www.idf.il/en/mini-sites/hezbollah/hezbollah-s-precision-guided-missile-project/.

82 Kwik, "Mitigating the Risk of Autonomous-Weapon Misuse by Insurgent Groups."

83 European Center for Constitutional and Human Rights, "Litigating Drone Strikes: Challenging the Global Network of Remote Killing" (Berlin, 2017), 105, https://www.ecchr.eu/fileadmin/Publikationen/Litigating_Drone_Strikes_PDF.pdf.

support and intelligence sharing[84]. For an act to be attributable to a state, it is necessary to establish that a state was aware of the circumstances surrounding the unlawful conduct of the perpetrator and that the assistance provided was intentional and facilitated the commission of the wrongful act[85]. There is no requirement that aid or assistance constitutes a necessary condition for committing an internationally wrongful act[86]. However, in the case of intelligence sharing in the US drone strikes, the High Court of the United Kingdom dismissed the case challenging the UK practice of intelligence sharing based on the Act of State doctrine. The Act prevents any proceedings concerning sovereign acts of a foreign state as imperilling relations between states[87]. The doctrine of a foreign state act would be a major obstacle to proceedings involving harm that resulted from LAWS used by one state and controlled or updated by another state.

Arms transfers related to the Saudi-led military intervention in Yemen have raised even more challenging concerns, since such significant transferring states as Germany, France, UK and USA licensed the export of the military equipment to Saudi Arabia, UAE and Egypt despite reports on war crimes and other IHL violations having been committed by the coalition. These transfers followed with a massive resistance, especially from NGOs in Belgium, Canada, France, Italy, the Netherlands, Spain, UK, and USA[88]. For example, in the UK, an NGO, the Campaign against the Arms Trade, brought a case against the Secretary of State for International Trade and challenged the UK government's decision to

84 Nils Melzer, "Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare" (Brussels: Directorate-General for External Policies of the Union Study, May 2013), 38, https://www.europarl.europa.eu/RegData/etudes/etudes/join/2013/410220/EXPO-DROI_ET%282013%29410220_EN.pdf.

85 Ibid.

86 Nuhanovic Foundation Centre for Reparations, "Article 16 Draft Articles on Responsibility of States for Internationally Wrongful Acts, 2001," *Nuhanovic Foundation Centre for Reparation*, accessed December 2, 2022, http://www.nuhanovicfoundation.org/en/legal-instruments-13/article-16-draft-articles-on-responsibility-of-states-for-internationally-wrongful-acts-2001/.

87 European Center for Constitutional and Human Rights, "Litigating Drone Strikes: Challenging the Global Network of Remote Killing," 108–109.

88 Valentina Azarova, Roy Isbister, and Carlo Mazzoleni, "Domestic Accountability for International Arms Transfers: Law, Policy and Practice" (Safeworld, August 2021), https://www.saferworld.org.uk/resources/publications/1366-domestic-accountability-for-international-arms-transfers-law-policy-and-practice.

continue arms transfer to Saudi Arabia[89]. Despite initial dismissal of the case by the High Court of Justice[90], the Court of Appeal ruled that the government's decision was "irrational and therefore unlawful"[91]. As a result, the UK government revised a methodology in respect of allegations of IHL violations for the purposes of arms licensing[92]. Criterion 2c of the Export Control Act of 2002 sets forth that the UK government "will not grant a licence if there is a clear risk that the items might be used in the commission of a serious violation of International Humanitarian Law"[93]. The UK further suspended future licenses for arms transfer to both Saudi Arabia and its coalition partners. However, the Court's decision prevented the government from granting new licenses but not from suspending the existing ones. The second case against the Secretary of State for International Trade was submitted by Campaign against the Arms Trade in 2020 since the government issued new licences for the transfer of military equipment to Saudi Arabia. The claim argued that the government failed to conduct a proper risk assessment of IHL violations committed by Saudi Arabia in Yemen and the irrational conclusion as to identifying IHL violations as isolated incidents that did not constitute a pattern, among other grounds. On 6 June 2023, the High Court dismissed the case on grounds of the lack of proving that the government acted irrationally in the decision to licence arms transfers to the Saudi Arabia-led coalition. The "irrationality" threshold for the government's decisions that claimants must have demonstrated was high, especially taking into account that the claimant did not have access to evidence submitted by the government[94].

89 License decisions were issued for BAE Systems and Raytheon. Both companies were listed as interested parties in the case.

90 Campaign against the Arms Trade v The Secretary of State for International Trade (Judgment), No. CO/1306/2016 (UK High Court of Justice July 10, 2017).

91 Campaign against Arms Trade v Secretary of State for International Trade (Judgment), No. T3/2017/2079 (UK Court of Appeal June 20, 2019).

92 Elizabeth Truss, "Statement Made on 7 July 2020" (UK Department for International Trade, July 7, 2020), https://questions-statements.parliament.uk/written-statements/detail/2020-07-07/HCWS339.

93 Ibid.

94 Katie Fallon, "UK Arms Sales to Saudi Arabia: Making (Non)Sense of the Judgment," *CAAT*, July 13, 2023, https://caat.org.uk/news/uk-arms-sales-to-saudi-arabia-making-nonsense-of-the-judgment/.

Domestic litigation related to arms transfer to Saudi-led coalition yielded differentiated results, though. Litigating licensing decisions before municipal courts meets several procedural obstacles. First is the legal standing of claimants. In most cases of reviewing the arms transfers to Saudi-led coalition states the claimants were NGOs. Depending on the structure of the municipal law, some cases were dismissed outright, such as in the Netherlands, where there is a requirement that the claimant is directly affected by a government's decision. Similarly, in Spain, NGOs asked to annul arms licenses to Morocco because of the conflict in Western Sahara, but the administrative court did not find the legal standing of NGOs as interested parties. In contrast, in the UK and Belgium, NGOs asking to review the licensing decisions were granted the legal standing. The second (but less common) issue relates to jurisdiction of a court to challenge acts falling within the discretion of a State. In France, an administrative court declared that such licensing decisions are part of *acte de government* and the court could not interfere in this aspect of the executive power. Thirdly, access to information constitutes a useful argument to question non-transparent licensing decision. However, the practice on the access to information in this regard varies among states. In Spain, a request to obtain copies of licenses and reports concerning the decision-making process was dismissed, because they are protected as secret in accordance with the Spanish law. The denial of access to such information in the Dutch case resulted in the dismissal of the case, since the claimants were not aware that the challenged license expired during the proceedings. The successful cases concerning the access to information were held in Belgium and the UK. In Belgium, even though the claimants did not receive a copy of the challenged licenses, the Walloon government was obliged by the court to provide the claimants with an accurate information on the nature of licensed weapons. In the UK, a part of the proceedings directly relating to the licenses was closed even to the claimants. However, the final outcome of the case was successful to the claimants because the court reviewed the licensing decisions. Eventually, the process of reviewing licensing decisions depends on the threshold of risk assessment to which the licensing authority is obliged to, as well as whether the ATT or EU Common Position have direct effect on individuals. In the UK, the court determined irrationality of the government's decision, because it did not rely on seeking for a historical pattern in IHL violations being committed by the Saudi-led coalition in Yemen. In the case against the Walloon government, the court annulled and suspended licenses

after finding that the regional government had not properly assessed the EU Common Position's requirements by not taking into account the recipients attitude towards respect for IHL[95].

The following scenarios can be considered in relation to LAWS. First, an object of transfer is LAWS, equipped with a means of warfare prohibited *per se*. A transferring state may then be responsible for aiding and abetting the commission of IHL violation (in addition to breaching its obligation under a specific disarmament agreement). Aiding and abetting apply to any violation of IHL, including non-grave and non-serious violations. Secondly, the object of the transfer is a weapons system which has not been subjected to a legal review or has not obtained an unequivocally positive result in such a review. The transferring state may be attributed to violating the review obligation (if applicable), on the one hand, as well as aiding or abetting the violation by the acquiring state. Thirdly, the acquiring state uses LAWS in a way not envisaged by the transferring state, for example, in an environment for which LAWS was not intended, or directly to commit IHL violations.

Following its obligation to ensure respect for IHL, the transferring state should cease to transfer LAWS or, if possible, disable LAWS. If it fails to comply with this obligation, it may incur responsibility for aiding and abetting in committing IHL violations. It would occur when the acquiring state uses LAWS unlawfully, and the transferring state fails to stop the transfer. Failure to cease transferring may be considered aiding and abetting the commission of IHL violations if the transferring state knew or should have known that LAWS are used to violate IHL. The case submitted by several NGOs against the Walloon Government in Belgium seems to correspond to this topic in relation to arms transfers in general. After granting new licences to Saudi Arabia by the Walloon Government, the decision was challenged in 2019 on grounds of violating Article 1 and 6(2) of the ATT as well as Common Article 1 to the I–IV Geneva Conventions of 1949 (namely the obligation to ensure respect for IHL). As a result, the licences were suspended by the Court[96].

95 Christian Schliemann and Linde Bryk, "Arms Trade and Corporate Responsibility. Liability, Litigation and Legislative Reform," November 2019, https://library.fes.de/pdf-files/iez/15850.pdf; Azarova, Isbister, and Mazzoleni, "Domestic Accountability for International Arms Transfers: Law, Policy and Practice."

96 L'association sans but lucratif LIGUE DES DROITS HUMAINS et al. v la Région wallonne (Arret), No. 247.259 (Conseil d'État March 9, 2020).

In each situation presented, a transferring state is responsible for its unlawful act. It is particularly relevant in the context of multinational military operations when each state involved in the operation has an obligation not to facilitate IHL violations. LAWS can be used in or without compliance with IHL, and assisting in IHL violations would be challenging to prove, because, under Article 16 of ARSIWA, it must be established that a transferring state knew that a violation would be committed with the transferred weapon and intended using the weapon in such a manner[97]. In this sense, the Preamble to the Arms Trade Treaty requires assessing if the transferred weapon would be used to violate IHL[98], whereas IHL has a due diligence obligation to ensure respect for IHL, each being particularly relevant in the transferring of LAWS.

LAWS in redress – preclusions to state responsibility

State responsibility is objective, because a breach of a primary obligation is *prima facie* sufficient to initiate a responsibility regime under secondary rules[99]. Although the presence of any mental element, including guilt, does not have to be demonstrated[100], there is still a human dimension to the rule of attribution. State responsibility focuses on the actions and omissions of a human being, which means that a harmful outcome not originating in human conduct cannot engage state responsibility[101]. Boutin argues that if LAWS act autonomously (an operator has no control over the outcome), there is no human conduct that would form the basis of attribution. However, in the development and acquisition stages, state obligations do not necessarily require any outcome, because they are positive obligations (such as an obligation to ensure respect for IHL by taking steps to ensure LAWS' compliance with IHL).

97 Marco Sassòli and Patrick Nagler, *International Humanitarian Law: Rules, Controversies, and Solutions to Problems Arising in Warfare* (Edward Elgar Publishing, 2019), 529.

98 The Arms Trade Treaty *Adopted 2 April 2013, Entered into Force 24 December 2014.*

99 Crawford, *State Responsibility*, 61.

100 Sonnenfeld, "Podstawowe zasady odpowiedzialności państwa," 25–33.

101 Bérénice Boutin, "State Responsibility in Relation to Military Applications of Artificial Intelligence," *Leiden Journal of International Law*, November 28, 2022, 7, doi:10.1017/S0922156522000607.

There are potential justifications of a violating state that would be relevant in excluding the wrongfulness of an act concerning LAWS[102]. Although ARSIWA have been intended to cover only secondary rules, the ILC has failed to be entirely consistent in this regard[103]. Rules concerning circumstances precluding wrongfulness[104] refer to primary state obligations and actually determine the existence of these primary obligations[105]. These conditions are independent of primary obligations, so they do not extinguish the obligation. They allow to avoid responsibility and should therefore be strictly interpreted[106]. The circumstances in the LAWS-related acts are a necessity, consent of an injured state, self-defence, *force majeure* and coercion.

Article 25 of the ARSIWA allows necessity to be invoked as a ground for precluding the wrongfulness of an act, but it correlates with the IHL-specific exception of military necessity. The latter excludes potential IHL violations when, due to military action, an expected military advantage outweighs mainly civilian losses[107]. This rule is a part of a substantial law and therefore constitutes a primary obligation. It creates certain obligations and rights related to hostilities. In the *Krupp and others case*, the US military tribunal held that if a rule does not contain any exception in favour of military necessity, any derogation of IHL is not permissible[108]. Necessity, previously referred to as a state

102 Scholars point to distinction between the circumstances precluding responsibility and those precluding wrongfulness of an act. The latter preclude qualifying the act as a basis for responsibility because the act is not wrongful. In terms of state responsibility therefore circumstances precluding wrongfulness are applicable. See: Krzan, *Odpowiedzialność państwa członkowskiego z tytułu działalności organizacji międzynarodowych*, 94; Henryk de Fiumel, *Prawnomiędzynarodowa odpowiedzialność majątkowa państw* (Wrocław: Ossolineum, 1979), 44–45; Ciechanowicz-McLean, *Zasady ustalania odszkodowania w prawie międzynarodowym publicznym*, 29–35.

103 Crawford, *State Responsibility*, 65–66.

104 Helmut Aust, "Circumstances Precluding Wrongfulness," in *Principles of Shared Responsibility in International Law: An Appraisal of the State of the Art (Shared Responsibility in International Law)*, eds. André Nollkaemper and Ilias Plakokefalos (Cambridge: Cambridge University Press, 2014), 177.

105 David, "Primary and Secondary Rules," 29.

106 Aust, "Circumstances Precluding Wrongfulness," 179.

107 The military necessity exception has been analysed in the chapter on IHL.

108 "Trial of Alfred Felix Alwyn Krupp and Eleven Others (US Military Tribunal III-A)," Law Reports of Trials of War Criminals (London: The United Nations War Crimes Commission, 1949), 138–139.

of necessity, is understood as a material source of extra-legal strategies for any defence at the level of primary rules[109]. Article 25 of ARSIWA refers to a situation in which a state or, potentially, the entire international community may take action to protect its vital interests[110]. These threats refer to imminent danger when a specific international obligation is breached to protect the values[111]. By taking necessary action, the state, alone or jointly with others, responds to a situation unforeseen by law. The purpose of the response is to avoid the rigid application of international law in a situation of conflicting values[112]. Necessity may be invoked primarily to secure the existence of the state but also the environment and civilian safety[113]. For example, in 1967, a Liberian oil tanker caused an oil spill close to the UK's territorial sea; the UK bombed the spill site to burn off all the pollution. Although the UK did not explicitly invoke necessity, it stressed the danger of an oil spill into the sea. The countermeasures previously taken by the UK were unsuccessful, and other states did not question such behaviour[114]. However, the construction of necessity has been criticised[115], since, despite the cumulative inclusion of the premises and its exceptional formula[116], the final moment of the applied measures has not been indicated. The choice of means is further subjective and requires weighing between conflicting values.

The practice cited in the Commentary to ARSIWA proves that necessity was used for abusive purposes, such as the annexation of Kraków by Austria in 1846, the annexation of Rome by Italy in 1870, the occupation of Belgium and

109 Crawford, *State Responsibility*, 305.

110 Sarah Heathcote, "Circumstances Precluding Wrongfulness in the ILC Articles on State Responsibility: Necessity," in *The Law of International Responsibility*, ed. James Crawford et al., Oxford Commentaries on International Law (Oxford, New York: Oxford University Press, 2010), 491.

111 Case Concerning the Gabčikovo-Nagymaros Project (Hungary v Slovakia) (Judgment), Reps 7 (ICJ 1997).

112 Heathcote, "Circumstances Precluding Wrongfulness in the ILC Articles on State Responsibility: Necessity," 491.

113 Fisheries Jurisdiction (Spain v Canada) (Judgment), 432 Reps (ICJ 1998).

114 Crawford, *State Responsibility*, 309.

115 Heathcote, "Circumstances Precluding Wrongfulness in the ILC Articles on State Responsibility: Necessity," 491.

116 Necessity can be invoked to address a threat to fundamental state interests.

Luxembourg by Germany in 1914, and the annexation of Ethiopia by Italy in 1936[117]. It constitutes a denial of the rule of law, as it entitles one to place state interests above the obligation to respect international law[118]. A comparison of the two circumstances is given in Article 25(2)(a) of ARSIWA. It excludes the possibility of invoking necessity as a basis for precluding wrongfulness if a primary international obligation does not provide for the possibility of invoking necessity. When creating primary IHL obligations, the extraordinariness of a situation is taken into account by definition. The standards of military necessity are set so that no deviation from them is permissible. Therefore, the exception of military necessity is the maximum limit for responsibility so that the premise of necessity under ARSIWA in an armed conflict cannot be invoked[119].

The relationship between military necessity and necessity in terms of state responsibility was analysed in the Advisory Opinion on the legal consequences of the construction of a wall in the territory of occupied Palestine[120]. The ICJ considered whether Israel was entitled to invoke a state of necessity which would preclude the wrongfulness of the construction of the wall. The necessity would form a response to a series of indiscriminate and cruel acts of violence against its civilian population. There are such norms of IHL which contain an exception of military necessity. However, none of the applicable IHL rules permitted exceptions in favour of military necessity. The Court expressed the autonomous nature of the two regimes, namely IHL and the law on state responsibility. According to the ICJ, Israel could have invoked this circumstance if the construction of the wall was the only way to safeguard vital interests against a serious and imminent threat. Israel had the right and even the

117 "Draft Articles on Responsibility of States for Internationally Wrongful Acts, with Commentaries," 80–81.

118 Aust, "Circumstances Precluding Wrongfulness," 179.

119 Arai-Takahashi Yutaka, "Excessive Collateral Civilian Casualties and Military Necessity. Awkward Crossroads in International Humanitarian Law between State Responsibility and Individual Criminal Liability," in *Sovereignty, Statehood and State Responsibility: Essays in Honour of James Crawford*, eds. Christine Chinkin and Freya Baetens (Cambridge: Cambridge University Press, 2015), 335–336, https://www.cambridge.org/core/books/sovereignty-statehood-and-state-responsibility/A6AE621E4278A4802923C2419BC32FCA; Krzan, *Odpowiedzialność państwa członkowskiego z tytułu działalności organizacji międzynarodowych*, 103.

120 Legal consequences of the construction of a wall in the occupied Palestinian territory (Advisory Opinion) at 140–42.

obligation to respond to acts of violence to protect its citizens' lives[121]. However, the measures taken should have complied with relevant international law, including IHL. The necessity is, therefore, independent of the primary rule of military necessity and autonomous from the entire IHL. Military necessity cannot be the sole justification for a state of necessity under the law on state responsibility. With regard to using LAWS as a basis for invoking necessity, one would have to consider whether and when it could respond to a serious and imminent threat to vital state interests, but the existence of such a situation remains within the scope of the use of force.

The consent of an injured state provided for in Article 20 of the ARSIWA is one of the rules excluded in IHL by way of special rules[122]. According to the relevant provisions of the four Geneva Conventions of 1949, no state may exempt itself from responsibility incumbent on itself or another state for violations of IHL (see, respectively, Articles 51, 52, 141, 148 of the four Geneva Conventions of 1949). Sassòli makes a clear distinction among rules of international law in this respect. One part refers to the traditional law governing relations between subjects of international law, whereas the other, a relatively new part, consists of the rights enjoyed by individuals. With respect to IHL, these rights protect victims of armed conflicts from acts of states and other actors involved in armed conflicts[123]. It means that a state cannot validly consent to violate those IHL norms that protect victims of an armed conflict. In IHL, unlike in international human rights law, derogation does not occur for the victims' protection. As Tadeusz Jasudowicz notes, IHL consists of norms that constitute the minimum protection to which a person is entitled. This minimum derives from the objective obligations of IHL, particularly from Article 3 common to the four Geneva Conventions of 1949 and Additional Protocol II of 1977[124]. If an

121 "Since those treaties already address considerations of this kind within their own provisions, it might be asked whether a state of necessity as recognized in customary international law could be invoked with regard to those treaties as a ground for precluding the wrongfulness of the measures or decisions being challenged". Ibid., 140.

122 Elżbieta Karska, *Odpowiedzialność państwa za naruszenia międzynarodowego prawa humanitarnego konfliktów zbrojnych* (Wrocław: Wydawn. Uniwersytetu Wrocławskiego, 2007), 54–55.

123 Sassòli, "State Responsibility for Violations of International Humanitarian Law," 401.

124 IHL plays an important intepretative role to determine the list of non-derogable human rights. IHL obligations further perform as a common denominator for the international community as a whole. Jasudowicz, "Studium substancjalnych przesłanek dopuszczalności

IHL rule was violated due to the use of LAWS with the consent of the injured state, the violating state could not raise this circumstance to justify its act.

IHL obligations further do not allow the exclusion of responsibility based on self-defence[125]. The impossibility of invoking this premise results from the clear separation of *ius contra bellum* from IHL. According to the Preamble to the Additional Protocol I of 1977, the cause behind an armed conflict and the ratio of the actions taken by the parties to an armed conflict are not relevant to the application of IHL. In the Russian aggression on Ukraine on 24 February 2022, Russia claimed self-defence against genocide as a justification for invading Ukraine. Ukraine filed a case with the ICJ based on the Genocide Convention of 1948, claiming, among others, that even the alleged genocide did not justify aggression based on self-defence. On 16 March 2022, the ICJ ordered provisional measures in which Russia shall immediately suspend military operations in Ukraine[126]. These provisional measures do not solve the conflict between the parties, but imply that Russian aggression cannot be justified in self-defence, even though the Russian Federation claims that there was a violation of the prohibition of genocide.

Under Article 24 of ARSIWA, a state may invoke duress if an individual had no other means of acting than by committing a violation leading to an internationally wrongful act to save their own life or the lives of those under their care. As a general rule, individuals are in a permanent state of danger in an armed conflict, so an invocation of duress is unlikely. Allowing, for example, a situation in which a combatant directs an attack against civilians to protect their own life through LAWS would leave little room for protecting the IHL values[127].

Under Article 23(1) of ARSIWA, in the case of *force majeure*, if an imminent danger or unforeseen circumstances beyond the state's control cannot be prevented so that the state cannot comply with IHL, an internationally wrongful

środków derogacyjnych," 70–71; Szuniewicz, "Wpływ norm międzynarodowego prawa humanitarnego na zakres dopuszczalności derogacji zobowiązań w dziedzinie praw człowieka," 60.

125 "Draft Articles on Responsibility of States for Internationally Wrongful Acts, with Commentaries," 74.

126 Allegations of Genocide under the Convention on the Prevention and Punishment of the Crime of Genocide (Ukraine v Russian Federation) (Order) (ICJ March 16, 2022).

127 Sassòli, "State Responsibility for Violations of International Humanitarian Law," 417.

act will not occur[128]. If *force majeure* occurs with other factors affecting the commission of an internationally wrongful act, the state cannot invoke that circumstance to exclude responsibility. Under Article 23(2)(b) of ARSIWA, a similar situation arises if a state accepts the risk of *force majeure*[129]. This circumstance may interfere with accepting possible software malfunctions resulting, for example, in an indiscriminate attack[130]. On the one hand, unforeseen and unintended damage resulting from negligence or fault of the using state cannot constitute grounds for invoking *force majeure*. An analogous situation would arise in the case of conscious acceptance of harm risk. Any wrongful action of LAWS, which was not expected, but there were reasonable grounds for foreseeing that such action would occur, cannot be a ground for excluding the wrongfulness of the act. Grounds for prediction should be based on LAWS capabilities and design limitations. On the other hand, *force majeure* may be invoked in situations where a state, acting in good faith, inadvertently contributed to the wrongful behaviour of LAWS, but only after the fact was it possible to conclude that it could have behaved differently[131]. This situation relates to unforeseen LAWS designing defects. It would need to be assessed whether LAWS' malfunction was an external cause that the using state could not have prevented.

In addition to invoking responsibility and requiring compliance with state obligations, an injured state may also take the countermeasure of using LAWS to compel the offending state to act in accordance with the law. Under the law on state responsibility, countermeasures taken in accordance with the requirements of international law are also a precondition for the wrongfulness of an act. There are two types of such measures, namely retaliation and reprisal. Retaliation is a state response to an act that does not constitute a law violation but violates that state's interests. In the case of unlawful acts, reprisals are

128 Ibid., 413.

129 Karska, *Odpowiedzialność państwa za naruszenia międzynarodowego prawa humanitarnego konfliktów zbrojnych*, 55.

130 Nathalie Weizmann and Milena Costas Trascasas, "Autonomous Weapon Systems under International Law. Academy Briefing No. 8" (Geneva Academy of International Humanitarian Law and Human Rights, November 2014), 24, https://www.geneva-academy.ch/joomlatools-files/docman-files/Publications/Academy%20Briefings/Autonomous%20Weapon%20Systems%20under%20International%20Law_Academy%20Briefing%20No%208.pdf.

131 Melzer, "Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare," 39.

a form of self-help available to an injured state. These take the form of acts contrary to international law but allow for excluding their wrongfulness by means of a proportionate and time-limited response to the wrongful act of the other state[132]. Such reprisals include coercive measures taken by the authorities of a state against another state or its nationals[133]. They are taken to induce the opposing party to cease the violation of international law, including IHL. According to Article 50(1)(c) of ARSIWA, some IHL rules directly prohibit reprisals (for example, against protected persons and objects[134]). In the case of using LAWS as means of reprisals, a range of measures commensurate with the initial breach and the duration of the system's performance (since reprisals should be time-limited measures) must be determined. However, the type and scope of reprisals cannot be assessed before an armed conflict occurs. They are always context-dependent. Irrespective of the previously given circumstances, according to Article 26 of ARSIWA, a state cannot violate peremptory rules by invoking any circumstance precluding wrongfulness. Additionally, Article 27(b) of ARSIWA excludes relieving from compensatory obligation for any material damage resulting from the wrongful act. Therefore, very few instances exist in which a state can invoke circumstances precluding wrongfulness in LAWS-related wrongful acts.

Claiming compensation for the effects of LAWS as an inherent element of statehood

ARSIWA require to verify whether any special rules do not exempt state responsibility. Articles 30 and 31 of ARSIWA set forth state obligations that arise due to its responsibility. The forms of responsibility cover cessation of a violation and full reparation, including restitution, compensation or satisfaction.

132 Karska, *Odpowiedzialność państwa za naruszenia międzynarodowego prawa humanitarnego konfliktów zbrojnych*, 60–61.

133 Marian Flemming, *Jeńcy wojenni: studium prawno-historyczne* (Warszawa: Bellona, 2000), 332.

134 Marcin Marcinko, "Cele wojskowe a obiekty cywilne oraz dobra i obiekty poddane szczególnej ochronie," in *Międzynarodowe prawo humanitarne konfliktów zbrojnych*, eds. Zbigniew Falkowski and Marcin Marcinko (Warszawa: Wojskowe Centrum Edukacji Obywatelskiej, 2014), 139.

An obligation of remedy is a rule binding under customary law[135] that arises against another subject of international law. The law on state responsibility does not attach responsibility to specific damage. In this regard, the two wordings of *compensation* and *reparation* are relevant. Compensation contains a presumption of damage, which is not a necessary prerequisite for state responsibility[136]. On the other hand, *reparation* is linked to war, when the defeated state pays reparations to the victorious state based on a peace treaty (for example, Articles 231–232 of the Treaty of Versailles obliged Germany to compensate for all consequences arising from the instigating of the World War II)[137]. Therefore, the distinction between reparation and compensation primarily concerns the legal basis of a claim.

Article 91 of the Additional Protocol I of 1977 imposes the obligation of compensation under parties to an armed conflict (in most cases, restitution in an armed conflict is impossible). With respect to IHL violations committed in an international armed conflict, it is, therefore, possible to consider an exclusion of those law provisions on state responsibility to which Article 91 of the Protocol I and the corresponding customary rule refer[138]. The consequences of IHL violations committed in non-international armed conflicts continue to be governed by the general law on state responsibility[139]. The obligation of compensation is incumbent on all parties to an armed conflict, regardless of the outcome of the conflict, because this obligation makes no distinction between winners and losers in an armed conflict and aims at protecting victims of IHL violations[140] (this, in turn, clearly distinguishes compensation from war reparations provided for in peace treaties). In the *Chorzów factory case*, the PCIJ stated that any breach of an obligation under international law gives rise to

135 Sandoz, Swinarski, and Zimmermann, *Commentary to APs*, 1053.

136 Sonnenfeld, "Podstawowe zasady odpowiedzialności państwa," 73.

137 Ciechanowicz-McLean, *Zasady ustalania odszkodowania w prawie międzynarodowym publicznym*, 44–45; Piotr Daranowski, "Reparacje wojenne/polskie reparacje wojenne po II wojnie światowej – wizje i rzeczywistość," in *Ubi ius, ibi remedium: księga dedykowana pamięci profesora Jana Kolasy*, ed. Bartłomiej Krzan (Warszawa: Wydawnictwo C.H. Beck, 2016), 103.

138 Silja Vöneky, "Implementation and Enforcement of International Humanitarian Law," in *The Handbook of International Humanitarian Law*, ed. Dieter Fleck (Oxford: OUP, 2021), 1404.

139 Sassòli, "State Responsibility for Violations of International Humanitarian Law," 418.

140 Sandoz, Swinarski, and Zimmermann, *Commentary to APs*, 1055.

an obligation to compensate[141]. Compensation is a remedy for non-compliance with an agreement, which at the same time does not have to be directly regulated in the agreement.

Three categories of damages and losses can occur in armed conflicts[142]. The first category concerns damages resulting directly from hostilities or related to hostilities, which are not IHL violations. The second type concerns damages resulting indirectly from an armed conflict, which affects relations with other entities and individuals. The third type covers damages resulting from a violation of IHL. According to Article 91 of the PD I, a compensation claim can only arise after an IHL violation and "if the case so requires". The mere occurrence of a breach is insufficient for the obligation to compensate for arising[143]. In this respect, it is possible to point to an exception of a special rule in relation to the general law on state responsibility. In the latter, the damage is not a necessary prerequisite for responsibility. Compensatory responsibility in IHL shall therefore follow the occurrence of specific material damage[144]. The Commentary to Additional Protocol I of 1977 states that this obligation is operationalised when harm or damage has been caused, and restitution is impossible[145]. Damage in international law is understood as the impairment of goods protected by this law. The goods may be of both pecuniary and personal nature. The obligation to compensate is fulfilled by compensating the difference between the current state of affairs and the state of affairs that would have existed if the violation had not occurred. That difference includes actual damage (*damnum emergens*) and lost profits (*lucrum cessans*)[146].

141 PCIJ, Case concerning the Factory at Chorzów (Germany v Poland) (Claim for indemnity. Jurisdiction), Publications of the PCIJ at 21.

142 Władysław Maliniak, "Tytuł do indemnizacji strat wojennych," in *Szkody wojenne a współczesne prawo narodów*, ed. Szymon Rundstein (Warszawa: Wydział Rejestracji Strat Wojennych przy Radzie Głównej Opiekuńczej, 1917), 3; Ciechanowicz-McLean, *Zasady ustalania odszkodowania w prawie międzynarodowym publicznym*, 37.

143 Sandoz, Swinarski, and Zimmermann, *Commentary to APs*, 1056.

144 Ciechanowicz-McLean, *Zasady ustalania odszkodowania w prawie międzynarodowym publicznym*, 13.

145 Sandoz, Swinarski, and Zimmermann, *Commentary to APs*, 1056.

146 Ciechanowicz-McLean, *Zasady ustalania odszkodowania w prawie międzynarodowym publicznym*, 25.

In the event of an IHL violation, entitled to compensation are parties to an armed conflict and, exceptionally, individuals[147]. According to Article 42(1) of ARSIWA, a state shall be regarded as an injured state if an internationally wrongful act violates its individual rights or is otherwise affected by an internationally wrongful act[148]. If the violated obligation should be observed towards a group of states or the international community as a whole, only specially affected states can invoke the responsibility of the violating state unless the breach radically alters the relationship of all the states towards which the obligation should be observed.

Under ARSIWA, there are two types of responsibility subjects: an injured state and a state other than an injured state. A proposal concerning responsibility relationships was rejected for those involving a right and those involving a legal interest. Ultimately, ARSIWA distinguish between two types of responsibility subjects depending on the duties of the responsible State. Article 42 of ARSIWA refers to injured states having a right to compensation and being entitled to countermeasures. On the other hand, Article 48 of ARSIWA refers to other than injured states. Their rights are significantly different from those of an injured state, because they can claim compensation only on behalf of the beneficiary of the primary obligation, while the right to countermeasures by these states is still controversial[149]. The rights available to non-injured states will be set out in the following subsection.

It is suggested that most IHL obligations can be either observed towards all states or breached against all states, because a violation of Article 1 common to the four Geneva Conventions of 1949 can be interpreted to include a presumption of being affected by each state. Article 89 of the Additional Protocol I of 1977 stipulates that each state may take action individually in case of serious violations of the Conventions or the Additional Protocol I of 1977. However,

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147 Article 297(e) of the Treaty of Versailles admitted citizens of the Allies a right to compensation for damages and harms resulting from the war laws. The claims were proceeded before a special arbitration tribunal which could grant compensation for property losses (both *damnum emergens* and *lucrum cessans),* but not form moral harms (*dommage morale*). See: Treaty of Versailles, *Adopted 28 June 1919, Entered into Force 10 January 1920.*

148 Crawford, "The System of International Responsibility," 23.

149 Giorgio Gaja, "The Concept of an Injured State," in *The Law of International Responsibility*, eds. James Crawford et al., Oxford Commentaries on International Law (Oxford, New York: Oxford University Press, 2010), 942.

the vast majority of IHL violations arise in non-international armed conflicts, so *prima facie,* no state is injured by such violations. A state with the right to act in the cases of IHL violations is an injured state, but Article 1 common to the four Geneva Conventions of 1949 could be considered a special rule in relation to the definition of an injured state under Article 42 of ARSIWA. It does not yet mean that the two obligations to respect and ensure respect under Article 1 common to the four Geneva Conventions of 1949 are special obligations owed to a group of states or the international community as a whole[150]. This position is consistent with the distinction between bilateral agreements and bilateral obligations. Bilateral obligations may be contained in bilateral and multilateral agreements. In the latter, obligations may become operative in case of a breach, creating a bilateral legal relationship involving responsibility[151]. Many international agreements, however, do not directly indicate which state may be considered an individually injured state in particular circumstances. Article 1, common to the four Geneva Conventions of 1949 should therefore be interpreted instead as a precursor to the possibility of all states invoking responsibility based on a breach of the common interest, but not as a special rule excluding the rights of an individually injured state. The state concerned is the opposing party in an international armed conflict, the state on whose territory the violation occurred, or the state of the victim's nationality. Therefore, ARSIWA clearly separate the concept of an injured state from other than an injured state by equipping them with different protective tools[152].

The implementation of the obligation to compensate individuals can take place either before national courts or before international tribunals and bodies[153]. The existence and scope of the right to remedy for individuals and non-state actors depend on a primary rule providing such a right. However, Article 33(2) of ARSIWA limits the obligation to compensate under ARSIWA only to states. It does not preclude rights available to individuals or other entities.

150 Sassòli, "State Responsibility for Violations of International Humanitarian Law," 423.

151 Gaja, "The Concept of an Injured State," 944.

152 Arie Afriansyah, "Environmental Protection and State Responsibility in International Humanitarian Law," *Indonesian Journal of International Law*, 7, no. 2 (August 12, 2021): 295–296, doi:10.17304/ijil.vol7.2.219.

153 С. В. Глотова, "Компенсации жертвам вооруженных конфликтов в международном гуманитарном праве," 2005, 106, https://istina.msu.ru/publications/article/7569484/.

Many IHL provisions relating to international armed conflicts regulate legal relationships between states. Similarly, Article 91 of the Additional Protocol I of 1977 concerns the obligation to compensate imposed on a violating state to an injured state[154]. The latter may bring its own claim for compensation, including in the interests of a person or entity under its jurisdiction based on diplomatic protection[155]. Persons with third-country nationality who have suffered injury or damage due to hostilities can file a complaint based on their nationality. This principle was formulated in the *Barcelona Traction case*, in which a state may bring a claim relating to the loss suffered by its nationals[156]. Unfortunately, Article 91 of the Additional Protocol I of 1977 does not create subjective rights for natural and legal persons[157]. Instead, it creates a right to act in those individuals' interest based on the nationality principle[158]. Individuals can therefore try to enforce their rights in the violating state[159]. This is done through the use of available legal remedies, the exhaustion of which opens the way for the state of nationality to bring a claim against the violating state[160].

Another way for individuals is commissions set up to deal with individual complaints concerning IHL violations[161]. For example, the United Nations Compensation Commission, as a subsidiary body of the UN Security Council, was established in 1991[162] to pursue cases for compensation for damage and

154 Varvarin Bridge Case, No. BVerfG, 2 BvR 2260/06 (German Federal Constitutional Court August 13, 2013).

155 PCIJ, Case concerning the Factory at Chorzów (Germany v Poland) (Claim for indemnity. Jurisdiction), Publications of the PCIJ at 26–28.

156 Case concerning the Barcelona Traction, Light and Power Company, Limited (Belgium v Spain) (judgment), No. Reps (ICJ February 5, 1970).

157 Sonnenfeld, "Podstawowe zasady odpowiedzialności państwa," 17.

158 Ciechanowicz-McLean, *Zasady ustalania odszkodowania w prawie międzynarodowym publicznym*, 43.

159 See cases concerning compensation for the effects of drone strikes: Nuhanovic Foundation Centre for War Reparations, *Reparations Cases*, http://www.nuhanovicfoundation.org/en/reparation-cases/ (December 19, 2022).

160 Sonnenfeld, "Podstawowe zasady odpowiedzialności państwa," 17.

161 To receive compensation for IHL violations after the Second World War, Switzerland established Claims Resolution Tribunal for Dormant Accounts. Germany established a special fund to pay compensation. Глотова, "Компенсации жертвам вооруженных конфликтов в международном гуманитарном праве," 108.

162 "Resolution 687 (1991)," Pub. L. No. UN Documents, S/RES/687 (1991).

losses suffered as a direct result of the illegal invasion and occupation of Kuwait by Iraq in 1990–1991. Both individuals and companies could claim compensation[163]. The compensation payment procedure was carried out through states' obligation to compensate the injured persons or entities[164]. The work of the Commission can be assessed as ensuring justice in practice for the victims of the armed conflict[165].

Moreover, in connection with the development of procedural mechanisms within international human rights law, there has recently been a tendency for human rights bodies to reinterpret Article 91 of the Additional Protocol I of 1977 in the direction of granting compensatory claims to individuals. The International Commission of Inquiry on Darfur has stated that serious IHL violations may give rise not only to individual criminal responsibility but also to the responsibility on the part of the state under whose authority the alleged perpetrator committed the violation. State responsibility then gives rise to an obligation to compensate victims[166]. Victims of LAWS' use can present individual complaints before universal and regional human rights bodies. International human rights law is not suspended during an armed conflict, but the situation affects its interpretation.

Consequently, death caused by an IHL violation may coincide with the right to life and can be examined through the lenses of a war crime and individual complaints against states under human rights treaties, assuming that the situation did not exclude the application of international human rights law. For example, the European Court of Human Rights has considered several cases concerning the use of lethal force in military operations, including

163 "Decision Taken by the Governing Council: Personal Injury and Mental Pain and Anguish," Pub. L. No. UN Docs S/AC.26/1991/3 (1991); "Decision Taken by the Governing Council: Business Losses of Individuals Eligible for Consideration under the Expedited Procedures," Pub. L. No. UN Docs S/AC.26/1991/4 (1991).

164 "Criteria for Expedited Processing of Urgent Claims," Pub. L. No. UN Docs S/AC.26/1991/1 (1991).

165 David D. Caron and Brian Morris, "The UN Compensation Commission: Practical Justice, Not Retribution," *European Journal of International Law*, 13, no. 1 (February 2002): 183, doi:10.1093/ejil/13.1.183.

166 "Report to the UN Secretary-General" (Geneva: International Commission of Inquiry on Darfur, January 25, 2005), 593–597.

attacks involving military aircraft in non-international armed conflicts[167]. However, the primary obstacle to initiating a proceeding was the Court's lack of jurisdiction[168]. Therefore, the availability of different bodies is complementary rather than mutually exclusive[169].

There are three specific types of obligations, the breach of which gives rise to rights on the part of entities other than an injured state. This occurs in three situations: (1) in the case of a breach of an obligation towards a group of states which has been established to protect the collective interest of that group; (2) in the case of a breach of an *erga omnes* obligation; (3) in the case of a breach of a peremptory rule. In the first two cases, the rights available to other states are the same except for entities entitled, because general international law is unfamiliar with the institution of *actio popularis*[170].

A list of measures following a breach of an *erga omnes* obligation or an obligation owed to a group of states is provided in Article 48(2) of ARSIWA. The list includes a request for cessation of a wrongful act and, if the circumstances so require, a guarantee of non-recurrence. Secondly, a claimant state can request reparation in the interest of an injured state or of beneficiaries of the breached obligation[171]. In the case of the use of LAWS resulting in a breach of an *erga omnes* IHL obligation, a compensation claim can be raised by a state other than an injured state in the interest of the community harmed or affected by the breach (the beneficiary of a primary rule). The Commentary to Article

167 Case of Isayeva and Others v Russia (Judgment), No. Applications nos. 53075/08 and 9 other (ECtHR May 28, 2019); Case of Ergi v Turkey (Judgment), No. Application no. 66/1997/850/1057 (ECtHR July 28, 1998); Case of Issa and Others v Turkey (Judgment), No. App. No. 31821/96 (ECtHR November 16, 2004).

168 Isayeva v Russia (Judgment), No. App. No. 57950/00 (ECtHR February 24, 2005).

169 Melzer, "Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare," 43.

170 South West Africa Cases (Etiopia v South Africa, Liberia v South Africa), second phase (Judgment), No. Reps (ICJ July 18, 1966); Kyoji Kawasaki, "The 'Injured States' in the International Law of State Responsibility," *Hitotsubashi Journal of Law and Politics*, 28 (2000): 27–30.

171 A beneficiary can be, for example, the population or direct victims of a violation. Legal consequences for states of the continued presence of South Africa in Namibia (South West Africa) Notwithstanding Security Council Resolution 276 (1970) (Advisory Opinion), No. Reps (ICJ June 21, 1971).

48(2)(b) of ARSIWA indicates an authorisation to bring a claim for damages in the interest of an injured state or other beneficiaries of the violated obligation[172].

In the event of a breach of a peremptory rule, the entity entitled to take measures is, according to Article 41 of ARSIWA, the international community as a whole, as well as each state individually. Such a breach gives rise to three obligations on their part. First, a positive obligation to cooperate to end the violation. This applies to each state, regardless of the impact of the violation on its individual situation. Secondly, each state has an obligation not to recognise the situation being the direct source of the violation. This obligation is incumbent on every state, including the state responsible for the violation[173]. Third, no state should provide assistance or support in maintaining the situation created by the violation. According to Article 16 of ARSIWA, no state should provide assistance or support in committing an internationally wrongful act. In the case of a serious violation of the peremptory rule, this obligation also extends to the situation created by the violation. Under Article 41(3) of ARSIWA, the above obligations arise independently of state obligations under "regular" internationally wrongful acts. This means that the violating state is obliged to put an end to the violation, to guarantee, if necessary, that the violation will not be repeated in the future, and to pay compensation. The amount depends on the degree of the violation.

Especially with LAWS, creating a new type of responsibility for acts not amounting to violations of international law is tempting, because it can address LAWS' lawful uses which nonetheless resulted in damage or loss following hostilities. Liability has only recently become part of international law, not least through the Convention on the Liability of States of 1972. Liability is determined alternatively by the following circumstances: the adoption of an international agreement introducing an obligation to compensate, the emergence of a customary law norm introducing such an obligation, the recognition of a rule resulting from the progressive development of international law towards strict liability[174]. The customary nature of liability is disputed in

172 The ILC indicated that the admissibility of this right reflects a progressive interpretation of international law. "Draft Articles on Responsibility of States for Internationally Wrongful Acts, with Commentaries," 127.

173 Ibid., 115.

174 Jean-Marc Sorel, "The Concept of 'Soft Responsibility'," in *The Law of International Responsibility*, eds. James Crawford et al., Oxford Commentaries on International Law (Oxford, New York: Oxford University Press, 2010), 167.

doctrine, as opposed to responsibility in ARSIWA. At the end of the 19th century, it was recognised that lawful acts could also lead to harm or damage to a person or property, even in the absence of culpability on the part of the perpetrator. The development of technology, especially in the second half of the 20th and the beginning of the 21st century, helped to bring this problem to the international level. The more widely technology becomes present in various areas of human functioning, the greater risks it causes. In the wake of the industrial revolution, however, society accepted such risks because the possible damage was not catastrophic. Besides, any prohibition of certain undertakings involving technology would significantly hamper economic development which brings positive results for humanity[175].

Strict liability aims at putting in place mechanisms to prevent victims from having hardly any legal remedy for the harm they have suffered or the damage caused. This type of responsibility seeks to introduce appropriate standards granting victims the right to compensation and the establishment of a restitution obligation, which does not exclude the obligation to prevent possible harm[176]. Tort law is useful in this regard, as its goals constitutes, on the one hand, deterring further violations and redressing wrongs and damages by way of compensation. On the other hand, liability enhances accountability mechanisms for the exercise of state power. This type of responsibility responds to the nature of some of the ongoing asymmetric armed conflicts. Military operations, including a conduct of hostilities, take place in close proximity or even among civilians, leading to collateral damage. However, the conduct of hostilities should be distinguished from other military operations, for example in an occupied area, aimed at ensuring the security of civilians or fighting non-state armed groups. The type of operation affects the basis for compensation, although the clear-cut line between these situations is difficult to draw[177]. Both situations have high risks of damage to property and to persons not directly taking part in hostilities. The tort law may respond to the consequences of

175 Michel Montjoie, "The Concept of Liability in the Absence of an Internationally Wrongful Act," in *The Law of International Responsibility*, eds. James Crawford et al., Oxford Commentaries on International Law (Oxford, New York: Oxford University Press, 2010), 503–504.

176 Ibid., 504–505.

177 Gilat Bachar, "Collateral Damages: Domestic Monetary Compensation for Civilians in Asymmetric Conflict," *Chicago Journal of International Law*, 19, no. 2 (February 1, 2019): 386–387.

preserving the obligation of distinction, which is a phenomenon typical not only of LAWS, but of contemporary armed conflicts in general.

Compensation models for the effects of armed conflicts exist in some national legal systems. For example, two compensation models – either administrative or civil – for damage or harm resulting from an armed conflict have been executed for a long time now in the US and Israel. The US model takes the form of an administrative procedure under which individuals may receive compensation for damages up to a certain amount. Israel, on the other hand, has introduced the possibility for an injured or aggrieved party to file a lawsuit against state authorities for actions related to the execution of military operations. While in most situations both models deal with damage and harm not directly related to the conduct of hostilities, they address the consequences of negligent acts. This may be relevant when using LAWS to carry out armed operations whose effects were not limited to military purposes. This is because it is often difficult to draw a clear line between effects of hostilities and effects of other military operations. Consequently, the availability of liability is a sign of good practice for the state deploying LAWS to compensate for possible losses.

If a civilian suffers harm or damage related to the state's involvement in hostilities on the territory of another state, the US compensation is twofold. First, under the Foreign Claims Act[178] (FCA), there is an administrative procedure for *ex gratia* compensation[179]. This is the main civilian compensatory tool for losses unrelated to hostilities (for example, as a result of a car accident caused by armed forces). Complaints are assessed by the Foreign Claims Commissions, which are composed of officers of the US armed forces. However, the right to compensation does not apply to individuals who, as defined by the FCA, are not friendly to the US. In addition, compensation is not awarded for direct or indirect effects of actions of the US armed forces, except for claims that relate to effects of an accident or malfunction incident in an operation involving an aircraft of the US armed forces. The second route is through the so-called

178 "10 US Code: § 2734 Property Loss; Personal Injury or Death: Incident to Noncombat Activities of the Armed Forces; Foreign Countries," 10 US Code § § 2734 (1956), https://www.law.cornell.edu/uscode/text/10/2734.

179 The *ex gratia* payments are paid to avoid criticism of a military operation or to gain support from the civilian population in an area of an armed conflict. The amount of *ex gratia* payment is usually lower than the claim of the victim.

condolence payments and *solatia* payments[180]. The former type of compensation is intended as an expression of sympathy for death, injury or damage to property caused by the US armed forces generally during combat[181]. In addition, at the discretion of a commander, payment may be made to the civilians who have been harmed in the course of service with the US armed forces. Punitive damages also provide a type of compensation for death, injury or damage to property caused by the US armed forces in combat[182]. The payment is made in accordance with local customs as an expression of sympathy or grief to the victims or their families.

The Israeli Civil Wrongs Liability of the State Law was adopted in 1952[183], under which individuals may file civil lawsuits against state authorities. According to Article 3 of the Law, Israel is liable for consequences of negligence in the exercise of state authority. The Israeli model for handling compensation claims is perceived positively for victim-inclusion in accountability mechanisms of public authorities when, due to procedural obstacles, compensation cannot be enforced in criminal proceedings. One of the proceedings under this procedure concerned the causing of death of Abir Aramin, a Palestinian 10-year-old girl, who was accidentally shot by a member of Israeli armed forces who controlled a protest in a village[184]. The Jerusalem District Court awarded her parents with $430,000 compensation[185]. However, an amendment to the Liability Law adopted in 2005 significantly limited the access to such claims. Modified Article 5B of the Liability Law excluded *locus standi* of 1) a citizen

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180 "10 US Code § 2736: Property Loss; Personal Injury or Death: Advance Payment," 10 US Code § § 2736 (1961).

181 "Report to Congressional Requesters: The Department of Defense's Use of Solatia and Condolence Payments in Iraq and Afghanistan" (United States Government Accountability Office, May 23, 2007), 13, https://www.gao.gov/assets/gao-07-699.pdf.

182 "Monetary Payments for Civilian Harm in International and National Practice" (Amsterdam International Law Clinic, 2013), 13–15, https://acil.uva.nl/content/events/events/2013/10/monetary-payments-for-civilian-harm-in-international-and-national-practice.html?cb.

183 "Civil Wrongs (Liability of the State) Law with Amendments," Pub. L. No. 5712 (1952), https://hamoked.org/files/2016/9085_eng.pdf.

184 Bachar, "Collateral Damages," 397–398.

185 Harriet Sherwood, "Israel to Pay Family Compensation over Killing of Palestinian Girl," *The Guardian*, September 26, 2011, sec. World news, https://www.theguardian.com/world/2011/sep/26/israel-pay-family-compensation-palestinian-girl.

of an enemy state (unless s/he legally resides in Israel); 2) a member of a terrorist organisation; 3) a person who has suffered damage while acting as an agent or under the authority of a citizen of an enemy state or as a member of a terrorist organisation. The second restriction was provided in added Article 5C to the Liability Law. It excluded state liability for acts committed by armed forces in hostilities or in an area subject to hostilities. The Israeli Defence Minister was given the power to designate such an area, even retroactively[186]. With respect to the latter amendment, the Israeli Supreme Court reviewed an NGO complaint regarding an amendment to Article 5C of the Law[187] and declared it unconstitutional. The Supreme Court indicated that each case should be assessed individually to examine whether damage is a result of hostilities.

The effects of using LAWS involving civil damages can be addressed in part by liability regime. Tort law offers a means of regulating valuable but dangerous actions and compensating for resulting harm. Although there is criminal responsibility for war crimes, state responsibility for consequences of unprohibited acts is rather underdeveloped. The deployment of LAWS into armed forces creates a perfect ground for developing a new regime of state responsibility for acts not prohibited by IHL in case of the system's malfunctions[188]. The need for expressive and transitional justice is particularly pressing in the context of IHL. Responses to IHL violations are primarily focused on bringing justice against perpetrators, bringing victims of these violations into shades of criminal responsibility. The grey area of unprohibited acts that nevertheless result in harm or damage among civilians can be reduced through simple compensation obligations. For example, Crootof contrasts the concept of war crimes with war torts, which do not result in prohibited acts but are harm-oriented. The concept of war torts is centred around suffered harm and not guilt and prohibitions. The advantages of adopting the law of war torts would be a clarification of the applicable law on the liability of states in armed conflicts, including the obligation to remedy (and conversely – "the right to

186 Nuhanovic Foundation Centre for War Reparations, "Civil Wrongs (Liability of the State) Law, 5712 (1952) with Amendments," *Nuhanovic Foundation Centre for War Reparations*, 2012, http://www.nuhanovicfoundation.org/en/legal-instruments-4/civil-wrongs-liability-of-the-state-law-5712-1952-with-amendments/.

187 Adalah – The Legal Center for Arab Minority Rights in Israel et al. v Minister of Defense et al. (Judgment), No. HCJ 8270/05 (High Court of Justice of Israel December 12, 2006).

188 Crootof, "War Torts," 1353.

remedy" perspective), by specifying which acts are grave enough to give rise to a claim for compensation. In the future, such a solution would deter states from using means and methods of warfare that result in serious violations of IHL. According to Crotoff, the use of LAWS highlights the need to apply the concept of war torts and provides an ideal opportunity to try out this solution[189].

The next historical step in addressing IHL violations was the notion of individual criminal responsibility for international crimes. Therefore, the next chapter will address the circumstances under which individuals can bear responsibility for LAWS.

189 Ibid., 1388–1399.

Chapter 5
War crimes – the worst but primary response to using LAWS in armed conflicts

The previous chapter has analysed the primary responsibility of states for developing and deploying LAWS for the purposes of the conduct of hostilities. It has attempted to answer the question whether using LAWS amounts to an internationally wrongful act (in this context, IHL violation), and what premises determine the attribution of the wrongful act performed by LAWS to a state. The chapter has further noted that outsourcing of LAWS constitutes a challenge to performing state functions and attributing the wrongful act to a particular state, as well as that circumstances precluding wrongfulness are of minor relevance to evaluating LAWS performance. Eventually, the concept of war torts and liability has been established as potentially filling the gap for errors or mistakes of LAWS in armed conflicts. Chapter 5 focuses on individual criminal responsibility for developing and deploying LAWS through the war crimes regime. If the use of LAWS results in a serious violation of IHL and, at the same time, this violation is the consequence of culpable behaviour on the part of a person, that person may be subject to criminal jurisdiction for war crimes or, depending on the circumstances of the case, for crimes against humanity (if the attack had been directed against a civilian population and had been committed on a large scale or systematically) or genocide (due to the special mental element accompanying the perpetrator – which in case of LAWS could be, for example, to intentionally program LAWS to destroy, in the given operational area, any person that belongs to a specific religion)[1]. War crimes regime has been chosen as it mostly coincides with targeting rules and responsibility for using means and methods of warfare. It will be explained that states, in fact, perform their responsibility for IHL violations through individual criminal responsibility. What is important in the context of LAWS is that the war

1 "A 'Compliance-Based' Approach to Autonomous Weapon Systems, Working Paper Submitted by Switzerland," (Geneva: GGE, November 10, 2017), 5, https://www.reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2017/gge/documents/WP9.pdf.

crimes regime is predominantly limited to intentional crimes. Moreover, despite the broad acceptance of the ICC Statute, there are states that are not parties to this treaty, whereas there is still a gap between treaty and customary penalisation of war crimes. At last, even if a state is a party to the ICC Statute, war crimes should first be criminalised and penalised at the domestic level, therefore allegations of war crimes involving LAWS would be covered by the disciplinary (military) and criminal jurisdiction of municipal courts. However, this regime is primary for normatively evaluating the targeting decisions ceded to LAWS. Hence, the chapter addresses correlations between autonomy and the war crimes regime from the perspective of several participants of the war industry, namely military commanders, operators, developers[2] and arms dealers. The chapter also examines practical challenges to individual responsibility for software errors or mistakes that result in civilian damage or harm.

Premises of criminal responsibility for war crimes

For the time being, LAWS cannot bear criminal responsibility themselves, as war crimes cannot be commited *by* them[3]. Even in the framework of the GGE, states managed to find a consensus on this, partly because of ethical concerns that LAWS do not have moral subjectivity. As a result, no specific conduct can be directly attributed to them, therefore LAWS have not yet been granted legal subjectivity and cannot be punished for their actions[4]. In principle, domestic laws set the purposes of criminal law that centre on providing a sense of justice to victims and society, protecting legal values, guaranteeing certainty of law, compensating effects of crimes, and preventing crimes. All these purposes focus

2 The term *developer* is used in a simplistic manner to describe various actors involved in producing LAWS, such as programmers, data labellers, component manufacturers, software developers, component manufacturers. See: Marta Bo, "Are Programmers In or 'Out of' Control? The Individual Criminal Responsibility of Programmers of Autonomous Weapons and Self-Driving Cars," SSRN Scholarly Paper (Rochester, NY, July 1, 2022), 2, https://papers.ssrn.com/abstract=4159762.

3 Ibid., 2.

4 "Killer Robots in the Battlefield and the Alleged Accountability Gap for War Crimes," *Digital Watch Observatory*, April 17, 2018, https://dig.watch/events/killer-robots-battlefield-and-alleged-accountability-gap-war-crimes-2.

on human conduct, where the construction of criminal conduct presumes its commission by *a person* who is aware of their behaviour and is further able *not to shoot*[5]. The mental element is inherent to the criminal conduct that forms a part of culpability whereas LAWS do not have the ability to distinguish between good and evil and only act under pre-programmed conditions (in reinforcement machine learning, they are rewarded for the pre-determined *good* performance and not behaviour). Based on these presumptions, it is argued that contemporary international criminal law, as arising out of a myriad of domestic criminal laws, also does not allow to consider LAWS as perpetrators of war crimes. Since for the time being and near future LAWS are never entirely human-free[6], any legal assessments of their conduct require examining all the hands involved in the chain of human decision-making.

One should not be misled by the lack of human capacity to control a particular LAWS conduct since, unless LAWS create other LAWS, humans determine how the system is programmed and the permissible environments in which it can be used[7]. In this sense, using LAWS performs as *an object* of international criminal responsibility provided that criminal law focuses on human action and account human agents for what they do[8]. Criminal responsibility arises when a person commits criminal conduct (material element) with a specific mental element, forming a psychological attitude towards the conduct (*mens rea*) that allows the conduct to be qualified as a criminal offence[9]. The objective structure of the offence thus consists of three elements: (1) the conduct described by the criminalising and penalising rule; (2) the result of the conduct; and (3) the circumstances surrounding the conduct (subjective and objective elements of the

5 Alex Leveringhaus, *Ethics and Autonomous Weapons*, 1st ed. 2016 edition (London New York, NY: Palgrave Pivot, 2016), 89–117.

6 Gary D. Solis, *The Law of Armed Conflict: International Humanitarian Law in War*, 3rd edition (Cambridge, United Kingdom; New York, NY: Cambridge University Press, 2022), 466.

7 Schmitt and Thurnher, "'Out of the Loop'," 277.

8 Michelle Dempsey, "The Object of Criminal Responsibility," in *Criminal Law Conversations*, eds. Paul Robinson, Stephen Garvey, and Kimberley Kessler Ferzan (Oxford University Press, 2010).

9 Antonio Cassese and Paola Gaeta, *Cassese's International Criminal Law*, third edition (Oxford, New York: Oxford University Press, 2013), 39; William Schabas, *Unimaginable Atrocities: Justice, Politics, and Rights at the War Crimes Tribunals* (Oxford, New York: Oxford University Press, 2012), 125.

conduct)[10]. Premises concerning the context of a specific group of crimes and elements of specific conduct additionally determine international crimes[11]. For the existence of an international crime involving LAWS, before *actus reus* and *mens rea*, several additional premises shall be demonstrated[12]. First, there is a treaty or customary rule criminalising the conduct in question, and the rule has a direct binding effect on individuals. Secondly, in addition to the criminalising rule, a penalising rule should be adopted that also provides for a procedure for prosecuting the crime (IHL imposes procedural obligations on states in this matter). Thirdly, to ensure the effectiveness of prosecutions, the treaty or customary rule should be adopted by the majority of states[13]. Because there is no *ad hoc* regulation directly prohibiting and penalising the use of LAWS, one has to look into targeting law, including IHL, that legally evaluates LAWS-related conduct.

Establishing a clear definition of any international crime concerning LAWS is difficult for lawmakers and practitioners of international criminal law. Because international criminal law heavily depends on other branches of international law and general international law, and further on domestic laws, it reflects the interplay between various sets of rules in defining and executing responsibility for international crimes. At the same time, it requires ensuring the principle of legality (*nullum crimen, nulla poena sine lege*). This principle can be challenged by a lack of *ad hoc* regulation prohibiting the use of LAWS or solving the many hands problem in LAWS deployment. The war crimes regime applicable to LAWS is particularly dependent on IHL[14]. It means that progress in war crimes law should be proportional to the development of IHL. Therefore, clear rules on what is and is not allowed while using LAWS are necessary.

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10 Cassese and Gaeta, *Cassese's International Criminal Law*, 19–21.

11 Gideon Boas, James L. Bischoff, and Natalie L. Reid, *Elements of Crimes under International Law*, vol. II, International Criminal Law Practitioner Library (Cambridge, UK; New York: Cambridge University Press, 2014), 10.

12 Joachim Wolf, "Individual Responsibility and Collective State Responsibility for International Crimes: Separate or Complementary Concepts Under International Law," in *Prosecuting International Crimes*, ed. Bartlomiej Krzan (Leiden: Brill, 2016), 12.

13 Boas, Bischoff and Reid (n 15) 2; For an importance of customary law in creating international criminal jurisdiction see: Elzbieta Karska, *Subsydiarność uchwał organizacji rządowych i pozarządowych w jurysdykcji międzynarodowych trybunałów karnych* (Uniwersytet Wrocławski, 2009), 193–200.

14 Boas, Bischoff, and Reid, *Elements of Crimes under International Law*, II: 5–8.

Threshold of an armed conflict in a remote environment

The first premise of responsibility for any war crime is that a crime must be committed in the course of an armed conflict. Therefore, classifying a situation as an armed conflict and its nature (IAC or NIAC)[15] remains vital to the criminal responsibility for using LAWS[16]. It is a logical consequence of the link between war crimes and IHL, the application of which extends from the beginning of an armed conflict to the conclusion of a peace agreement (which differs from the conflict to the conflict in terms of the actual cessation of hostilities). According to the Elements of Crimes to Article 8 of the ICC Statute, although a perpetrator does not have to assess the existence of the armed conflict and its nature, s/he must nevertheless be aware of the factual circumstances that gave rise to the armed conflict. Thus, the perpetrator must be aware that the act is committed in the context of an armed conflict and is related to it (using LAWS in the conduct of hostilities) without necessarily having been committed in an area of hostilities (such as using LAWS by members of armed forces that are located in the territory of another state with that state's consent).

For establishing this premise in the context of LAWS, the geographical scope of an armed conflict is not limited to an area where actual hostilities are taking place. It extends to the territory of states parties to the conflict or, in the case of NIAC, to the area controlled by a non-state armed group[17]. Likewise, knowledge by a perpetrator of the existence of an armed conflict is a necessary element of war crimes. It is sufficient to prove that the perpetrator was aware of the factual circumstances constituting the existence of an armed conflict[18].

15 The condition for the existence of an armed conflict is fulfilled as long as there is either a resort to armed force between states (IAC) or a protracted exchange of acts of armed violence between government forces and organised armed groups or between these groups themselves (NIAC). Prosecutor v Dusko Tadic (Decision on the Defence Motion for Interlocutory Appeal on Jurisdiction) at 70; Prosecutor v D. Kunarac et al. (Judgment), No. IT-96-23 & IT-96-23/1-A (ICTY (Appeals Chamber) June 12, 2002); Prosecutor v D. Kordić and M. Čerkez (Judgment), No. IT-95-14/2-A (ICTY (Appeals Chamber) December 17, 2004).

16 Robert Cryer et al., *An Introduction to International Criminal Law and Procedure* (Cambridge: Cambridge University Press, 2007), 285.

17 Prosecutor v Dusko Tadic (Decision on the Defence Motion for Interlocutory Appeal on Jurisdiction) at 66.

18 Prosecutor v D. Kordić and M. Čerkez (Judgment), ICTY (Appeals Chamber) December 17, 2004 at 373.

This results from objective determinants of the temporal scope of IHL, which do not require any recognition of an armed conflict by the parties to the conflict. Therefore, the perpetrator's awareness of the commission of conduct in the context of an armed conflict refers to the objectively-determined premises constituting the armed conflict and not to the correct evaluation of facts by the perpetrator (for example, Russian soldiers' perception of the invasion against Ukraine as a special military operation instead of the armed conflict)[19]. It concerns both the existence of the armed conflict and its nature (international or non-international[20]). Unfortunately, when political aspects interfere, low-intensity armed conflicts often endeavour into the more acceptable emergency regime[21]. It affects the applicable law in terms of the admissible use of LAWS[22].

With regard to the criminal responsibility of members of non-state armed groups, it must be demonstrated that the attack with LAWS appeared in the context of NIAC or when a foreign state attacks a non-state armed group operating in the territory of another state without that state's consent. However, with the state's consent, LAWS may successfully be used in single attacks against non-state armed groups. Organisational and intensity requirements of a non-state armed group further limit the existence of NIAC. For example, the predecessors of LAWS were extensively used in Pakistan, where several non-state armed groups were involved, with their own objectives for combat operations.

19 Prosecutor v M. Naletilić and V. Martinović (Judgment), No. IT-98-34-A (ICTY (Appeals Chamber) May 3, 2006.

20 Therefore, there may still be problems in the legal classification of an armed conflict. Nowadays, a need for reformulating the definition of an armed conflict is a burning issue in IHL to make the situation more objective, since the main function of IHL is to protect victims of an armed conflict.

21 Hence, states try to apply international human rights law instead of IHL. For a long time, the two bodies of law have been thought to be mutually exclusive. Nowadays, an increasing "judicialisation" of armed conflicts before human rights treaty bodies has been observed (for example, before the ECtHR, there are individual complaints and inter-state applications on current armed conflicts). However, the complaints are being substantiated under international human rights law and not IHL. Oren Gross and Fionnuala Ní Aoláin, *Law in Times of Crisis: Emergency Powers in Theory and Practice*, Cambridge Studies in International and Comparative Law (Cambridge: Cambridge University Press, 2006), 360, https://www.cambridge.org/core/books/law-in-times-of-crisis/974A70D71A5F4599717675E87CA935DC.

22 Heyns, "Human Rights and the Use of Autonomous Weapons Systems (AWS) During Domestic Law Enforcement."

Thus, in the case concerning US aerial drone attack in North Waziristan (Pakistan), the German Federal Constitutional Court had to recognise that each of these groups' operations represented a separate armed conflict[23] because not all of them represented a link to the armed conflict in Afghanistan[24]. Moreover, one-sided uses of LAWS (such as one-sided attacks against a non-state armed group) would not meet the requirement of intensity in NIAC, either.

A nexus to an armed conflict means that the use of LAWS should be closely connected with the armed conflict[25]. The contextual element of war crimes is not fulfilled when the conduct is committed as a criminal act during an armed conflict, but is not related to the conflict[26]. Manfred Lachs has noted that war affects the functioning of a state, but does not relieve the state from the obligation to ensure its citizens' compliance with domestic law. National laws, therefore, remain the basis for assessing the behaviour of individuals who breach domestic criminal law. Armed conflicts usually broaden the catalogue of offences, because they open up new opportunities to commit crimes[27]. In the *Kunarac case*, the ICTY determined the existence of an armed conflict as fundamentally affecting the perpetrator's ability and decision to commit the crime, as well as the manner and purpose of the conduct. Circumstances concerning nexus with an armed conflict are, for example, the perpetrator's membership in a category of combatants[28] (for example, a person who decides to use LAWS is a military commander or a military operator) or the enemy party. The jurisprudence of *ad hoc* criminal tribunals may indicate the connection of

23 Aerial Drone Deployment on 4 October 2010 in Mir Ali/Pakistan (Decision to Terminate Proceedings), No. Case No 3 BJs 7/124 (Federal Court of Justice (Germany) July 23, 2013).

24 European Center for Constitutional and Human Rights, "Litigating Drone Strikes: Challenging the Global Network of Remote Killing," 65.

25 It is a logical consequence of the link between war crimes and IHL, the application of which extends from the beginning of an armed conflict to the conclusion of a peace agreement (which differs from the conflict to the conflict in terms of the actual cessation of hostilities). Prosecutor v Dusko Tadic (Decision on the Defence Motion for Interlocutory Appeal on Jurisdiction) at 70; Prosecutor v M. Mkršić et al. (Judgment), No. IT-95-13/1-T (ICTY (Trial Chamber) September 27, 2007).

26 For instance, when a civilian commits a theft for private purposes.

27 Manfred Lachs, *War Crimes* (London: Stevens, 1945), 3–13.

28 Prosecutor v D. Kunarac et al. (Judgment), No. IT-96-23-T&IT-96-23/1-T (ICTY (Trial Chamber) February 22, 2001); Prosecutor v C. Kayishema and O. Rizindana, No. ICTR-95-1-T (ICTR (Trial Chamber) May 21, 1999).

developers and arms dealers with the party to the armed conflict as a prerequisite for proving the contextual element of war crimes (a direct link of conduct to the armed conflict). In the *Akayesu case*, the ICTR's Appeals Chamber held that a link to a party to the armed conflict was not essential, although in most cases, there would be a link between the perpetrator and the party to the conflict[29]. Thus, in the case of using LAWS, it would have to be shown who the current user of the system was at the time of the conduct leading to the commission of the war crime.

Other proofs of the contextual element can be the victim's classification as a civilian (or *hors de combat*), the connection between using LAWS and the purpose of a military operation, the commission of the conduct in the performance of official duties (for example, an authorisation to use LAWS by a ministry of defence)[30]. The use of LAWS seems to reduce this problem since the data recorded (input data and outcome) would allow to establish relatively precise guidelines for selecting the target of the attack. In this sense, demonstrating a link to an armed conflict would be easier.

However, lengthy design, development and testing of LAWS in which a potential intent to commit a war crime (for example, a developer conspiring with a party to a future armed conflict to implant unauthorised computer code to one of the critical functions of LAWS) would occur and end long before the outbreak of an armed conflict[31]. The built-in autonomy of the system affects the allocation of criminal responsibility for IHL violations. The level of internal capacity of the system to self-control and the developer's control limit or disable the ability of the operator (a person that would normally be responsible for using LAWS) to interfere with the operation of the system. The problem does not seem to be one of control being exercised by someone other than the operator but of control being moved to an earlier stage – the creation of the system. Development of LAWS usually takes place even before the occurrence of an armed conflict, which excludes the fulfilment of one of the premises of war crimes (the existence and connection of the conduct with an armed conflict).

29 Prosecutor v J.-P. Akayesu (Judgment), No. ICTR-96-4-A (ICTR (Appeals Chamber) June 1, 2001).

30 Prosecutor v D. Kunarac et al. (Judgment), ICTY (Appeals Chamber) June 12, 2002 at 58–59; Prosecutor v M. Mkršić et al. (Judgment) at 423.

31 Solis, *The Law of Armed Conflict*, 2022, 474.

If the armed conflict lasted long enough, this condition could be fulfilled (if a state introduced new weapons systems to the ongoing armed conflict). In principle, however, the developer's role ends even before any armed conflict starts. Thus, while demonstrating a connection to an armed conflict would be possible, committing an act in its context would be virtually unprecedented. The developer would also only be responsible for accessorial modes of crimes, since the creation of the weapons system would be nothing more than preparation for the commission of the main act[32]. It is demonstrated below that although some modes of individual responsibility do not necessarily impose specific temporal limitations to committing a crime, it is unclear whether the temporal scope extends behind the occurrence of an armed conflict (the jurisprudence of *ad hoc* Tribunals remains unsettled on the matter). Nevertheless, the SIPRI Report on individual criminal responsibility for war crimes involving LAWS indicates that developers would, in some contexts (such as when updating software), exercise control over the capabilities of LAWS *during* an armed conflict. Their control over LAWS could be causally linked to the commission of war crimes then[33].

Using LAWS as *actus reus* of a war crime

Two approaches to defining war crimes are distinguished: broad and narrow[34]. The broad approach has not been incorporated into international criminal law, since it contradicts the principle of legality, but it still may apply to state responsibility for international wrongful acts[35]. The narrow approach covers

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32 McFarland and McCormack, "Mind the Gap," 370–375.

33 Marta Bo, Laura Bruun, and Vincent Boulanin, "Retaining Human Responsibility in the Development and Use of Autonomous Weapon Systems: On Accountability for Violations of International Humanitarian Law Involving AWS" (Stockholm International Peace Research Institute, October 2022), 39, https://www.sipri.org/publications/2022/other-publications/retaining-human-responsibility-development-and-use-autonomous-weapon-systems-accountability.

34 The broad definition of war crimes concerns every conduct constituting a violation of the laws and customs of armed conflicts. It is irrelevant whether the conduct actually had a criminal law character. Alexander Schwarz, "War Crimes," *MPEPIL*, 2014, 1, https://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e431.

35 Boas, Bischoff, and Reid, *Elements of Crimes under International Law*, II: 215.

conduct committed exclusively during an armed conflict which constitutes a *serious* violation of IHL. In the latter, a specific rule (customary or treaty) should criminalise and penalise the conduct already at the time of its perpetration[36]. Linking criminal responsibility for war crimes to IHL requires examining the elements of the crime also in the light of the applicable IHL provisions. After all, individual criminal responsibility for war crimes should perform as an accessory to IHL compliance. Although there may be a rule prohibiting certain conduct, it does not necessarily entail the existence of a criminalising and penalising rule for this conduct. Therefore, using LAWS would amount to a war crime if the conduct in question was a serious violation of customary or treaty IHL rule, for which criminal responsibility has been prescribed.

The history of drafting war crimes regime in statutes and charters of criminal tribunals raised serious controversies in defining situations (IAC or NIAC) in which war crimes could be committed and provided an exhaustive list of criminal conduct leading to war crimes[37]. Hence, the Hague Regulations of 1907 and the IMT Charter used the term *violations of the laws and customs of war* committed only in IAC[38]. The four Geneva Conventions of 1949 contain a list of grave breaches named war crimes only in 1977 with the adoption of Additional Protocol I of 1977. Therefore, any considerations regarding victims' protection for the conduct of hostilities in NIAC were left to the Martens Clause, Article 3 Common to the four Geneva Conventions of 1949, and customary law. The increasing number and brutality of conflicts contributed to a significant change in the 1990s[39]. The number of NIACs began to predominate over IACs, thus creating a need to introduce rights for victims of serious IHL violations in the international criminal law framework. Nevertheless, Articles 2 and 3 of the ICTY Statute did not use the term *war crimes*, providing for criminal responsibility for grave breaches of the four Geneva Conventions of 1949 and

36 Cassese and Gaeta, *Cassese's International Criminal Law*, 67–70.

37 Jacek Izydorczyk and Paweł Wiliński, *Międzynarodowy Trybunał Karny: powstanie, organizacja, jurysdykcja, akty prawne* (Kraków: Zakamycze, 2004), 56–58.

38 Lachs explicitly used the term *war crime* and distinguished its seven determinants, namely a conduct that is an act of violence, committed in a specific situation resulting from an armed conflict, by a person belonging to a specific group related to an armed conflict, during this armed conflict, in the area of hostilities, against another person or property, and not allowed by any exceptional rule of international law. See: Lachs, *War Crimes*, 1945, 17–18.

39 Cryer et al., *An Introduction to International Criminal Law and Procedure*, 276.

violations of other laws and customs of war. A list of these violations in the ICTY Statute remained open. Likewise, Article 4 of the ICTR Statute did not use the term *war crimes*[40] and was replaced with violations of Article 3 Common to the four Geneva Conventions of 1949 and the Additional Protocol II of 1977. The Statute of the Special Court for Sierra Leone also did not provide for a legal definition of war crimes[41], introducing the jurisdiction of this Court over serious violations of Article 3 common to the four Geneva Conventions of 1949 and the Additional Protocol II of 1977, as well as other serious IHL violations.

In the *Tadić case*, the ICTY set out the premises for qualifying conduct in NIAC as a war crime within the jurisdiction of the Court in light of the Common Article 3 to the four Geneva Conventions of 1949[42]. The conduct in question should constitute a violation of an IHL rule, which may be treaty or customary. The violation must further be serious, so it should constitute a violation of a rule that protects important values and causes severe consequences for victims. Eventually, the violation of the rule must entail criminal responsibility under the customary or treaty norm. It means that not every IHL violation follows criminal responsibility for war crimes, and subsequently, not every IHL violation committed with LAWS amounts to a war crime.

Article 8 of the ICC Statute contains the most extended and closed list of war crimes. Among them are grave breaches of the four Geneva Conventions of 1949, including grave breaches of common Article 3 and other serious IHL violations. Nevertheless, the list contained in the ICC Statute does not overlap in its entirety with war crimes for which criminal responsibility is provided under customary law (such as the prohibition of chemical or biological weapons). Therefore, examining the prohibition of using LAWS from customary

40 "Resolution 955 (1994): Statute for the International Criminal Tribunal for Rwanda," Pub. L. No. UN Docs S/RES/955 (1994) (1994), https://digitallibrary.un.org/record/198038.

41 Kofi Anan, "Letter Dated 2002/03/06 from the Secretary-General Addressed to the President of the Security Council [Report of the Planning Mission on the Establishment of the Special Court for Sierra Leone]: Appendix II: Agreement between the United Nations and the Government of Sierra Leone, Pursuant to Security Council Resolution 1315 (2000) of 14.08.2000, on the Establishment of a Special Court for Sierra Leone, Annex to the Agreement: Statute of the Special Court for Sierra Leone of 16.01.2002" (UN Secretary-General, March 8, 2002).

42 Prosecutor v Dusko Tadic (Decision on the Defence Motion for Interlocutory Appeal on Jurisdiction) at 94.

law is relevant to international criminal law covered by national jurisdictions. Moreover, the distinction between IAC and NIAC remains relevant, also in the framework of the ICC Statute, for determining the applicable law concerning, among others, the use of means and methods of warfare[43]. "Minor" (in terms of the number of victims, duration of the violation, nature or territorial scope[44]) IHL violations in practice lie outside the ICC jurisdiction[45]. It also applies to attacks with LAWS, the scale of which need not be of concern to the international community as a whole, and instead they would constitute individual cases. Assuming the precision of these attacks, even if they violated the rule of proportionality, they would ultimately not fall under the ICC jurisdiction. The situation would be different if an attack with LAWS were carried out on a large scale or as part of a plan, leading to intentional losses to protected persons and objects. Notwithstanding the above conditions, Article 17(1)(d) of the ICC Statute requires the Court to declare a case inadmissible if the gravity of a case does not justify further action by the Court[46].

From the wording of Article 8(1) of the ICC Statute, Patrycja Grzebyk derives a potential minor relevance in prosecuting war crimes[47]. The ICC jurisdiction covers acts included in this Article, particularly those committed in the execu-

43 Ward N. Ferdinandusse, *Direct Application of International Criminal Law in National Courts* (The Hague: T.M.C. Asser Press, 2006), 180.

44 Likewise, the Draft Code on Crimes against Peace and Security of Humanity of 1977 requires an act to be committed systematically or on a large scale in order to qualify as a war crime. The Commentary to the Draft explains that the systematic nature of the crime consists in its commission on the basis of a predetermined plan or strategy. Committing on a large scale, on the other hand, is related to the number of victims, resulting from a series of attacks carried out or a single attack against a significant number of people. This requirement concerned only the classification of the act as a crime against peace and security of humanity. "Draft Code of Crimes Against Peace and Security of Mankind with Commentaries," ILC Yearbook Part Two (ILC, 1996), 53–54, https://legal.un.org/ilc/texts/instruments/english/commentaries/7_4_1996.pdf.

45 Patrycja Grzebyk, "Crimes against Civilians during Armed Conflicts," in *Prosecuting International Crimes*, ed. Bartlomiej Krzan (Leiden: Brill, 2016), 128, http://public.ebookcentral.proquest.com/choice/publicfullrecord.aspx?p=4585070.

46 Karolina Wierczyńska, *Przesłanki dopuszczalności wykonywania jurysdykcji przez Międzynarodowy Trybunał Karny: studium międzynarodowoprawne* (Warszawa: Wydawnictwo Naukowe Scholar, 2016), 216–241.

47 Grzebyk, *Cele osobowe i rzeczowe w konfliktach zbrojnych w świetle prawa międzynarodowego*, 229; Grzebyk, "Crimes against Civilians during Armed Conflicts," 99.

tion of a plan or policy or on a large scale. The jurisdiction of the ICTY and the ICTR was oriented towards prosecuting crimes against humanity and genocide, while war crimes in the context of targeting civilians were left aside[48]. One of the reasons behind this state of affairs was the difficulty of proving a link between conduct and an armed conflict. On the other hand, the qualification of conduct as a war crime does not depend on the scope of a violation, since even a single attack may be qualified as such. Nevertheless, the wording of the ICC Statute seems to give preference to crimes against humanity and genocide, defining international crimes under ICC jurisdiction as crimes of concern to the international community as a whole[49]. Furthermore, there is a difference between the war crimes regime under the ICC Statute and universal jurisdiction. Not all acts in this catalogue find criminalisation and penalisation in customary law[50]. Thus, while the four Geneva Conventions of 1949, for example, introduce universal jurisdiction over grave breaches of the Conventions, universal jurisdiction over non-serious violations of IHL (such as launching an indiscriminate attack without the knowledge that such an attack will cause excessive loss of life), violations of Article 3 Common to the Conventions and Additional Protocol II of 1977 (such as using LAWS to protect a city by a non-state armed group, that leads to the destruction of property) is questionable.

While targeting process and unlawful attacks can be evaluated by Article 8 of the Rome Statute (especially crimes relating to distinction and proportionality), few of its provisions directly address the use of means and methods of warfare. Article 8(2)(b)(i) relates to unlawful attacks against the civilian population, but its material element is formulated as a crime of conduct, not the result. Likewise, Article 8(2)(b)(ii) that criminalises intentionally targeting civilian objects is the crime of conduct for which a different mental element is required. According to the SIPRI report on LAWS, constructing the material

48 Grzebyk, "Crimes against Civilians during Armed Conflicts," 103.

49 To date, only four individuals have been convicted for war crimes when the ICC imposed reparations for victims, but the charges have never directly related to the use of means of warfare. Prosecutor v T. Lubanga (Judgment), No. ICC-01/04-01/06 (ICC (Trial Chamber) March 14, 2012); Prosecutor v G. Katanga (Judgment), No. ICC-01/04-01/07 (ICC (Trial Chamber) March 7, 2014); Prosecutor v A. Al Faqi Al Mahdi (Judgment), No. ICC-01/12-01/15-171 (ICC (Trial Chamber) September 27, 2016); Prosecutor v B. Ntaganda (Judgment), No. ICC-01/04-02/06-2666 (ICC March 30, 2021).

50 Ostropolski, *Zasada jurysdykcji uniwersalnej w prawie międzynarodowym*, 70–74.

element of a war crime as a crime of conduct in relation to LAWS leads to difficulties in establishing the reasoning behind LAWS' decisions, because their decisions are likely to be obscure[51].

War crimes under Articles 8(2)(b)(xvii–xix) of the ICC Statute further cover the use of poison or poisoned weapons, asphyxiating, poisonous or other gases and all similar liquids, materials and devices, as well as projectiles that flatten into the human body. Article 8(2)(b)(xx) of the ICC Statute could have been useful in addressing LAWS, as it criminalises the use of weapons, projectiles, materials, and methods of warfare inherently causing excessive injury or unnecessary suffering or being indiscriminate (but still only in IAC). However, any proceedings concerning this crime depend on adopting an amendment to the ICC Statute in the form of an annex listing such weapons. Articles 121 and 123 of the ICC Statute relating to the amendment procedure, although necessary, do not allow to adapt to the changing character of modern warfare (thus to progress in IHL protection). The solution applied in Article 8(2)(b)(xx) of the ICC Statute has been referred to as a *Solomon's verdict*[52]. It leads to a situation where the ICC has jurisdiction over the war crime of using dum-dum bullets but not, for example, over anti-personnel mines. States have not agreed on which weapons should be included on the list.

Interestingly, the Kampala Review Conference of 2010 raised the issue of the legality of the use of new means of warfare[53] when a special concern focused on using means of warfare in NIAC. However, the need to adopt an annex to the ICC Statute that related to Article 8(2)(b)(xx) was ignored[54], and the Assembly of States Parties to the Rome Statute has not given special attention to this issue. It seems that, at the international level, the only possibility to initiate proceedings against individuals in the cases concerning the use of LAWS would therefore be either by declaring LAWS illegal *per se* (which is impossible at this stage of the work at the GGE), or providing criminalisation and

51 Bo, Bruun, and Boulanin, "Retaining Human Responsibility in the Development and Use of Autonomous Weapon Systems," 26.

52 Boas, Bischoff, and Reid, *Elements of Crimes under International Law*, II: 295.

53 "Review Conference of the Rome Statute of the International Criminal Court, Official Records, Proceedings (Kampala, 31 May – 11 June 2010)" (The Hague: ICC, 2010), 35, https://asp.icc-cpi.int/iccdocs/asp_docs/ASP9/OR/RC-11-ENG.pdf.

54 Annex IV to "Review Conference of the Rome Statute of the International Criminal Court, Official Records, Proceedings (Kampala, 31 May – 11 June 2010)."

penalisation, or for the states parties to adopt an attachment to the Rome Statute as provided for in Article 8(2)(b)(xx) (which is even less likely). Otherwise, criminal responsibility for war crimes related to LAWS use remains dependent on an assessment of compliance with obligations under the targeting law and, possibly, national law introducing criminal responsibility for the use of LAWS.

Last but not least, the jurisdiction of the ICC is *complementary* to domestic jurisdictions (as opposed to the jurisdiction of the ICTY and the ICTR)[55]. The above allows to fill gaps in criminal responsibility for war crimes relating to LAWS, the prosecution of which is primarily the responsibility of states[56]. Therefore, the ICC's jurisdiction only complements, not replaces, national jurisdiction in the context of LAWS. Having further in mind that there are

55 For example, international and British media reported that several British soldiers carried out actions against IHL during the operation in Iraq. There have been some investigations in the UK, but for a long time the OTP held on and waited for the results of the prosecutions. The ICC has decided that the jurisdiction was clear from a legal point of view. However, according to the principle of complementarity, if there are national proceedings giving tangible results, the ICC will not intervene. The OTP assessed the British investigations and drafted a report in which up until now, most of those proceedings were of disciplinary nature. Regarding legal proceedings, for various reasons they did not result in serious sanctions. The OTP recognized that the acts of UK to clarify the situation so that the individuals were not subtracted from the legal responsibility. In July 2023, the investigations have been re-opened against some soldiers of special units operating in Iraq. The domestic legal proceedings are now re-opening. Patrick Butchard, "UK War Crimes in Iraq: The ICC Prosecutor's Report," January 15, 2021, https://commonslibrary.parliament.uk/uk-war-crimes-in-iraq-the-icc-prosecutors-report/; Office of the Prosecutor, "Statement of the Prosecutor, Fatou Bensouda, on the Conclusion of the Preliminary Examination of the Situation in Iraq/United Kingdom," *International Criminal Court*, December 9, 2020, https://www.icc-cpi.int/news/statement-prosecutor-fatou-bensouda-conclusion-preliminary-examination-situation-iraq/united; Peoples Dispatch, "British Defense Minister Confirms That 'Conduct of Special Forces' in Afghanistan Is the Focus of Investigation," *Peoples Dispatch*, July 6, 2023, https://peoplesdispatch.org/2023/07/06/british-defense-minister-confirms-that-conduct-of-special-forces-in-afghanistan-is-the-focus-of-investigation/.

56 Another possible path is to use civil litigation for torts. For example, in the aftermath of the Chora's indiscriminate attacks in June 2007 by the Dutch armed forces, in November 2022, the Hague District Court granted compensation to the victims after the investigations on the alleged war crimes were cancelled. The civil court stipulated that the armed forces should have documented their decisions on attacks better and store that information for at least the duration of the proceedings. However, the court explicitly stated that the decision did not determine that war crimes had been committed. X et al. v The Netherlands, No. ECLI:NL:RBDHA:2022:12424 (Rechtbank Den Haag November 23, 2022).

domestic laws in which the ICC Statute does not apply, laws relating to individual responsibility for LAWS in the leading technological states should be welcomed. For example, the US DoD Directive 3000.09 of 2012 (as changed in 2017) imposes on commanders of the combatant commands the duty to employ autonomous weapons systems in accordance with i.a. the law of war and applicable treaties[57]. To attribute conduct concerning the use of LAWS as a war crime, a treaty rule binding on the party (for example, an *ad hoc* treaty rule prohibiting the use of LAWS) is not necessary if the criminalisation and penalisation of the conduct are provided in a customary rule[58]. Nevertheless, proving criminal responsibility for using LAWS in domestic jurisdictions should relate to the conduct (using LAWS as an act violating a specific rule) that brings back a causally linked effect (a prohibited result).

Error or mistake in software – lack of mental element?

The individualisation of criminal responsibility for IHL violations committed with LAWS is based on the principle of individual culpability, which means that the perpetrator must act with a certain attitude towards the crime (mental element of a crime)[59]. Depending on domestic legal systems, a distinction is usually made between the following types of *mens rea*[60]: first degree direct intent (*dolus directus*, intention and knowledge), indirect intent (*dolus directus* of second degree, knowledge), *dolus eventualis* and recklessness, and negligence. The individualisation of criminal responsibility implies that the conduct must be criminalised and penalised in laws of a state within which the crime was committed. The individualisation of criminal responsibility also means that the responsibility of each perpetrator in the chain of LAWS performance should be assessed individually based on that person's actual contribution to

57 "Department of Defense Directive 3000.09."

58 *The Hostages Trial*, 8 [1949] Law Reports of Trials of War Criminals at 32.

59 Article 30 of the ICC Statute also recognises a psychological element. See: Giuseppe Palmisano, "Fault," *MPEPIL*, 2007, 40, https://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e1955?prd=EPIL; Andreas Gordon O'Shea, "Individual Criminal Responsibility," *MPEPIL*, 2009, 16, https://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e1852.

60 Elies van Sliedregt, *Individual Criminal Responsibility in International Law*, Oxford Monographs in International Law (Oxford, New York: Oxford University Press, 2012), 45.

the crime[61]. However, the mental element of international crimes evades any national laws. Due to normative polycentrism in terms of the multiplicity of international courts and tribunals, set of rules and attitudes towards intrinsic conflicts in international legal order, international criminal law is the outcome of the political compromise between common and civil criminal legal systems[62].

Guilt as an element of a crime is evident if the conduct is committed intentionally or with premeditation (will). Direct intent of the first degree recalls an awareness that engaging in a certain act or omission will produce a certain result and the will to produce that result[63]. In this type of intent, there is a very strong volitional element on the perpetrator's part. Indirect intent (knowledge) presumes a weaker volitional element. It is replaced by the perpetrator's awareness that the result of the act, which is not covered by the perpetrator's will, will occur in the natural sequence of events. The perpetrator must therefore foresee certain consequences as certain or highly probable[64]. *Dolus eventualis* is the lowest type of intent that signifies the perpetrator's awareness that their conduct may lead to the commission of a prohibited act, and the s/he deliberately takes the risk (the possibility or likelihood that a certain prohibited result of the act will occur). For example, a military commander perceives the risk that using LAWS may entail civilian deaths and nevertheless ignores the risk. The UK Manual on the Law of Armed Conflicts accepts recklessness, understood as wrongful intent (the attitude of an agent who, without being certain of a particular result, accepts the possibility of it happening[65]) as an element of war crimes. Negligence can occur in two forms, culpable or inadvertent.

61 Kai Ambos, "General Principles of Criminal Law in the Rome Statute," *Criminal Law Forum*, 10 (December 14, 1999): 11–12.

62 Kai Ambos, "Criminal Responsibility, Modes Of," *MPEPIL*, 2021, 1, https://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e1853.

63 Cassese and Gaeta, *Cassese's International Criminal Law*, 41.

64 Sarah Finnin, "Mental Elements under Article 30 of the Rome Statute of the International Criminal Court: A Comparative Analysis," *International & Comparative Law Quarterly*, 61, no. 2 (April 2012): 332, doi:10.1017/S0020589312000152; Mohamed Badar, "The Mental Element in the Rome Statute of the International Criminal Court: A Commentary from a Comparative Criminal Law Perspective," *Criminal Law Forum*, 19 (December 2008): 485, doi:10.1007/s10609-008-9085-6.

65 ICRC, "Customary IHL – Practice Relating to Rule 156. Definition of War Crimes," accessed December 1, 2022, https://ihl-databases.icrc.org/customary-ihl/eng/docs/v2_rul_rule156.

Culpable (gross) negligence is demonstrated if the perpetrator disregards a generally accepted standard of conduct (the reasonable man test) or precautions and believes that, based on the information s/he had at the time, the harmful consequences of their conduct will not occur. In customary international law, gross negligence is required in the superior's responsibility. Inadvertent (mere) negligence relies on a failure to respect the generally accepted standards of conduct without anticipating the risk. For example, a military commander orders using LAWS without anticipating that it brings a risk of civilian casualties. It should be noted that there is no customary rule defining mental elements of international crimes. Therefore, should a state initiate proceedings that examine using LAWS, it is for this state's jurisdiction to determine the required *mens rea*[66]. According to Marta Bo, LAWS exacerbate a gap concerning the criminalisation of recklessness in the war crimes regime[67]. Recklessness comes between *dolus eventualis* and simple negligence. It arises through a failure to comply with a duty or a generally accepted standard of conduct that causes harm or damage, and the perpetrator, for unjustifiable reasons, is convinced that the unlawful result will not occur[68]. This conviction would apply to errors or mistakes in software. On the other hand, simple negligence involves failing to observe a generally accepted standard of behaviour without knowing that it may cause harm or damage.

The regulation of the mental element in the ICC Statute has not been accepted without controversy; hence Article 30 continues to be subject to broad interpretation, both in case law and doctrine[69]. According to paragraph 1 of this Article, unless otherwise provided by this Statute, a person shall be criminally responsible and punishable for a crime within the jurisdiction of the Court only if s/he knowingly and with intent to commit the crime realises the elements

66 Cassese and Gaeta, *Cassese's International Criminal Law*, 39–40, 53.

67 Marta Bo, "Three Individual Criminal Responsibility Gaps with Autonomous Weapon Systems," *Opinio Juris*, November 29, 2022, http://opiniojuris.org/2022/11/29/three-individual-criminal-responsibility-gaps-with-autonomous-weapon-systems/.

68 Prosecutor v M. Stakić (Judgment), No. IT-97-23-T (ICTY (Trial Chamber) July 31, 2003); Dakota S. Rudesill, "Precision War and Responsibility: Transformational Military Technology and the Duty of Care under the Laws of War," *Yale J. Int'l L.*, 32 (2007): 528.

69 Knut Dörmann, "War Crimes under the Rome Statute of the International Criminal Court, with a Special Focus on the Negotiations on the Elements of Crimes," *Max Planck Yearbook of United Nations Law*, 7 (2003): 352, doi:10.1163/187574103X00077.

of the crime. Under the ICC Statute, a criminal act involving LAWS can only be committed intentionally and knowingly (with the direct intent of the first degree)[70] or through indirect intent (knowledge that a consequence will occur in the ordinary course of events)[71].

Article 30(2) of the ICC Statute further specifies requirements for the mental element depending on the nature of a crime, be it formal or result-oriented. For the first category, it is sufficient to prove that a person meant to engage in the conduct (Article 30(2)(a)), while for result-oriented crimes the threshold for a mental element has been raised to an intention to cause (a person meant to cause) a specific consequence or to knowledge that the consequence will occur in the ordinary course of events (Article 30(2)(b)). This form of the mental element includes direct intent of the second degree (the perpetrator's knowledge that their conduct will lead to a specific result). Furthermore, the phrase "unless otherwise provided" suggests the possibility that the crime may be committed without intent or knowledge of the circumstances or effect of the act in the ordinary course of events[72]. The war crimes regulated by the ICC Statute are mostly formal offences, which means that achieving the result by the perpetrator is not required. For the conduct to be attributed, it is necessary to prove that the perpetrator intended to commit an act that violates IHL or at least was aware that such a violation would occur in the ordinary course of events (the result of the conduct is irrelevant for establishing the responsibility).

With regard to war crimes governed independently of the ICC Statute (directly in municipal laws), a crime may be committed *wilfully* when the perpetrator acted consciously and with intent to commit the act and to produce its consequences and manifested a will to produce them. For example, a developer programmed LAWS with the intent to launch an attack against the civilian population and wanted these civilian casualties. This type of mental element occurs in grave breaches of the four Geneva Conventions of 1949 and Additional

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70 Situation in the Democratic Republic of Congo in the Case of The Prosecutor v T. Lubanga Dyilo (Decision on the confirmation of charges), No. ICC-01/04-01/06 (ICC (Pre-Trial Chamber I) January 29, 2007).

71 There is a difference between the first-degree direct intent and *dolus specialis.* The latter is required for i.a. genocide, enforced pregnancy or enforced disappearances. In these cases, the intended result is not necessary. Badar, "The Mental Element in the Rome Statute of the International Criminal Court," 487.

72 Schabas, *Unimaginable Atrocities*, 126.

Protocol I of 1977. Article 85 (3) of Additional Protocol I of 1977 criminalises acts committed with an intentional fault that entail certain consequences (causing death, serious bodily injury, or health disorder). In this case, the perpetrator must have intended to commit the act, be aware of and want to cause these particular consequences. According to the ICRC Commentary, "wilfully" also encompasses "the attitude of an agent who, without being certain of a particular result, accepts the possibility of it happening" (*dolus eventualis*). The same requirement as to the mental element is provided for war crimes listed in Article 85(4) of Additional Protocol I of 1977[73]. The reason for this formulation is that there are a number of superiors' duties to ensure that IHL is observed by their armed forces and to take precautions to avoid attacks against civilians[74]. Article 85(3) of Additional Protocol I of 1977 does not cover ordinary negligence or lack of foresight (when a military commander uses LAWS without considering its unlawful consequences). However, the ICRC Commentary provides that failing to seek precise information constitutes culpable negligence that disciplinary sanctions should punish[75].

Article 8(2)(b)(i) of the ICC Statute considers an intentional attack against civilians as a war crime. It is an example of a formal crime, for which *prima facie* it is not required to cause the effect of death or bodily harm to a civilian. It would appear that under Article 30(1)(a) of the ICC Statute, a person acts with intent if s/he intended to commit it (direct intent). In contrast, Article 85(3)(a) of the Additional Protocol I of 1977 introduces an additional requirement with respect to the mental element, transforming the nature of the crime into result-oriented. For a war crime to arise under this provision, it is necessary to cause death, serious bodily injury or health damage to civilians. Although the ICC Statute introduces a lower standard of the material elements of crimes, for which it is sufficient to direct an attack against civilians, the mental element includes only direct intent. Therefore, an operator who is aware of *eventual* civilian losses but nevertheless chooses to take the risk and carries out an attack using LAWS would exclude their responsibility.

73 Sandoz, Swinarski, and Zimmermann, *Commentary to APs*, 995.

74 Dörmann, "War Crimes under the Rome Statute of the International Criminal Court, with a Special Focus on the Negotiations on the Elements of Crimes," 382.

75 Sandoz, Swinarski, and Zimmermann, *Commentary to APs*, 991.

A different standard from that provided for in the ICC Statute has been adopted by the ICTY. In the *Blaskić case*, the Appeals Chamber held that it was a matter of customary law requiring a threshold of *mens rea*. It could take the form of direct and indirect intent and acceptance of the risk and likelihood of the crime being committed. An international crime may therefore be committed with eventual intent[76]. It means that the perpetrator, while engaging in life-threatening behaviour, agrees to the likelihood of causing deaths[77]. Therefore, under the ICTY regime, a military commander that was, for example, not adequately trained in using LAWS, but agreed to the likelihood of civilian deaths resulting from her or his decision could be attributed to intentionally attacking the civilian population.

In the *Lubanga case*, the ICC stated that the volitional element also includes *dolus eventualis*. It refers to the interpretation of the "normal consequence of events", subject to various interpretations in the doctrine. Some propose that the perpetrator should have certainty about the outcome of their conduct unless there are exceptional circumstances[78]. In the ICC's view, it is sufficient for the proof of *dolus eventualis* that the perpetrator is aware that a certain risk arising from their conduct may occur and accepts it. The ICC divides the level of probability of consequences from which intent may be drawn[79]. The first type is where the risk of the objective elements of the crime being realised is significant. There is a probability that the crime will be committed in the normal sequence of events. The fact that the perpetrator accepts this possibility may be deduced from their awareness of a substantial probability that their conduct will bring about the realisation of the objective elements of the crime, and s/he decides to continue the conduct regardless of that awareness. Secondly, the risk of the objective elements of the crime being realised is low, but the perpetrator has expressly accepted the possibility that their behaviour will lead to the realisation of the elements of the crime.

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76 Prosecutor v T. Blaškić (Judgment), No. IT-95-14-A (ICTY (Appeals Chamber) July 29, 2004).

77 Prosecutor v M. Stakić (Judgment) at 587.

78 Mohamed Elewa Badar, *The Concept of Mens Rea in International Criminal Law: The Case for a Unified Approach* (Oxford: Hart Publishing, 2013), 392.

79 Situation in the Democratic Republic of Congo in the Case of The Prosecutor v T. Lubanga Dyilo (Decision on the confirmation of charges) at 352–354.

The ICC has ruled out recklessness as a possible mental element of an international crime unless the norm provides otherwise (for example, recruiting children lowers the mental element, and it is sufficient to prove that a perpetrator knows or should have known that a child is under 15). Recklessness requires that although the perpetrator was aware of the risk that the objective elements of the crime had been realised as a result of the conduct, s/he is not required to accept that outcome. So far as recklessness does not require the perpetrator's acceptance, it does not form the intent in the meaning of Article 30 of the ICC Statute[80].

The phrase "unless otherwise provided" requires the ICC to consider Article 30 of the ICC Statute as a general rule applicable to all crimes and their accessorial forms. It is subject to exclusion if the specific rule concerning the mental element does not contain a different provision. Article 30 of the ICC Statute should be interpreted in light of the other provisions of the Statute, including Article 21 governing the *ratione iuris* competence of the Court. In the general introduction to the Elements of the Definition of Crimes, it is stipulated that in the absence of a reference to the mental element of the crime in the Elements of the Definition of Crimes, Article 30 of the Statute applies. The existence of intent and knowledge, which are required under Article 30 of the ICC Statute, should be inferred from the relevant circumstances of the case. In the case of elements requiring the perpetrator's evaluation, the perpetrator does not have to assess unless otherwise provided. The general application of Article 30 of the Statute is relevant to crimes for which a lower standard of mental element (through negligence) is provided, including in the Elements of the Definition of Crimes[81] or other sources of international criminal law listed in Article 21 of the Rome Statute. In the context of the principle of *nullum crimen sine lege*, it should be noted that according to para. 1 of the Elements of the Definition of Crimes, their provisions shall only assist ICC judges in interpreting and applying Articles 6–8 of the ICC Statute. Thus, if the Elements of the Definition of Crimes extend the subjective side provided for in the Rome Statute, it is for the judges to decide on the appropriate way to interpret the provisions of the Statute[82].

80 Ibid., 438.

81 Badar, "The Mental Element in the Rome Statute of the International Criminal Court," 504.

82 Dörmann, "War Crimes under the Rome Statute of the International Criminal Court, with a Special Focus on the Negotiations on the Elements of Crimes," 350.

Moreover, with respect to other sources of international criminal law identified in Article 21 of the Rome Statute, the jurisprudence of *ad hoc* criminal tribunals may provide important guidance on interpreting mental elements (including the permissibility of committing an international crime through recklessness[83]). Despite this loophole, there is still another path to enforcing criminal responsibility for using LAWS. Article 85 of the Additional Protocol I of 1977 makes it a war crime to attack civilians intentionally. In a scenario where the use of LAWS occurs without the absence of direct intent but with the perpetrator accepting the possibility or likelihood of a risk of civilian deaths, national law (criminal and military) may lower the threshold for the mental element of war crimes, at least in relation to military commanders. In the absence of any specific regulation of LAWS, reliance is placed on the general IHL obligations applicable to the specific accessorial modes of crimes[84].

Modes of war crimes

Mental elements under Article 30 of the ICC Statute are further developed through accessorial modes of crimes[85]. *Mens rea* can differ from a direct perpetrator to, for example, an aider or abetter. The decision to use LAWS can be directly attributed to a military commander; therefore, their responsibility is analysed first (as the direct perpetrator or the one who gave the order to commit a crime). An operator or supervisor still appears between the machine and the commander in less autonomous weapons systems. Next, the concept of incitement or aiding and abetting on the part of the developer and manufacturer will be presented, as well as the participation in a joint criminal enterprise (JCE). Although a chain of command is shortened (it includes a commander and the autonomous system, in some cases also an operator or a developer), the decision to use LAWS is the final element of this process, even though an

83 Prosecutor v T. Blaškić (Judgment), No. IT-95-14-T (ICTY (Trial Chamber) March 3, 200AD).

84 Jack M. Beard, "Autonomous Weapons and Human Responsibilities," *Georgetown Journal of International Law*, 45 (June 9, 2014): 644–646.

85 Aleksandra Nieprzecka, "Odpowiedzialność karna dowódcy wojskowego na podstawie Statutu Rzymskiego i jej implikacje dla opisu elementów zbrodni," in *Międzynarodowy Trybunał Karny*, ed. Adam Górski (Warszawa: Diffin, 2017), 102.

attack engaging LAWS is the final result of the work of a variety of people. This process involves decision-makers within the armed forces (providing the desired weapon system specification), manufacturers, system testers and final users. Those responsible for developing LAWS determine the characteristics and circumstances under which the system can be used lawfully. Those acquiring LAWS determine the tools available to the commander deciding to attack. The autonomy of a weapons system can further take on varying levels, contributing to the reduction of control by a human operator[86]. However, the reduction or removal of this control does not imply a complete loss of human control over the system's real-time operation. Indeed, the greater the autonomy of LAWS, the more influence the developer has over the system. Some LAWS may remain under the developer's control, who plays a fundamental role in determining how LAWS behave[87]. Accordingly, Patrycja Grzebyk has noted that individuals' criminal responsibility for unmanned vehicles is blurred among several entities (the so-called *many hands problem*)[88]. In such a situation, there is a risk that, in the end, no one will be held responsible for IHL violations.

It should be noted that the perpetrator of war crimes need not be exclusively a member of the armed forces or a non-state armed group[89]. The conduct of a civilian may also amount to a war crime, even if it cannot be attributed to any of the belligerent parties[90]. What is required, above all, is a demonstrable link to an armed conflict. Lachs divided perpetrators of war crimes into two categories: *sensu stricto* and *sensu largo*[91]. The first category refers to individuals

86 Paul Scharre, "Centaur Warfighting: The False Choice of Humans vs. Automation," *Temple International and Comparative Law Journal*, 30, no. 1 (2016): 151–166.

87 McFarland and McCormack, "Mind the Gap," 363.

88 Patrycja Grzebyk, "Odpowiedzialność karna za nielegalne ataki dokonywane za pomocą statków bezzałogowych," in *Automatyzacja i robotyzacja współczesnego pola walki wyzwaniem dla prawa międzynarodowego*, ed. Marta Szuniewicz (Gdynia: Wydawnictwo Akademickie AMW, 2016), 116; Beard, "Autonomous Weapons and Human Responsibilities," 643; Daniele Amoroso, *Autonomous Weapons Systems and International Law: A Study on Human-Machine Interactions in Ethically and Legally Sensitive Domains* (Napoli: Nomos, 2020), 129–130.

89 Prosecutor v J.-P. Akayesu (Judgment), ICTR (Appeals Chamber) June 1, 2001 at 444.

90 Cryer et al., *An Introduction to International Criminal Law and Procedure*, 286; Lachs, *War Crimes*, 1945, 33.

91 Lachs, *War Crimes*, 1945, 33–34.

who have the status of participants in an armed conflict. They may commit an act for which criminal responsibility is excluded under international law because of their privilege to take part in hostilities (and the following right to attack personal and property targets). They shall bear criminal responsibility for war crimes if they violate the relevant IHL rules. The situation of perpetrators of war crimes *sensu largo* differs from the first category in that they cannot invoke a rule of international law as a basis for precluding their responsibility. They may commit two types of war crimes: acts falling within the exceptions enjoyed by perpetrators *sensu stricto*. The second type relates to acts which, if committed by perpetrators *sensu stricto*, would not be subject to criminal responsibility because they were authorised to commit them in the context of ongoing hostilities. However, perpetrators in the second category are not authorised to undertake them.

'I decide' on attack – commander's responsibility

Imagine a situation where a state purchases two types of LAWS, both of which are able to detect and autonomously target military objectives. The only difference is that the second type of LAWS has a warhead to target larger military objectives. A military commander orders to use the two types to shelter a city. The first performs successfully in all the operations, but the second targets a chapel where civilians have been sheltered from hostilities. The LAWS determine the target by detecting children playing in military uniforms inside the chapel, destroy the chapel and kill the civilian population inside. Has the military commander decided on the attack and committed a war crime of intentionally launching an attack against the civilian population?

Although it is an anathema of any combatant to exercise control over the weapons s/he uses[92], from the victim's perspective it leads to a guarantee that violations committed with weapons are addressed afterwards. Nonetheless, in armed forces, the higher standard of responsibility for the conduct of an attack rests with a military commander[93]. Her or his connection to the performance of an attack is the closest, since s/he makes key decisions, including the final

92 William H. Boothby, *Weapons and the Law of Armed Conflict* (Oxford: Oxford University Press, 2016), 356.

93 Stewart, "New Technology and the Law of Armed Conflict," 292.

choice of means or methods of warfare. Therefore, s/he also authorises an attack engaging LAWS[94]. Sassòli notes that a commander deciding to use LAWS should be perceived as a direct perpetrator, similar to a soldier carrying out an attack convinced that the bullet will reach an intended target[95]. This view was partly criticised, since a machine (LAWS) has not been and will probably never be a human, whereas a commander bears responsibility for any conduct of their subordinated *natural* persons[96].

A commander can be held responsible by (1) giving an unlawful order; (2) neglecting to take the necessary measures to prevent a violation; or (3) failing to punish perpetrators[97]. According to Article 87(1) of the Additional Protocol I of 1977, a commander has a direct duty to prevent IHL violations committed under her command. S/he should ensure that combatants under his or her command are aware of their duties under IHL. S/he is then responsible for IHL violations committed by his or her subordinates if s/he did not control them, gave their consent, or acquiesced in the breach in question[98].

A commander's decision to use LAWS can occur in two ways. First, if s/he gave the order to use the system, s/he has to be aware of its technical limitations and the environment in which it can be used. Article 25(3)(b) of the ICC Statute provides for his or her responsibility for giving the order to commit IHL violations. Their mental element of intentionally using the system in violation of IHL, for example, against civilians or civilian objects, should then be proven. This type of responsibility arises if the commander decides to use it despite being aware of the system's inadequacies.

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94 Paola Gaeta, "Autonomous Weapon Systems and the Alleged Responsibility Gap," in *Autonomous Weapon Systems. Implications of Increasing Autonomy in the Critical Functions of Weapons. Expert Meeting*, by ICRC (Versoix: ICRC, 2016), 44–45, https://icrcndresourcecentre.org/wp-content/uploads/2017/11/4283_002_Autonomus-Weapon-Systems_WEB.pdf.

95 Sassòli, "Autonomous Weapons and International Humanitarian Law: Advantages, Open Technical Questions and Legal Issues to Be Clarified," 324.

96 Thompson Chengeta, "Accountability Gap, Autonomous Weapon Systems and Modes of Responsibility in International Law," *Denver Journal of International Law and Policy*, 45, no. 1 (2016): 31, doi:10.2139/ssrn.2755211.

97 Solis, *The Law of Armed Conflict*, 2010, 381; Beard, "Autonomous Weapons and Human Responsibilities," 655.

98 Solis, *The Law of Armed Conflict*, 2010, 393.

One of the most challenging scenarios concerning LAWS is when a commander decides to use the system, which then behaves in an unforeseen manner resulting in civilian harm. For criminal responsibility, it has to be proven that civilians were actually an object of attack or that the collateral damage was excessive in relation to the expected military advantage. If the attack was directed against combatants or persons directly involved in hostilities, an IHL violation would occur if the attack caused unnecessary suffering.

Notwithstanding the above, there are certain requirements for holding a commander criminally responsible. A commander is not automatically charged for IHL violations committed by their subordinates. According to Article 28 of the ICC Statute, which complements Article 25(3)(c)[99], their responsibility relates to a failure to exercise due control in the exercise of actual command and control over subordinates. Due control presupposes the existence of a superior-subordinate relationship between a commander and a subordinate combatant[100]. This relationship should enable the exercise of control (either legal or factual) over subordinates who rely on the commander's orders[101]. Article 28 of the ICC Statute distinguishes between the responsibility of *de facto* military commanders (paragraph 1) and civilian superiors (paragraph 2), introducing a correspondingly different threshold of the mental element. A military commander may incur responsibility for knowledge or omission (in this sense, the requirement of the mental element is reduced to negligence – the commander "should have known")[102]. On the other hand, the mental element of a civilian superior is based on knowledge or conscious disregard of information that clearly indicates that subordinates were committing or were about to commit a crime. LAWS are not subordinate combatants but only a means of warfare that the commander decides to use. The subject of responsibility can be, on the one hand, the relationship between the commander and the operator

99 Ambos, "General Principles of Criminal Law in the Rome Statute," 10; Case Matrix Network, "International Criminal Law Guidelines: Command Responsibility. Case Mapping, Selection and Prioritisation. Case Analysis" (Centre for International Law Research and Policy, January 2016), 17, https://www.legal-tools.org/doc/7441a2/pdf/.

100 Prosecutor v Galić at 173.

101 Prosecutor v N. Orić (Judgment), No. IT-03-68-A (ICTY (Appeals Chamber) July 3, 2008); Prosecutor v Z. Delalić et al. (Judgment), No. IT-96-21-T (ICTY (Trial Chamber) November 16, 1998).

102 Ambos, "General Principles of Criminal Law in the Rome Statute," 17.

(if one were involved). The commander can be criminally responsible either for ordering to commit the crime (under Article 25(3)(b) of the ICC Statute) or for the omission by failing to prevent the commission (under Article 28 of the ICC Statute).

On the other hand, the failure to exercise due control over the weapons system directly used by the commander may give rise to their possible responsibility as the principal perpetrator of the crime. For breaches of their duties, a commander is principally held to responsibility within national military structures, which are disciplinary in nature. In order to be held responsible, it is necessary to prove that the commander consented to the breach[103]. A crux of problems with the precautionary duties of a military commander relate to identifying necessary and reasonable measures in exercising proper control over LAWS[104]. The mental element in relation to LAWS poses great difficulties because responsibility depends on showing that the commander was aware, or in the particular circumstances should have been aware, that an IHL violation would occur[105].

Article 57(2)(b) of Additional Protocol I of 1977 imposes military commanders with a duty to cancel an attack if it appears that the target is not of a military nature, or enjoys special protection, or the attack is carried out in violation of the rule of proportionality. Unfortunately, although it is recommended to enable LAWS to suspend an attack, the question of criminal responsibility for using LAWS that does not meet this requirement remains unsettled[106]. Article 57 of Additional Protocol I of 1977 departs from prohibitive wording concerning conduct towards a duty-focus (to take reasonable precautions) when there is a risk of harm or damage to non-combatants. On this basis, Dakota S. Rudesill has referred to the concept of a duty of care, the breach of which is inherent in the mental element of negligence[107]. It is not absolute in the sense

103 Beard, "Autonomous Weapons and Human Responsibilities," 656–657.

104 H. van der Wilt, "Zasada nullum crimen a odpowiedzialność przełożonych," in *Międzynarodowy Trybunał Karny*, ed. Adam Górski (Warszawa: Diffin, 2017), 95.

105 Dieter Fleck, ed., *The Handbook of International Humanitarian Law*, fourth edition (Oxford, New York: Oxford University Press, 2021), 669.

106 Bo, Bruun, and Boulanin, "Retaining Human Responsibility in the Development and Use of Autonomous Weapon Systems," 28.

107 Rudesill, "Precision War and Responsibility," 528.

that the combatant does not have to behave perfectly. At the same time, Article 57 of Additional Protocol I of 1977 indicates on which persons this duty rests. However, although not covered by the ICC Statute, a responsibility based on Article 57 of Additional Protocol I of 1977 can be exercised in the domestic system, irrespective of the jurisdiction of the ICC. One of the solutions could be to connect the lack of precautions in autonomous targeting to demonstrating another war crime, such as intentionally launching an attack against the civilian population[108]. Because the violation of Article 57 does not amount to a serious violation of IHL, it can simultaneously fall under state responsibility.

The commander's responsibility also depends on the accepted legal framework of international criminal law. While remaining within the ICC Statute for responsibility for LAWS' unpredictable performance, it is impossible to prove the required (direct) mental element[109]. Referring to the jurisprudence of the ICTY and the corresponding customary rule, *dolus eventualis* is a permissible mental element of war crimes if the commander has accepted the risk of excessive collateral damage. The commander's responsibility for the conduct of subordinate combatants does not constitute evidence in favour of the commander's direct responsibility for the crimes committed by their subordinates. The commander is only responsible for the act of culpably failing to prevent, combat or prosecute crimes committed by persons (but not by machines) who were under their actual command and control. The omission then consists of creating or contributing to circumstances in which the subordinate can commit the crime or remains unpunished[110].

Referring to LAWS, the commander's failure to adequately control the machine cannot in itself determine their criminal responsibility, but may constitute a direct violation of the targeting law (if the commander acted with direct intent). Lack of control does not mean that human functions are completely delegated to LAWS. Every weapons system presents some risk, and LAWS are no exception. The commander must be aware of the possible risks of using the system. Demonstrating the commander's responsibility presents

108 Bo, Bruun, and Boulanin, "Retaining Human Responsibility in the Development and Use of Autonomous Weapon Systems," 28.

109 "Killer Robots in the Battlefield and the Alleged Accountability Gap for War Crimes."

110 Beard, "Autonomous Weapons and Human Responsibilities," 656.

no difficulties if the mental element is based on an awareness that the use of LAWS presents a risk of crime (including as a result of errors or malfunctions in LAWS performance that make it impossible to comply with the duty to distinguish)[111].

The problem arises with the inability to foresee a particular irregularity or error occurring because a commander was unaware of a particular risk arising from software. If an error or mistake becomes apparent after activation, it may not be possible to re-establish the commander's control over the system, so the mental element is not established. The ICTY in the *Blaskić case* held that

> if a commander has exercised due diligence in the fulfilment of his duties yet lacks knowledge that crimes are about to be or have been committed, such lack of knowledge cannot be held against him. However, taking into account his particular position of command and the circumstances prevailing at the time, such ignorance cannot be a defence where the absence of knowledge is the result of negligence in the discharge of his duties: this commander had reason to know within the meaning of the Statute[112].

The ICTY indicated that military commanders took a particular position of command, and negligence in discharging their duties could form their responsibility. It would imply that LAWS can be deployed in armed conflicts only if the military commander is able to perform their duty to abstain from attack if it is apparent that the attack directly targets civilians.

As mentioned above, the US has allowed for the responsibility of persons involved in AWS-related operations. Under Article 4(b) of Directive 3000.09 of 2012, each such person is responsible for their decisions. Those who authorise or direct the use of AWS, or operate the system, shall take appropriate precautions. At the 2017 GGE meeting, the US representatives indicated that the failure to demonstrate intent on the perpetrator's part triggers a complex assessment of the conduct. Mere accidents with a weapons system, resulting from its error or malfunction, are not necessarily IHL violations, even if

111 Daniel Hammond, "Autonomous Weapons and the Problem of State Accountability," *Chicago Journal of International Law*, 15, no. 2 (January 1, 2015): 5.

112 The Prosecutor v T Blaskić (Judgment), No. IT-95-14-T (ICTY (Trial Chamber) March 3, 2000).

victims hold civilian status. Conducting armed operations with a standard of care to ensure the protection of civilians is a complex undertaking, for which IHL does not always provide a clear answer. Therefore, the decision-maker's behaviour should be assessed based on the information available at the time of the decision, rather than on the information revealed later. The assessment of a commander's decision to use AWS should therefore be made through the commander's rationality and good faith that existed at the time. The commander's decision-making should be aided by adequate training and rigorous weapons system testing[113].

Switzerland substantiated an interesting proposal to orient discussions on IHL compliance mechanisms augmenting the commander's oversight responsibilities in analogy to LAWS performing tasks under the commander's direct command and control[114]. Arkin suggests introducing an additional person as an accountability advisor who should be consulted at every stage of LAWS use[115]. Such a solution is beneficial because states deploying LAWS have personnel qualified in both neural networks and law, especially in responsibility issues. Thus, s/he can prevent significantly reducing IHL violations, therefore implementing IHL values. On the other hand, a new person in the military prolongs the chain of command, which in armed conflicts may turn impractical. Military commanders already dispose qualified personnel, and states can use existing institutional backgrounds by educating their legal advisers in AWS-related cases. Marauhn opts for amplifying the personal scope of Article 28 of the ICC Statute to attribute the developer and operator with the responsibility for exercising control over the weapons system, since, in relation to some LAWS, these persons will remain closest to the effective relationship with the system[116].

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113 "Autonomy in Weapon Systems, Submitted by the USA."

114 "A 'Compliance-Based' Approach to Autonomous Weapon Systems, Working Paper Submitted by Switzerland," 5.

115 Ronald C. Arkin, "Governing Lethal Behavior: Embedding Ethics in a Hybrid Deliberative/Reactive Robot Architecture" (Georgia Institute of Technology, 2009), 9, https://www.cc.gatech.edu/ai/robot-lab/online-publications/formalizationv35.pdf.

116 Marauhn, "An Analysis of the Potential Impact of Lethal Autonomous Weapons Systems on Responsibility and Accountability for Violations of International Law."

'I control' software – direct perpetration in cooperation with another person

Imagine a scenario where an operator sets LAWS to shoot everyone in a military uniform who openly carries arms. Even though the operator is unsure about the nature of all the targets that LAWS detect, s/he proceeds with LAWS' deployment. In weapons systems requiring an operator, s/he can be held criminally responsible for intentionally directing an attack against protected persons or objects if there is uncertainty as to the nature of the object of the attack. The lack of certainty may be considered an alternative intention, e.g. consenting to the consequences of the conduct[117]. According to Article 57(2)(a)(i) of Additional Protocol I of 1977, directing an attack against a person should be determined by credible indications that the person is participating in hostilities. It is particularly important in NIAC, where there are more fighters and members of armed forces than combatants. In such cases, the person's qualification at a particular time is relevant in deciding whether to attack[118].

Under Article 25(3)(a) of the ICC Statute, an international crime can be committed jointly with another person. Each co-perpetrator executes a specific element of a common plan or agreement and contributes to the commission of a criminal offence[119]. Without performing their part, the commission of the crime would not be possible. Each of the accomplices bears responsibility for the entire criminal conduct. It must be emphasised that co-perpetrators share a common mental element, which means that each is attributed to the whole conduct.

The responsibility of an operator for using LAWS relates to entering specific data (for example, targets currently approved for attack) or using the system outside of the operational parameters, which constitutes an IHL violation. An operator is also considered to be the person remotely supervising the system's operation. Operators (especially developers that form a part of armed forces) are often geographically distant from hostilities. If they are recruited from persons not previously involved in hostilities, their involvement reveals

117 Grzebyk, "Odpowiedzialność karna za nielegalne ataki dokonywane za pomocą statków bezzałogowych," 121.

118 Grzebyk, *Cele osobowe i rzeczowe w konfliktach zbrojnych w świetle prawa międzynarodowego*, 74.

119 Ambos, "General Principles of Criminal Law in the Rome Statute," 9.

a new aspect of criminal responsibility. It was raised by the Special Rapporteur on extrajudicial killings, Philip Alston, who pointed to the possibility of the so-called *Playstation syndrome*, meaning that there is no sense of responsibility for any consequences of an attack, including the death of other human beings[120]. In reverse, it is more difficult to be cruel when the enemy has a face (the Milgram experiment)[121]. Sassòli argues that an operator does not need to understand the system's complex software, but should understand the effects produced by that software, including the actions that the robot is capable or incapable of performing[122]. Despite the distance between an operator and the remotely controlled system and hostilities, s/he still directs LAWS actions, searching and attacking the target. An operator performs tasks under a responsible command, so in the IHL framework, s/he bears, together with a commander, the responsibility for the consequences of their decisions[123].

Another face of distance from the rigour within armed forces and hostilities is inherent to those involved in developing LAWS (assuming their involvement during an ongoing armed conflict). They are isolated from attack not only geographically but also psychologically. It may result in a lesser sense of responsibility for the consequences of using the system. It leads to challenges in direct participation in hostilities, of which conceptual scope is still controversial[124]. However, in both instances of an operator and a developer, it may prove easier to examine if the person substantiated risks of their behaviour (causing civilian casualties or inflicting superfluous injuries to the enemy) and nonetheless proceeded with that behaviour (negligence). Although negligence is not an element of war crimes under the Additional Protocol I of 1977 or the ICC

120 Alston, "Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Philip Alston," 25.

121 Peter Olsthoorn, "Risks, Robots, and the Honorableness of the Military Profession," in *Chivalrous Combatants?: The Meaning of Military Virtue Past and Present*, ed. Bernhard Koch (Baden-Baden, Germany: Münster: Aschendorff Verlag, 2019), 174.

122 Sassòli, "Autonomous Weapons and International Humanitarian Law: Advantages, Open Technical Questions and Legal Issues to Be Clarified," 324.

123 "The Use of Armed Drones Must Comply with Laws."

124 Sassòli, "Autonomous Weapons and International Humanitarian Law: Advantages, Open Technical Questions and Legal Issues to Be Clarified," 328; Alston, "Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Philip Alston," 19.

Statute, some domestic laws open up elements of war crimes for negligence (for example, the Netherlands and Azerbaijan, whereas the UK or Belgium do not).

In IAC, there is a dichotomy between combatants and civilians (under Article 4 A of the III Geneva Convention of 1949, a civilian is a person who cannot be considered a combatant, who at the same time is not entitled to take part in hostilities). Combatants can be legitimately targeted, but should not be tried for taking part in hostilities. If a civilian takes part in hostilities, s/he loses the protection afforded to that protected group and becomes a legitimate target of attack. Moreover, a civilian can be subject to criminal prosecution under national law for simply taking part in hostilities. In NIAC, the situation is more complex. The ICRC Guidelines on direct participation in hostilities contain an enumeration of grounds for classifying an act as such[125]. One of them is a direct contribution to injury or damage, which means that the harm should be a consequence of a direct cause that led to harm (a one-step-back-harm) or that includes conduct that caused harm only in conjunction with another conduct[126]. Such conduct should be integral to the specific and coordinated tactical operation that caused the harm[127]. In the case of LAWS, an eventual human step preceding the damage or harm can be geographically and temporally removed from the result[128]. Moreover, in the US strikes programs, military and civilian operators were engaged (such as employees of intelligence agencies). According to Sassòli, it is impossible to acknowledge the direct participation in hostilities of the civilian persons creating LAWS and those responsible for preparing the tactical instructions for armed forces[129]. Domestic laws are crucial in ensuring a proper knowl-

125 Melzer, *Interpretative Guidance on the Notion of Direct Participation in Hostilities under International Humanitarian Law*.

126 Marco Sassòli, "Lethal Autonomous Weapon Systems: Advantages and Problems Compared with Other Weapon Systems from the Point of View of International Humanitarian Law" (Geneva: 2014 Meeting of Experts on LAWS, May 14, 2014), https://www.unog.ch/80256EDD006B8954/(httpAssets)/D610608F7A63339CC1257CD70061096D/$file/Sassoli_LAWS_IHL_2014.pdf.

127 Melzer, *Interpretative Guidance on the Notion of Direct Participation in Hostilities under International Humanitarian Law*, 54.

128 Sassòli, "Autonomous Weapons and International Humanitarian Law: Advantages, Open Technical Questions and Legal Issues to Be Clarified," 329.

129 Sassòli, "Lethal Autonomous Weapon Systems: Advantages and Problems Compared with Other Weapon Systems from the Point of View of International Humanitarian Law."

edge of IHL among civilians. A good practice concerning LAWS would be to implement IHL training among members of companies that produce or sell LAWS.

'I program' software used by another person

Imagine a situation when a developer sympathises with a party to an armed conflict and conspires with its member to implant unauthorised computer code into one of the critical functions of LAWS. This code is undetectable during the weapons review, but after activation, it disables any interference from the final operator.

LAWS development includes, among others, the determination of how the system will behave, but ends when its use begins. Article 25(3)(a) of the ICC Statute has introduced a new form of indirect perpetration, equated in consequences with individual or co-perpetration. A crime can be committed this way when a principal perpetrator cannot be proved to have the requisite mental element or when a circumstance excluding their responsibility has occurred[130] (for example, the operator acted in error because s/he was unaware of the indiscriminate effects of the weapon). A developer is a person to whom indirect perpetration may be considered when s/he acts through another person (for example, an operator or a military commander). The preparation for the commission of the main act, albeit without the physical commission of the crime itself, would be the creation of the weapons system and implanting the code that, only after final activation, does not distinguish civilians. If the developer did not exercise effective control over the commission of the crime, s/he could not be charged under Article 25(3)(a) of the ICC Statute. S/he would have to know that the use of LAWS would produce effects prohibited by IHL. The incurrence of responsibility by the direct perpetrator is not relevant in this regard[131].

The required mental element should exist for the developer to be attributed to the indirect perpetration of the crime. The mental element here is the knowledge of using the system to commit the crime. The designer (including an arms dealer) must decide to supply LAWS to the principal perpetrator (for example, a non-state armed group) and be aware that the direct consequence of using LAWS will be a specific war crime. In the case of a co-perpetrator, the

130 Sliedregt, *Individual Criminal Responsibility in International Law*, 94.

131 Cryer et al., *An Introduction to International Criminal Law and Procedure*, 364.

developer is aware of the purpose for which LAWS will be used and, nonetheless, decides to provide the system to the co-perpetrator[132]. Additionally, it would have to be shown that the developer was aware of the consequences of using AWS to commit a specific crime. The factor that distinguishes co-perpetration from indirect perpetration is sharing knowledge with a final system user (an operator or a commander). When committing an act through the agency of another person, the principal perpetrator need not have the required intent.

Responsibility for planning a crime may attach to a manufacturer (or an arms dealer) or a developer. It would be the case if that person assisted in the preparation of the criminal act by creating or programming the system in a particular way that provided essential support for the commission of the principal act. It constitutes planning of the act, that is, designing the commission of the crime in its preparatory and execution phases[133]. Planning can be done by a single person, which makes it possible to distinguish this activity from conspiracy. The person responsible for the planning of LAWS operation cannot at the same time be held responsible for the direct perpetration of the crime[134].

'I belong to a team' developing LAWS

From the perspective of criminal responsibility of persons involved in the LAWS creation, one may also consider aiding or abetting in the commission of a war crime. After all, these modes of crimes do not require the direct commission of the principal act[135]. The basis for this responsibility in international criminal law is twofold: applying either the purpose test or the knowledge test[136].

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132 Prosecutor v Z. Delalić et al. (Judgment) at 326.

133 Prosecutor v J.-P. Akayesu (Judgment), No. ICTR-96-4-T (ICTR (Trial Chamber) September 2, 1998); Prosecutor v D. Kordić and M. Čerkez (Judgment), No. IT-95-14/2-T (ICTY (Trial Chamber) February 26, 2001); Prosecutor v T. Blaškić (Judgment), ICTY (Trial Chamber) March 3, 200AD at 279.

134 Prosecutor v D. Kordić and M. Čerkez (Judgment), ICTY (Trial Chamber) February 26, 2001 at 386.

135 Andrea Reggio, "Aiding and Abetting In International Criminal Law: The Responsibility of Corporate Agents and Businessmen for 'Trading with the Enemy' of Mankind," *International Criminal Law Review*, 5, no. 4 (January 1, 2005): 643, doi:10.1163/157181205775093793.

136 Prosecutor v C. Ghankay Taylor (Judgment), No. SCSL-03-01-A (Special Court for Sierra Leone (Appeals Chamber) September 26, 2013).

The purpose test is introduced in Article 25(3)(c) of the ICC Statute. A person who, to facilitate the commission of a crime, aids, abets or otherwise supports its commission or attempted commission, including by providing the means for its commission, shall be subject to criminal responsibility. The provision thus narrows the personal scope by requiring a common intention between the direct perpetrator and the aider or abetter[137]. In autonomous human-operated and controlled systems, the responsibility for the system's performance can be distributed between an operator (a final user) and a developer. If the developer contributes to the commission of the crime by facilitating it, s/he may incur responsibility for aiding or abetting under Article 25(3)(c) of the ICC Statute. However, there is a requirement that the facilitation had a substantial impact on the commission of the principal crime[138]. Nonetheless, it is not necessary to prove a causal link between the aider or abettor's conduct and the commission of the principal crime or to prove that the conduct of the aider or abettor was inevitable for the commission of the principal crime[139]. The act should further have been committed in the context of and in relation to an armed conflict. In the *Blaskić case*, the ICTY Appeals Chamber stated that the moment of commission of crime through aiding or abetting could occur before, during or even after the commission of the principal act[140]. However, the Court did not address the possibility that the crime committed through aiding or abetting may occur before an armed conflict (which would, in many cases, cover acts of developers and arms dealers). According to Article 22(2) of the ICC Statute, the definition of a crime shall be interpreted literally and may not be extended by analogy. Any doubts should therefore be resolved in favour of the alleged perpetrator.

The knowledge-based approach was adopted in criminal proceedings based on Article 6 par. Article 6(3) of the IMT Charter (and Article 5(3) of the Charter of the International Military Tribunal for the Far East likewise)[141], and

137 Reggio, "Aiding and Abetting in International Criminal Law," 628.

138 Prosecutor v C. Ghankay Taylor (Judgment) at 482.

139 Prosecutor v T. Blaškić (Judgment), ICTY (Appeals Chamber) July 29, 2004 at 48; Prosecutor v Z. Aleksovski (Judgment), No. IT-95-14/1-T (ICTY (Appeals Chamber) June 25, 1999); Prosecutor v A. Furundžija (Judgment) at 233.

140 Prosecutor v T. Blaškić (Judgment), ICTY (Appeals Chamber) July 29, 2004 at 48.

141 "Special Proclamation by the Supreme Commander for the Allied Powers at Tokyo: Establishment of an International Military Tribunal for the Far East," Treatise and Other International Acts Series (International Military Tribunal for the Far East, January 19,

accommodates by the ICTY. Article 6(3) of the IMT Charter regulated the criminal prosecution of an accomplice involved in the arrangement or execution of a common plan or conspiracy to commit crimes within the jurisdiction of the IMT. Article 2(2) of Act No. 10 of the Allied Control Council on Germany of 1945[142] contained a more precise regulation of aiding and abetting, treating them as an accessory to the commission of crimes covered by the Act. In the *Zyklon B case*, aiding and abetting were examined in the context of crimes against humanity[143]. The company of Bruno Tesch offered to sell Zyklon B. One of its customers was Schutzstaffel (S.S.), to whom the company was selling two tons of this poison gas per month[144]. Tesch and his two employees (a technician and a proxy) were accused of supplying Zyklon B, used to kill people, to concentration camps. The owner of the company and the proxy were sentenced to death by a British military court, while the technician was acquitted. The British military court held that a civilian who aided in committing an IHL violation was also criminally responsible[145]. In the criminal proceedings on this basis, the courts developed the construction of aiding and abetting for international crimes[146]. It was considered sufficient for an aider or abettor *to know* that the principal perpetrator would commit a crime, and it was incorporated into the Nuremberg Principles[147]. The knowledge-based standard means that the mental

1946), https://www.un.org/en/genocideprevention/documents/atrocity-crimes/Doc.3_1946%20Tokyo%20Charter.pdf.

142 "Control Council Law No. 10, Punishment of Persons Guilty of War Crimes, Crimes Against Peace and Against Humanity, *Adopted December 20, 1945*," Official Gazette Control Council for Germany § (1946), http://hrlibrary.umn.edu/instree/ccno10.htm.

143 The Zyklon B Case. Trial of Bruno Tesch and Two Others (Judgment), 1 Law Reports of Trials of War Criminals (1946) 93 (British Military Court 1946).

144 Matthew Lippman, "Prosecution Of Nazi War Criminals Before Post-World War II Domestic Tribunals," *University of Miami International and Comparative Law Review*, 8, no. 1 (January 1, 2000): 63.

145 The Zyklon B Case. Trial of Bruno Tesch and Two Others (Judgment), 1 Law Reports of Trials of War Criminals (1946).

146 Reggio, "Aiding and Abetting In International Criminal Law," 632.

147 ILC, "Principles of International Law Recognized in the Charter of the Nürnberg Tribunal and in the Judgment of the Tribunal," ILC Yearbook (UN General Assembly, 1950), 97, https://legal.un.org/ilc/texts/instruments/english/draft_articles/7_1_1950.pdf; "Affirmation of the Principles of International Law Recognized by the Charter of the Nürnberg Tribunal" (UN General Assembly, December 11, 1946), https://www.refworld.org/docid/3b00f1ee0.

element required for aiding and abetting includes knowledge that these acts aid, abet, or assist in the commission of the principal conduct[148].

The question is whether a person involved in creating LAWS can be genuinely imputed with an act of aiding and abetting in the commission of a crime. Some indication on the possible path can be found in cases concerning arms export control regimes. For example, Article 1(5) and 1(6) of Italian arms export law prohibit any arms transfer that would contravene the Italian constitutional provision on repudiating war as means of settling international disputes as well as an obligation not to export arms to states involved in armed conflicts in violation of Article 51 of the UN Charter, subject to arms embargo or responsible for serious human rights violations[149]. The military intervention in Yemen offers an interesting insight into possible legal actions being brought against unlawful arms exports. The criminal case has been submitted by the several NGOs against officials from the Italian Ministry of Foreign Affairs (Michele Esposito, Francesco Azzarello and Alberto Cutillo) and CEO from the local subsidiary of the German Rheinmentall, RWM Italia (Fabio Sgarzi), on the arms transfers to Saudi Arabia. The case focused on the specific incident in which six civilians, including four children, were killed in the airstrike on the village of Deir Al-Hajari on 8 October 2016. The claimants alleged complicity through gross negligence in murder and personal injury under the Italian Criminal Code as the remnants at the scene of the attack were identified as being produced by RWM Italia and transferred to Saudi Arabia after the UN bodies, and international NGOs reported on IHL violations committed by the Saudi-led intervention in Yemen. The prosecutor in Rome investigated the potential complicity of the UAMA officials and managers of RWM Italia in war crimes, but eventually requested to dismiss the case on grounds that the export decisions were legitimised by the public interest of protecting the national economy. The Judge for Preliminary Investigations found that it was not possible to establish the mental element (intent) to procure a pecuniary

html; "Formulation of the Principles Recognized in the Charter of the Nürnberg Tribunal and in the Judgment of the Tribunal" (UN General Assembly, November 21, 1947), https://digitallibrary.un.org/record/210004?ln=en.

148 Prosecutor v A. Furundžija (Judgment) at 274.

149 "Italy, Law No. 185 of 8 July 1990: New Provisions on Controlling the Export, Import and Transit of Military Goods," Pub. L. No. Official Gazette No. 163 of 14 July 1990 (1990), https://www.esteri.it/mae/resource/doc/2017/06/legge_09_07_1990_n185.pdf.

advantage or an unfair damage, since the accused complied with the relevant municipal law, namely that the accused acted in accordance with the opinions of the other relevant domestic institutions[150]. At the time of writing this monograph, the victims of the Deir Al Hajari attack submitted an application against Italy to the ECtHR claiming that Italy had violated Article 2 of the ECHR by Italian authorities' failure to investigate the crimes of homicide and personal injury despite their awareness of the clear risk that the continued transfer of weapons could be used in commission of war crimes[151].

As a result of the continued arms transfers to Saudi-led coalition, six NGOs submitted a formal communication to the OTP of the ICC to investigate whether managers of certain arms manufacturers and governmental officials who authorised export of weapons to the coalition might be criminally responsible, based on Article 25(3)(c) of the ICC Statute, for direct attacks against civilians and civilian objects by providing the means for the commission of these war crimes[152]. The communication indicates that the individuals concerned were aware of the coalition's criminal behaviour and, despite this knowledge, they transferred weapons, hence facilitating the commission of war crimes. The purpose test was deduced in the communication from the concerned individuals' attitude towards the assisting war crimes and not from the requirement that these individuals be specifically aware of the crimes[153].

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150 Gabriella De Boni, "Italiani Che Hanno Autorizzato Armi Non Pagheranno per Morti Civili," *Osservatorio Sulla Legalita' e Sui Diritti Onlus*, March 26, 2023, http://www.osservatoriosullalegalita.org/23/acom/03/26gabripace.htm?fbclid=IwAR2HAgLBu2I5blKN7B01HV57dz9SOX9vdJAYu5vXfxd5Dp9PJgBWa18mjtc; ECCHR, "Case Report: European Responsibility for War Crimes in Yemen – Complicity of RWM Italia and Italian Arms Export Authority?" (European Center for Constitutional and Human Rights, July 2023), https://www.ecchr.eu/fileadmin/user_upload/CaseReport_RWMItalia_July2023.pdf.

151 ECCHR, "Case Report: European Responsibility for War Crimes in Yemen – Complicity of RWM Italia and Italian Arms Export Authority?"

152 The Office of the Prosecutor of the ICC, "Report on Preliminary Examination Activities (2020)" (The Office of the Prosecutor, December 14, 2020), para. 35, https://www.icc-cpi.int/sites/default/files/itemsDocuments/2020-PE/2020-pe-report-eng.pdf.

153 Marina Aksenova and Linde Bryk, "Extraterritorial Obligations of Arms Exporting Corporations: New Communication to the ICC," *Opinio Juris*, January 14, 2020, http://opiniojuris.org/2020/01/14/extraterritorial-obligations-of-arms-exporting-corporations-new-communication-to-the-icc/.

The two Dutch cases can also be indicative of trends in municipal law to criminally address arms manufacturers. The first case related to Iran-Iraq IAC in which an individual, Frans Van Anraat delivered Thiodiglycol, a material necessary to produce mustard gas, to the regime of Saddam Hussein between 1980 and 1988. The Dutch court decided that Van Anraat played an important role by supplying the regime with materials used against the civilian population and Iranian combatants. *Dolus eventualis* was considered sufficient by the court as the mental element for his responsibility for aiding and abetting war crimes. The second case also relied on *dolus eventualis* in complicity in war crimes and crimes against humanity being committed by the President of Liberia Charles Taylor during NIAC in Sierra Leone. Guus Kouwenhoven, the owner, was convicted for exercising effective control over two companies involved in smuggling of weapons to Liberia in violation of the UN arms embargo. He was therefore an accomplice in war crimes by deliberately providing an essential contribution to the IHL violations through arms supply. The evidence used to prove *dolus eventualis* was media reports on IHL violations committed by Charles Taylor[154].

Beards argues that means of warfare can be unlawfully used, but that does not open the way to the responsibility of those involved in manufacturing. It is a direct consequence of the distinction between an unlawful means of warfare and a means of warfare used unlawfully. An example is incendiary weapons, mainly white phosphorus, which can be legally used in military action, but were unlawfully used against civilians in Syria. Specifying by a manufacturer the situations in which the weapons system may be lawfully used is insufficient to exhaust either knowledge- or purpose-based standards in establishing the mental element of aider and abettor[155]. Some LAWS may be equipped with the ability to perform tasks in ways not previously envisaged in their program. A developer can only be responsible for how s/he has designed the weapon and its foreseeable behaviour (design of a weapon). They cannot be held responsible for how the LAWS are ultimately used. Forge further argues that LAWS' mistakes are unintended by the manufacturer, and therefore as

154 Schliemann and Bryk, "Arms Trade and Corporate Responsibility. Liability, Litigation and Legislative Reform," 15–16.

155 Beard, "Autonomous Weapons and Human Responsibilities," 649–650.

long as s/he does not intend to kill civilians by using LAWS, their responsibility is excluded[156].

Marauhn points out that Article 25(3)(c) of the ICC Statute best suits acts committed by designers and manufacturers[157]. For the commission of a war crime using LAWS through aiding and abetting, it is not necessary to show a common plan between a manufacturer or developer and a final user[158]. It is sufficient that *actus reus* of the manufacturer's or developer's act is generally directed towards supporting or encouraging the commission of the crime because an act of an aider or abettor is accessory to the principal act, and the principal perpetrator does not even need to be aware of the contribution of the aider or abettor.

Marta Bo has argued that when a criminal provision, for example, directly targeting civilians, is a conduct crime, a causal link between the behaviour (launching an attack against civilians and not the effect of civilian deaths) and the developer's conduct (act of programming) must be established. An act of programming is a form of control over the performance and effects of LAWS that begins with programming and continues after the act of programming, because decisions taken at the time of programming *materialise* in the LAWS performance during hostilities afterwards[159].

Developers' tasks to designing and programming LAWS[160] make developers responsible for creating and programming a weapons system if they have done so with the knowledge that a particular programmed behaviour constitutes an IHL violation[161]. It should be noted that during the CCW informal expert group meeting, maintaining discipline in engineering was identified as one of

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156 John Forge, "Closing the Gaps: Lethal Autonomous Weapons and Designer Responsibility," *Morality Matters*, accessed February 16, 2022, http://www.moralitymatters.net/on-weapons-research/closing-the-gaps-lethal-autonomous-weapons-and-designer-responsibility/.

157 Marauhn, "An Analysis of the Potential Impact of Lethal Autonomous Weapons Systems on Responsibility and Accountability for Violations of International Law."

158 Chengeta, "Accountability Gap, Autonomous Weapon Systems and Modes of Responsibility in International Law," 21.

159 Bo, "Are Programmers In or 'Out of' Control?" 12–13.

160 Heyns, "Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Christof Heyns," April 9, 2013, 14.

161 Press, "Of Robots and Rules: Autonomous Weapon Systems in the Law of Armed Conflict," 1363.

the necessary elements in realising responsibility. The ethical standards that software engineers should follow have no legally binding force, but they set out the scope of good practice for any software engineer. An ethical software engineer should ensure that the product being developed solves the customer's problem, that this product is tested, that good software engineering practices are followed during development, and that any product limitations are clearly defined. Professions are defined by the willingness of their practitioners to create and adhere to codes of ethics. However, human nature varies, so significant disciplinary action is necessary to ensure that at least IHL rules are addressed in weapons development. There are currently no sanctions for software engineers who act unethically, but a new law may change this. For example, the ACM/IEEE-CS Joint Task Force on Software Engineering Ethics and Professional Practices set out the minimum requirements for behaviour to be recognised as a professional software engineer. The goals indicated in the Software Engineering Code of Ethics are only exemplary, but they underpin the role of each architect and software manager associated with the product, which translates into assigning responsibilities to each person. The software architect ensures that the product responds to the customer's problem. S/he also ensures that the software is reliable, easy to use, and does not cause harm. On the other hand, the software project manager ensures that the software has been successfully tested, good software engineering practices have been applied, and that it performs its tasks satisfactorily[162].

It would be possible to hold responsible a person who deliberately programmed the system in such a way that it did not comply with IHL[163] but under domestic jurisdictions. Such conduct can be treated as a war crime committed through another person if the operator, in good faith, subsequently used the system during hostilities. Consideration could also be given to the responsibility of a developer who was obliged to intervene during an armed conflict to avoid committing IHL violations. The war crime would then be committed by failing

162 "Informal Meeting of Experts, Report 2015," 6; Lawrence Bernstein and C.M. Yuhas, *Trustworthy Systems through Quantitative Software Engineering* (Hoboken, NJ: Wiley-Interscience, 2005), 6–8, http://public.ebookcentral.proquest.com/choice/publicfullrecord.aspx?p=239405; Donald Gotterbarn et al., "Software Engineering Code of Ethics and Professional Practice," *Science and Engineering Ethics*, 7, no. 2 (April 1, 2001): 231–38, doi:10.1007/s11948-001-0044-4.

163 Sassòli, "Autonomous Weapons and International Humanitarian Law: Advantages, Open Technical Questions and Legal Issues to Be Clarified," 325.

to behave the way the developer was obliged to. The question remains whether the developer was indeed obliged to intervene. In failing to prove the elements of a war crime, such persons could still be held responsible under national law in either criminal or tort if the duty to prevent was imposed on them[164].

'We jointly plan' to use LAWS

In the context of the use of LAWS, the behaviour of several persons can further be recognised as a war crime if it is proved that they contributed to the execution of a common plan. The ICTY in the *Tadić case* sought a theory of participation in a criminal act that considers the collective, large-scale and systematic context of international crimes. It was found that most such acts were committed collectively by a group of individuals acting in a common criminal project[165]. Accordingly, the ICTY identified three forms of collective participation[166]. The first – basic – concerns individual participants' behaviour based on a common criminal project and with a shared intention. A more advanced form is systematic action, for example, in the form of concentration camps, where crimes are committed by military or administrative personnel. The participants then act with a common purpose. The final form includes acts that go beyond the common project but are nevertheless a natural and foreseeable consequence of the plan's implementation. The objective characteristic of this form of responsibility is the presence of more than one person; also, a common plan, project or objective should link these persons. It could partly correspond to the *many hands problem* in using LAWS. Individuals participate in a crime by supporting, contributing to or carrying out the common plan[167]. This construction has not been repeated in the ICC Statute, although Article 25(3)(d)

164 "Report of the 2017 Group of Governmental Experts on Lethal Autonomous Weapon Systems (Geneva, 13-17.11.2017)" (Geneva: GGE on LAWS, November 20, 2017), 4, https://docs-library.unoda.org/Convention_on_Certain_Conventional_Weapons_-_Meeting_of_High_Contracting_Parties_(2017)/2017_CCW_GGE.1_2017_CRP.1_Advanced_%2Bcorrected.pdf.

165 Prosecutor v D. Tadić (Judgment) at 227.

166 Prosecutor v M. Krajišnik (Judgment), No. IT-00-39-T (ICTY (Trial Chamber) September 27, 2006).

167 Kai Ambos, "Joint Criminal Enterprise and Command Responsibility," *Journal of International Criminal Justice*, 5 (March 1, 2007): 160, doi:10.1093/jicj/mql045.

criminalises acts of contributing to the commission or attempted commission of a crime by a group of persons acting with a common purpose.

It constitutes an exceptional mode of international crimes that requires proving each person acting to carry out a common criminal plan[168]. Conspiracy to commit an international crime remains unregulated in international criminal law. Nonethelss, *ad hoc* tribunals have developed a similar construct of a joint criminal enterprise (JCE)[169]. This mode involves committing a criminal act by persons participating in a common criminal plan. Pursuant to Article 25(3)(d) of the ICC Statute, a person who in any other way contributes to the commission or attempted commission of a crime by a group of persons acting with a common purpose is criminally responsible. JCE requires proof of the involvement of more than one person in the commission of the act, the existence of a common plan, design or purpose to commit the crime, and the participation of the accused in the JCE in a manner that substantially contributes to the commission of a crime[170].

Article 25(3)(d) of the ICC Statute provides for criminal responsibility of a person who in any other way contributes to the commission or attempted commission of a crime by a group of persons acting with a common purpose. It is accepted that while aiding and abetting is necessary to meet the purpose test, the knowledge test suffices for aiding and abetting in JCE[171]. In the case of the developer, the mental element should exhaust knowledge that LAWS will be used in an armed conflict.

What if I am released from criminal responsibility

Criminal laws usually distinguish two grounds for excluding criminal responsibility: justifications and excuses. Justifications cover acts that would normally be considered unlawful, but, due to certain circumstances, are legitimised by law. These include necessary defence, acting in a situation of necessity and

168 Beard, "Autonomous Weapons and Human Responsibilities," 662.

169 Ambos, "Joint Criminal Enterprise and Command Responsibility," 159.

170 Cassese and Gaeta, *Cassese's International Criminal Law*, 163.

171 Reggio, "Aiding and Abetting In International Criminal Law," 647.

reprisals[172]. Such behaviour does not necessarily exclude the responsibility of other persons (other co-perpetrators, indirect perpetrators, aiders and abettors). On the other hand, circumstances excluding the perpetrator's guilt do not exclude the criminal nature of conduct, but render it unjust to hold the perpetrator responsible. These include mental illness, mistakes of fact or law, and duress. Each of the grounds excluding responsibility should be raised by the alleged perpetrator, so a court or tribunal does not take them into account *ex officio*.

The provisions of the ICC Statute are far from explicitly categorising the grounds for excluding criminal responsibility to ensure the universalisation of the ICC Statute by evading civil and common laws[173]. Article 31 of the ICC Statute, which regulates the matter, does not contain an exhaustive list of grounds for excluding criminal responsibility. In addition to those listed in that Article, circumstances excluding responsibility are found in other Statute's provisions. These recall voluntary disclosure (Article 25(3)(f)), exclusion of jurisdiction over persons under 18 years of age at the time of the crime (Article 26), mistake of fact or law (Article 32) and superior orders (Article 33). Only some are relevant in the context of war crimes committed with LAWS, namely necessity, mistake of fact or law, superior order, and military necessity.

Under Article 31(1)(c) of the ICC Statute, a person who, at the time of committing a crime, acted reasonably to defend himself or herself or another person against the imminent and unlawful use of force shall not be criminally responsible. War crimes provide an additional ground for excluding criminal responsibility if a person acted in defence of property which was essential for the survival of the person, or another person or property, which was essential for accomplishing a military mission. The condition for recourse to this ground is that the measures taken are proportionate to the degree of danger[174]. Self-defence is permissible provided that the action taken in defence

172 Cassese and Gaeta, *Cassese's International Criminal Law*, 209–210.

173 Similarly, the Draft Code of Crimes against Peace and Security of Humankind carries out grounds excluding criminal responsibility, albeit not listing them. See: "Draft Code of Crimes Against Peace and Security of Mankind with Commentaries," 39–42; Kai Ambos, "Defences in international criminal law," in *Research Handbook on International Criminal Law*, ed. Bartram S. Brown (Cheltenham: Elgar, 2011), 299.

174 The Commentary to the Draft Code on Crimes against Peace and Security of Humankind uses the term "self-defence". "Draft Code of Crimes Against Peace and Security of Mankind with Commentaries," 40.

constitutes an immediate response to an imminent danger to her own life or another person. There should be no other possibility to prevent or stop the unlawful use of force, and the attacker him/herself did not act in self-defence. The conduct undertaken should be further proportionate to the attack[175]. The above can be reduced to four requirements: the accused acted reasonably and proportionately against the imminent and unlawful use of force[176] (not in the sense of *ius contra bellum*).

The admissibility of action in self-defence in the context of war crimes is a risky exercise, since it allows interference with the protection afforded by IHL[177] (which is not necessarily based on reciprocity). It allows weighing two values – on the one hand, the protection of life or health and, on the other, property necessary to ensure one's survival, that of another person, or the fulfilment of a military mission. However, the institution of self-defence varies in the context of IHL from that under international criminal law[178]. The first category addresses acts that do not constitute IHL violation because they are undertaken in the context of regular hostilities. The second category refers to situations in which an individual commits an IHL violation, but can raise the action in self-defence as a circumstance excluding the unlawfulness of their behaviour. According to Ambos, IHL prohibitions are primarily addressed to states. Therefore they do not simultaneously follow the responsibility of individuals[179]. Such unification of IHL and international criminal law would result in the extension of criminal responsibility based on IHL. The latter, however, cannot exclude the right to self-defence. In the *Martić case*, the ICTY noted that in the context of the right of self-defence, the nature of the attack, whether pre-emptive, defensive or offensive, is irrelevant[180].

The right of self-defence does not vest in LAWS itself because the act against which it would be directed would never constitute a threat to the life or health

175 Prosecutor v D. Kordić and M. Čerkez (Judgment), ICTY (Trial Chamber) February 26, 2001 at 451.

176 Sliedregt, *Individual Criminal Responsibility in International Law*, 236.

177 Cassese and Gaeta, *Cassese's International Criminal Law*, 213.

178 Sliedregt, *Individual Criminal Responsibility in International Law*, 234.

179 Ambos, "Defences in international criminal law," 310.

180 Prosecutor v M. Martić (Judgment), No. IT-95-11-A (ICTY (Appeals Chamber) October 8, 2008).

of LAWS. In the absence of legal personality, it is impossible to impose obligations on the system, the consequence of which would be the machine's right to self-defence. Self-defence undertaken by LAWS could occur if the system's superiors were obliged to protect other persons or property[181]. The only possibility would be for a human directly supervising the system's operation to agree to take action. Existing and known weapons systems with autonomous functions are precisely defensive in nature, meaning they can be activated in the face of imminent danger. Nevertheless, acting in self-defence can be an effective protective measure against the use of weapons systems that aim to cause excessive civilian casualties. This right would be enjoyed by a civilian, for example, and such an action would not be treated as direct participation in hostilities. However, the assessment of such conduct remains within the framework of IHL and not international criminal law.

A plea of mistake is admissible if it constitutes a denial of the mental element of a crime. A mistake of fact typically excludes criminal responsibility, whereas a mistake of law has this effect only as an exception. A mistake of fact is satisfied should not the perpetrator show the required *mens rea*, relying on an honest but mistaken belief in the existence of facts rendering his or her conduct legal[182]. It occurs when a combatant misjudges the nature of the target of the attack (civilian or military). The combatant does not identify the person or an object as a civilian; therefore, the existence of a mental element cannot be demonstrated.

Similarly, if a commander bases their decision (e.g. on using AWS) on faulty intelligence, s/he should be exempted from criminal responsibility[183]. Under Article 32(1) of the Rome Statute, reliance on a mistake of fact is a ground for exemption from criminal responsibility only regarding mental elements. A mistake of fact regarding using AWS may consist of the sincere belief that

181 Paweł Mielniczek, "Limits of the Right of Self-Defence of Individuals in International Criminal Law," *Polish Review of International and European Law*, 3, no. 3–4 (2014): 61.

182 Yoram Dinstein, "International Criminal Courts and Tribunals, Defences," *MPEPIL*, 2015, 9, https://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e284?prd=EPIL.

183 Grzebyk, "Odpowiedzialność karna za nielegalne ataki dokonywane za pomocą statków bezzałogowych," 130; Grzebyk, *Cele osobowe i rzeczowe w konfliktach zbrojnych w świetle prawa międzynarodowego*, 223–224.

the system has been trained to perform tasks in a particular environment and, consequently, can be lawfully used.

As noted by Elies van Sliedregt, no soldier can carry a library of international law or have direct access to a professor of international law[184]. It can be argued that LAWS can be programmed to directly access the ICRC rules and process them faster than humans. Therefore, they would have direct access to a professor of international law. Under Article 32(2) of the ICC Statute, a mistake of law may be invoked in a situation where a perpetrator makes an incorrect assessment of the law or the legal elements of a definition of crime. If a combatant is fully aware of the facts, correctly identifying a person as a civilian, but mistakenly assumes that the law permits attacking anyone, even a civilian, during an armed conflict, his/her acts are based on an erroneous assessment of the law. S/he, therefore, remains in the mistake as to the normative circumstances of the case. A mistake as to whether a specific act constitutes a crime does not exonerate from criminal responsibility. Nevertheless, problems of interpretation of IHL constitute a significant challenge to combatants, e.g. in classifying a given person or an object as protected. A person cannot be expected to incur criminal responsibility when the law does not guarantee certainty and clarity[185]. Under the principle *in dubio pro reo*, any doubt should be resolved in favour of the accused[186]. Such doubts may relate, for example, to the status of a person as having directly taken part in hostilities[187]. The principle *in dubio pro reo* can be interpreted either narrowly or broadly. In the first case, its application is permissible should a court or tribunal doubt the facts of a case and relevant circumstances have not been proved[188]. *In dubio pro reo*

184 Elies van Sliedregt, *The Criminal Responsibility of Individuals for Violations of International Humanitarian Law* (Hague: T.M.C. Asser Press, 2003), 249, https://link.springer.com/book/9789067041669.

185 United Kingdom v Heinz Eck et al., I LAW Reports of Trials of War Criminals (1947) 1 (British Military Court for the Trial of War Criminals 1945).

186 Prosecutor v F. Limaj et al. (Judgment), No. IT-03-66-A (ICTY (Appeals Chamber) September 27, 2007).

187 Grzebyk, *Cele osobowe i rzeczowe w konfliktach zbrojnych w świetle prawa międzynarodowego*, 231.

188 Prosecutor v Guek Eav KAING, Separate and dissenting opinion of Judge Jean-Marc Lavergne on Sentence, No. Case No. 001/18-07-2007/ECCC/TC, Doc. E188.1 (Extraordinary Chambers in the Courts of Cambodia (Trial Chamber) July 26, 2010).

in a broad sense, it encompasses doubts as to the factual and legal situation. It addresses dilemmas concerning the meaning of the law but includes doubts remaining after the interpretation[189]. It is controversial to accept the exclusion of criminal responsibility of the AWS final user for being a mistake of law by a developer programming IHL-related data in AWS software. Such a situation relates to accepting the risk of a mistake, similar to using a weapons system in an environment for which it has not been designed.

Although criticised for unjustified departure from customary international law, superior order[190] can be used by the defence in LAWS-related cases. In practice, war crimes are the only type of international crime for which criminal responsibility can be relieved based on Article 33 of the Rome Statute[191]. This circumstance may be invoked under three conditions. First, the perpetrator was obliged to obey the order (to use LAWS). Secondly, s/he did not know that the order was unlawful (LAWS were not tested), but, thirdly, the order was not manifestly unlawful (an error occurred). The list of persons entitled to give an order under Article 33 of the Rome Statute is broader than that contained in Article 28 of the Statute[192]. It may apply to situations where a commander gives an operator an order to use AWS in an environment where, *prima facie*, the system can be used safely, but which turns out to act unpredictably (consequently directing an attack against protected persons or objects).

Responsibility for conducts qualified as war crimes may also be excluded under the exception of military necessity[193]. Its material scope is discussed in the chapter on the basic norms of IHL. It should only be recalled that it means the admissibility of actions taken by the parties to a conflict to weaken the enemy's forces. It does not authorise IHL violation, so it can only be applied if

189 Prosecutor v R. Krštić (Judgment), No. IT-98-33-T (ICTY (Trial Chamber) August 2, 2001); Decision on immediate appeal by Khieu Samphan on application for immediate release, No. Case No. 002/19-09-2007-ECCC-TC/SC(04), Doc. No. E50/3/1/4 (Extraordinary Chambers in the Courts of Cambodia (Supreme Court Chamber) June 6, 2011).

190 Dinstein, "International Criminal Courts and Tribunals, Defences," 24.

191 There is a presumption of illegality with regard to any orders to commit crimes of genocide and crimes against humanity.

192 Sliedregt, *Individual Criminal Responsibility in International Law*, 294.

193 Marian Flemming and Janina Wojciechowska, *Zbrodnie wojenne: przestępstwa przeciwko pokojowi, państwu i obronności. Rozdział XVI, XVII, XVIII Kodeksu karnego: komentarz* (Warszawa: C.H. Beck, 1999), 27.

it finds explicit normative authorisation and a perpetrator has no other possibility to react. The military necessity in the light of the premises excluding criminal responsibility can be defined as actions genuinely necessary, at the same time proportional in the choice of means and methods and not violating IHL[194]. Górbiel notes similarities between military necessity and self-defence or state of emergency[195]. This results from the possibility of applying military necessity only as an exception expressly provided for by an IHL rule. In the absence of such an exception, a military necessity clause cannot be presumed, and the rule should be applied in all circumstances, even under the most urgent or irresistible necessity[196]. In the case law, however, the military necessity as a circumstance excluding responsibility has often been rejected[197].

Last but not least, challenges exist as to the gathering of evidence[198]. The black-box problem can prevent prosecutors from accessing the information on how the system arrived at a particular decision. Should the evidence be unsatisfied, it may hamper the criminal or disciplinary proceedings. Likewise, LAWS challenge distinguishing incidents (a product defect) from IHL violations (malicious use of LAWS). Marta Bo has indicated three further LAWS-related risks that will seriously impact the scope of criminal responsibility of developers, namely adversarial interference by enemy forces (such as hacking, signal jamming, attacks against input data), failures of communication technology (caused by signal jamming or errors of communication systems themselves), and the dynamic environment of hostilities (when parties to an armed conflict constantly change their behaviour and tactics that lead to data drifts and circumstances difficult to foresee)[199].

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194 Piotr Łaski and Mateusz Łaski, "Uwagi na temat konieczności wojskowej w prawie konfliktów zbrojnych," *Zeszyty Naukowe Akademii Marynarki Wojennej*, 3, no. 186 (2011): 217–218.

195 Górbiel, *Konieczność wojskowa w prawie międzynarodowym*, 29–30; Flemming and Wojciechowska, *Zbrodnie wojenne*, 29.

196 Górbiel, *Konieczność wojskowa w prawie międzynarodowym*, 59.

197 "Draft Code of Crimes Against Peace and Security of Mankind with Commentaries," 41.

198 Bo, Bruun, and Boulanin, "Retaining Human Responsibility in the Development and Use of Autonomous Weapon Systems," 46–50.

199 Bo, "Are Programmers In or 'Out of' Control?" 9–10.

Chapter 6
Business responsibilities for LAWS

The previous chapters presented the possible ways of identifying state and individual responsibility for IHL violations in the cases where LAWS were used. Now, it is time to address the corporate behaviour, namely of those legal persons who are involved in producing and delivering LAWS to other actors for the purposes of hostilities. The vast move towards RMA is initiated and fuelled by private companies, which are the leading patent makers of LAWS. Companies like Boeing, BAE Systems, Raytheon, Lockheed Martin or Rosoboronexport supplied foreign states with military equipment that was then used to carry out indiscriminate attacks and commit war crimes[1]. Domestically, however, privatisation of warfare usually follows with state secrecy or government contractor defence. The latter was invoked, for example, in a case involving an accident with the Aegis weapons system (a predecessor of LAWS). The business responsibility for LAWS is the most complicated type of responsibility concerning LAWS under international law mostly because of two factors. Firstly – one has to address corporate responsibility under international law of private entities of domestic law; and secondly, because of difficulties in attributing LAWS performance to corporate conduct. Therefore, Chapter 6 elaborates on the relationship of arms producers and dealers with IHL, and corporate responsibility in the framework of a draft treaty on business and human rights, in which, if proceeded, IHL violations resulting from the use of LAWS could follow with procedures involving business responsibility through access to justice and remedy.

1 Amnesty International, "Outsourcing Responsibility: Human Rights Policies in the Defence Sector" (Amnesty International, September 2019), 3, https://www.amnesty.org/en/documents/act30/0893/2019/en/.

Idiosyncrasy of the LAWS market

Besides the harmful consequences of using LAWS that are IHL-specific and were described in Chapter 2, there are further harmful impacts of business producing and transferring LAWS that lead to humanitarian crises. These impacts reflect the very structure of the contemporary war industry and the peculiarities of the LAWS market. On the one hand, there are examples of questionable state operations that indirectly relate to the designing phase. In the case of the Iran Air Flight 655 which was mentioned before, the civil aircraft was shot down by the Aegis system (a predecessor of LAWS that consisted of an electronically-scanned radar system and large-screen displayed system integrated with the vessel's surface-to-air missiles) deployed by the US Navy and resulted in 290 civilian deaths. An investigation revealed that it was not the Aegis' mistake but a non-intuitive interface with missing information about the potential threat[2] and a human factor in the form of misidentifying data on which a decision to shoot was made[3]. It was further claimed that the Aegis system had been deployed in a situation for which it had never been designed[4]. However, IHL violations committed by the Saudi-led coalition in Yemen produced a significant amount of work on the role of arms manufacturers in facilitating war crimes by transferring weapons to the coalition, for example, Raytheon, Lockheed Martin or RWM Italia-manufactured weapons systems. It is estimated that the great number of civilian casualties, including attacks on hospitals, schools, markets and civilian houses in Yemen occurred because of the coalition's technological superiority and air domination. In October 2016, probably because of their sophisticated guidance system, the laser-guided bombs killed at least 140 civilians and injured over 500[5].

2 Case concerning the aerial incident of 3 July 1988 (Islamic Republic of Iran v United States of America), II ICJ Pleadings, oral arguments, documents (2000), accessed January 11, 2023.

3 David Pogue, "5 of the Worst User-Interface Disasters," *Scientific American*, April 1, 2016, https://www.scientificamerican.com/article/pogue-5-of-the-worst-user-interface-disasters/.

4 Shapour Ghasemi, "History of Iran: Shooting Down Iran Air Flight 655 [IR655]," *Iran Chamber Society*, 2004, https://www.iranchamber.com/history/articles/shootingdown_iranair_flight655.php.

5 Patrick Wilsken, "Missing Targets: The Legal and Ethical Blind Spots of Arms Manufacturers," *Amnesty Insights*, June 13, 2018, https://medium.com/amnesty-insights/missing-targets-the-legal-and-ethical-blind-spots-of-arms-manufacturers-989619d42b73.

States facilitate arms transfer, but the structure of arms trade depends on the state-business relationship in the defence sector. In contrast to monopoly, the defence industry is often described as *monopsony*, when there are many suppliers but only one customer – the home state government. In the states such as USA or UK, arms manufacturers are fully privatised. In contrast, after the collapse of the Soviet Union, in continental Europe states usually retain some ownership over arms manufacturers. States face little to none consequence for failing to enforce e.g. ATT duty not to transfer if there is a risk of IHL violation by the recipient of the transfer. It is indicated that this and other export control laws concerning weaponry are only as strong as governments' political will, which is often lacking due to this symbiotic relationship between states and arms companies, which is further reflected in the significance of arms manufacturers for enhancing the domestic national security interests of their home states. Arms manufacturers become key partners of the home states in maintaining the military capacity of states and supply their home states' armed forces with weaponry. This symbiotic relationship blurs the line that separates states from arms sector. Furthermore, the report of the UN Working Group on Business and Human Rights points to the so-called *revolving door* phenomenon, which means that military (state) officials occupy high-level positions in the arms sector companies. Eventually, arms sector heavily contributes to increasing home state's economy. It results in home states being interested in securing the arms sector's position and interests. Hence, states are willing to approve beneficial arms transfers irrespective of IHL concerns of arms transfers. By using arms sector, states increase their significance in international relations, so the arms sector constitutes a powerful tool of geopolitical diplomacy and securing national security interests abroad[6].

Factors that contribute to the lack of IHL compliance of arms transfer decisions are first and foremost the culture of secrecy and non-transparency around arms transfers as well as the lack of the compulsory IHL and human rights due diligence imposed on arms manufacturers. Home states do not require arms manufacturers to conduct due diligence assessments but rather protect the war industry sector and treat it as a significant contributor to their domestic

6 UN Working Group on Business and Human Rights, "Responsible Business Conduct in the Arms Sector: Ensuring Business Practice in Line with the UN Guiding Principles on Business and Human Rights," 4.

economy and a tool of the foreign policy, as well as national security interests and defence capabilities[7]. All in all, states are gatekeepers of the arms trade. Avascent, a consulting entity for government-driven markets, indicates that along with declining domestic defense budgets (with some variations resulting from the Russian aggression against Ukraine, which contributes to the destabilisation in the European region) and growing international competition, the costs of producing LAWS as technologically complex weapons systems become one of the challenges to national defense industries[8]. It means that the LAWS market, albeit developing, is pragmatically an expensive market where customers must be able to bear the costs of producing LAWS. For example, since Saudi Arabia is a rich country with little oversight on military spending, it could afford buying sophisticated military equipment and use it in the armed conflict[9]. As Saudi Arabia's military budget has been increasing, Raytheon opened its Saudi-based company to produce more advanced weapons systems, which may impact the US government's oversight over arms transfers since these weapons systems will be locally manufactured.

There are estimates that the global LAWS market will grow significantly with states being the key investors in the research and development of LAWS[10]. The increasing sophistication in weapons systems opens up space for privatisation of warfare and the arms manufacturers become privileged providers of military equipment globally. Arms manufacturers are not subject to the WTO rules on international trade nor the EU regulations on trade and procurement. Therefore, states can and do favour their own arms manufacturers in highly complex arms transfers[11].

7 Ibid., 1.

8 Christina Balis, "State Ownerhip in the European Defense Industry: Change or Continuity? European Defense Industrial Base Forum. Occasional Paper" (Paris: Avascent, January 2013), https://www.avascent.com/wp-content/uploads/2013/01/Avascent-State-Ownership.pdf.

9 Wilsken, "Missing Targets."

10 The Business Research Company, "Autonomous Military Weapons Global Market Report 2023," *ReportLinker*, February 2023, https://www.reportlinker.com/p06240604/Autonomous-Military-Weapons-Global-Market-Report.html.

11 Wilsken, "Missing Targets."

Arms sector is governed by a multi-faceted regulatory framework[12]. There are multilateral treaties restricting the arms trade, such as the CCW, CCM, SALW, The Protocol against the Illicit Manufacturing of and Trafficking in Firearms, their Parts and Components and Ammunition or ATT. At the regional[13] and municipal[14] levels, there are export control legislations that regulate how and to whom arms sector products and services can be transferred[15]. There are also the non-binding export control regimes, like the Wassenaar Arrangement established in 1996[16]. It is a voluntary export control regime with 42 member states (with USA and Russia participating; China and Israel have not adhered, though) who exchange information on transfer of conventional weapons and dual-use goods and technologies. However, decision-making processes under the Wassenar Arrangement are centred on consensus, which, on several occasions, led to disagreements on which states should be considered as "states of concern" or what the premises of "destabilising" arms transfer are.

Control mechanisms for the global arms trade in conventional weapons have developed for over 40 years, with the adoption of the CCW and its five additional protocols in 1980. However, post-Cold War control mechanisms emerged in the 21st century when states established procedures to assist weapons manufacturers and dealers in arms transfers. Although these procedures outline rules about recipients of arms transfer and types of weapons that can be sold, there is no universal (international) regime on which weapons can be transferred and by whom, because states are not parties to all weapons treaties. By adopting arms trade legislation, states also establish procedures in case

12 UN Working Group on Business and Human Rights, "Responsible Business Conduct in the Arms Sector: Ensuring Business Practice in Line with the UN Guiding Principles on Business and Human Rights," 2.

13 EU Member States shall deny an export licence if there is a clear risk that the military technology or equipment to be exported might be used in commission of serious violations of IHL.

14 UK Strategic Export Licensing Criteria stipulates that the UK government will not grant a licence if it determines there is a clear risk that the items might be used to commit or facilitate a serious violation of IHL. See: https://questions-statements.parliament.uk/written-statements/detail/2021-12-08/hcws449.

15 Council Common Position 2008/944/CFSP of 8 December 2008 defining common rules governing control of exports of military technology and equipment.

16 Wassenar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies.

of violations of arms deals or national law relating to arms transfers. Rachel Stohl concludes that although national arms control mechanisms are at the frontline of preventing abuses of the arms trade, they have been implemented randomly, with some states having advanced control mechanisms and others introducing no control mechanisms[17].

Besides municipal regulations, there are regional[18] and international[19] efforts made to coordinate and address region-specific and international issues concerning arms transfers, with the Arms Trade Treaty (AAT) of 2013 at the top. The AAT regulates transnational trade in conventional arms and stigmatises the transfer of any weapons that could be used to commit international crimes. Some policy-makers pursue a far-reaching approach to control mechanisms based on "humanitarian" arms control. Humanitarian arms control is a concept which tries to address the direct, indirect and consequential impact of the arms trade on civilians. The arms control mechanism is the space where accountability mechanisms have already been put in place in some states, which can be used to address harmful effects of LAWS that contradict state domestic law and international law to which it is a party. The importance

17 Rachel Stohl, "Understanding the Conventional Arms Trade," *AIP Conference Proceedings 1898, 030005*, November 15, 2017, 5, https://aip.scitation.org/doi/pdf/10.1063/1.5009220.

18 "Inter-American Convention Against the Illicit Manufacturing of and Trafficking in Firearms, Ammunition, Explosives, and Other Related Materials *Adopted 14 November 1997*," accessed January 8, 2023, http://www.oas.org/juridico/e nglish/treaties/a-63.html; The Council of the EU, "European Code of Conduct on Arms Exports," Publication Office of the EU 8675/2/98 § (1998), https://www.sipri.org/sites/default/files/research/disarmament/dualuse/pdf-archive-att/pdfs/eu-code-of-conduct-on-arms-exports.pdf; "ECOWAS Convention on Small Arms and Light Weapons, Their Ammunition and Other Related Materials *Adopted 14 June 2006, Entered into Force 29 September 2009*," accessed January 8, 2023, https://att-assistance.org/sites/default/files/2015/11/20060614_ECOWAS_EN_Convention-on-Small-Arms-and-Light-Weapons-their-Ammunition-and-other-Related-Materials.pdf.

19 "Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction, Oslo *Adopted 18 September 1997, Entered into Force 1 March 1999*," Pub. L. No. 2065 UNTS 211 (1997); "Convention on Cluster Munitions, *Adopted 30 May 2008, Entered into Force 1 August 2010*," 2688 UNTS 47713 § (2008); "Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition, Supplementing the United Nations Convention against Transnational Organized Crime *Adopted 31 May 2001, Entered into Force 3 July 2005*," 2326 UNTS 39574 §, accessed January 8, 2023, https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XVIII-12-c&chapter=18&clang=_en; The Arms Trade Treaty *Adopted 2 April 2013, Entered into Force 24 December 2014.*

of humanitarian arms control has also been raised in LAWS, because many arms control regimes explicitly refer to humanitarian considerations in arms transfers[20]. However, ATT's duty to consider whether the arms transferred could be used to commit or facilitate serious IHL violations or that there is an "overriding" risk of any negative consequences stipulated in Article 7(1) of the ATT depends on the transferring state's assessments. It is a clear example of construing obligations under international law by referring to municipal law. Such a tool allows a state to specify its obligations and thanks to it states have a leeway to interpret their duty under the ATT.

What makes addressing the accountability of the global arms trade for LAWS hardly possible is, first and foremost, the difficulty in accessing information protected by national security secrecy[21]. It results from usually strong bonds between weapons manufacturers and home states (where the companies are headquartered), considering such support as a part of producing new weapons. These states significantly support manufacturers by conducting international promotion campaigns, providing research and development funds and favourable economic conditions, and establishing defence procurement policies[22]. Thanks to that, arms manufacturers influence states by forming policies in relevant areas, including arms procurement procedures and defence industrial and export control policies[23]. Participating in the global arms industry allows states to realise their interests.

On the other hand, the strong relationship between states and arms manufacturers prevents operationalising even an indirect (international) responsibility of private entities as a primary tool for addressing the harmful consequences of selling LAWS. When state authorisation for arms transfer is achieved,

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20 Ian Anthony et al., "14. Conventional Arms Control and Military Confidence Building," in *SIPRI Yearbook 2015: Armaments, Disarmament and International Security* (Oxford: Oxford University Press, 2016), https://www.sipriyearbook.org/view/9780198737810/sipri-9780198737810-chapter-14-div1-2.xml.

21 Stohl, "Understanding the Conventional Arms Trade."

22 Sam Perlo-Freeman, "Special Treatment. UK Government Support for the Arms Industry and Trade" (Stockholm: SIPRI, November 2016), 4, https://www.sipri.org/sites/default/files/Special-treatment-report.pdf.

23 Campaign Against Arms Trade, "Who Calls the Shots? How Government-Corporate Collusion Drives Arms Exports" (London, February 2005), https://caat.org.uk/app/uploads/2022/01/2005-CAAT-Who-Calls-the-Shots.pdf.

business responsibility to respect IHL and human rights is considered as fulfilled without requiring arms manufacturers to perform their own due diligence. It is because state authorisation is perceived as sufficient to perform the state obligation to ensure respect for IHL as prescribed in Common Article 1 to the four Geneva Conventions of 1949[24]. The interdependencies between participants of the war industry perpetuate humanitarian crises resulting from arms delivery and unnecessarily prolong armed conflicts as such by contributing to the power imbalance between parties to armed conflicts[25].

The globalisation of the arms industry blurs the causal chain of events. It increases the distance between an actual perpetrator and its victims, which the remote environment exacerbates. A plurality of (both public and private) actors developing particular LAWS engaged in arms deals shielded behind national security interests further blurs any liability or responsibility. Due to a weak sense of the rule of law in a post-war context, the responsibility regime is often limited and disabled by a lack of access to justice. Government contractors further usually benefit from immunity in cases involving weapons systems, which is presented in the section below.

Key players in the global market of LAWS include companies from the US[26], the UK[27], Israel[28], Norway[29], France[30], and Germany[31]. On the one hand,

24 For example, in Canada, Mr Daniel Turp, a researcher, challenged the licenses granted by the Minister of Foreign Affairs to General Dynamics Land Systems Canada to the Kingdom of Saudi Arabia arguing that the authorisation violated an obligation to ensure respect for IHL in all circumstances as regulated in Common Article 1 to the four Geneva Conventions of 1949 and transposed to the Canadian law. The claim was dismissed based on a lack of legal standing to challenge violations of Common Article 1 to the four Geneva Conventions as this provision does not create individual rights. Daniel Turp and the Minister of Foreign Affairs (Reasons and Judgment), No. T-462-16 (Canada, Federal Court January 24, 2017).

25 Andrew Feinstein, *The Shadow World. Inside the Global Arms Trade* (London: Penguin Books, 2012); "Arms Control," *Amnesty International*, accessed January 11, 2023, https://www.amnesty.org/en/what-we-do/arms-control/.

26 Lockheed Martin Corporation, Northrop Grumman Corporation, Raytheon Technologies Corporation.

27 BAE Systems plc.

28 Israel Aerospace Industries Ltd., Rafael Advanced Defense Systems Ltd.

29 Kongsberg Gruppen ASA.

30 MBDA, Thales Group.

31 Rheinmetall AG.

most of these companies operate and offer their products globally[32] and possess better resources and knowledge on machine learning than states do. On the other hand, there are no international rules governing their obligations and accountability in armaments and targeting law, not to mention IHL. PAX report of 2019 that surveyed LAWS manufacturers classified 30 out of 50 as high risk, because any clear policy concerning legal and ethical aspects of LAWS was missing[33]. This overview of the LAWS sector indicates that manufacturers label autonomy as a positive feature of weapons systems that increases LAWS attractiveness. Some companies further mislead the marketing campaigns by naming something as autonomous, although it is automated. Because of the heated debate surrounding LAWS, more companies have changed their marketing narratives and mentioned human involvement in LAWS performance. Few companies explicitly require humans in the loop regarding the final decision on using weapons against humans, like Bundesverband der Deutschen Industrie[34]. Google's decision to withdraw from the contract with the US Department of Defence on Project Maven resulted from internal protests from Google employees. Google's contribution to Project Maven relied on developing AI that would increase the computer-vision capabilities of drones for detecting and identifying targets in the US drone program[35]. Regrettably, some are also ignorant and consider autonomy as an added marketing value of their products[36].

According to Markos Karavias, the scope of international law in approaching private entities can be twofold. Either one focuses on multinational or transnational corporations. The contemporary debates in the UN framework follow this path by centralising the human rights impacts of transnational and multinational corporations, especially in developing countries. Their impact reflects

32 Himanshu Joshi and Sonia Mutreja, "Autonomous Weapons Market Share, Growth, Analysis by 2030," *Allied Market Research*, August 2021, https://www.alliedmarketresearch.com/autonomous-weapons-market-A13132.

33 PAX, "Slippery Slope. The Arms Industry and Increasingly Autonomous Weapons," 5.

34 "Künstliche Intelligenz in Sicherheit und Verteidigung" (Berlin: Bundesverband der Deutschen Industrie e.V., January 2019), https://e.issuu.com/embed.html#2902526/66182763; PAX, "Slippery Slope. The Arms Industry and Increasingly Autonomous Weapons," 31.

35 Trushaa Castelino, "Google Renounces AI Work on Weapons | Arms Control Association," *Arms Control Association*, August 2018, https://www.armscontrol.org/act/2018-07/news/google-renounces-ai-work-weapons.

36 PAX, "Slippery Slope. The Arms Industry and Increasingly Autonomous Weapons," 30.

the economic power and actual capacity to abuse international law. There is also a broader approach to business and international law. It derives from an assumption that national legal persons can also challenge international law and cover both big and small companies, irrespective of their (international) position[37]. Resistance against granting private entities with legal personality under international law comes first and foremost from the perception of international law as inter-state law in which enterprises are seen as objects under state jurisdiction. Such argumentation enables arbitral tribunals to prioritise state sovereignty before broadening the scope of international duty-bearers[38]. This argument has been undermined by increasing bilateral investment treaties allowing private entities to initiate proceedings against the state party through international arbitration. Businesses' position imposed by the investment treaties is a clear opening up towards procedural rights of private entities in their relations with states.

The second argument that is still relevant is the enterprises being seen as holders of rights established or confirmed under treaty law. At the same time, the concept of enterprises as duty-bearers has not been widely accepted because of the required consent. Therefore, legal persons can only be subject to obligations under international law if they consent to abide by them[39]. Of course, with few exceptions, this is not the case concerning arms dealers of LAWS. On the one hand, private entities developing LAWS count for marketing profits and sometimes mess up autonomy in weapons systems with automation of weapons systems, and vice versa. They use autonomy as a tool that increases the attractiveness of weapons systems to potential customers. On the other hand, some companies explicitly deny cooperating on LAWS with governments (i.e. Google) or expressly abiding by international law (i.e. S.T. Engineering)[40].

Before concluding any corporate liability or responsibility under international law, a direct corporate obligation should exist. First and foremost, there

37 Karavias, *Corporate Obligations under International Law*, 3–4.

38 ICSID, Urbaser S.A. and Consorcio de Aguas Bilbao Bizkaia, Bilbao Biskaia Ur Partzuergoa v The Argentine Republic, No. Case No. ARB/07/26 (ICSID December 8, 2016).

39 For example. Under the UN Convention on the Law of the Sea of 1982, private entities that sign contracts to explore the Seabed, simultaneously abide to international rights and obligations resulting from the Convention.

40 PAX, "Slippery Slope. The Arms Industry and Increasingly Autonomous Weapons," 33.

is an obligation to respect the domestic law of a state where a private entity is established. An international duty to obey domestic law is not a matter which treaty law regulates, though, since it infers from the work of international bodies and therefore reflects customary law. The first signs of an (international) obligation to comply with domestic law have been derived from a state's continuity[41]. Obeying domestic laws is the first responsibility of private entities under the OECD Guidelines on multinational enterprises of 2011. An added value in considering the duty to comply with domestic law as an international obligation is that it creates a bridge between international and national law. The bringing conclusion relies on a presumption that before international procedures, one has to refer to domestic law in evaluating the corporation's behaviour. Concerning LAWS, one can face a situation when the domestic law of a state ordering LAWS from a manufacturer does not comply with international law (for example, with IHL or weapons law). In such a case, the manufacturer can go beyond domestic law and follow international law in the name of corporate social responsibility (like Google's withdrawal from Project Maven). Should one reject the international nature of the obligation to comply with domestic law, an indirect obligation to comply with international law can be approached. In this case, a state must ensure that domestic legislation and procedural framework concerning international law can be enforced towards private entities[42]. This approach allows the imposition of a substance of an international obligation on private entities, for example, in contracts concerning public-private partnerships.

Approaches to business responsibility for LAWS

There are two pathways to business responsibility under municipal law, namely home-state responsibility and foreign-state responsibility. In the context of CSR, it is essential to look at whether and to what extent UNGPs are relevant for the municipal legal proceedings. For example, the US jurisdiction is open to claims of foreign individuals in which the basis of law can be either state law or foreign law. For example, in California's jurisdiction, one can observe

41 Affaire du Guano (Chili, France), XV Reports of International Arbitral Awards 77 (1901).

42 Karavias, *Corporate Obligations under International Law*, 12.

pooling/nesting between UNGPs and municipal law. However, most business enterprises are located in Delaware, which does not refer to such pooling/nesting methods for the sake of legal stability and predictability. There is therefore a certain resistance to progressive development of law. Part of the reason is that most of the claims involving business enterprises and individual victims are declined due to two reasons: 1) a lack of concrete injury to victims, and 2) lack of connection between the harm and a conduct of a company. According to Sassòli, the possession of autonomous decision-making functions by a system does not break the causal chain allowing the attribution of conduct involving responsibility[43]. It is always a human being who decides how autonomy functions. The lack of legal reaction towards LAWS raises the need for specific due diligence standards for manufacturers and commanders, which is the space for international law to enter. Corporate responsibility to respect international law is a social norm that elaborates on state and corporate practices to exercise due diligence. Although due diligence standards have widely developed in the field of human rights (for example, by publishing periodic human rights assessments and tracking and reporting human rights abuses), in the case of LAWS manufacturers, they should also cover IHL, since activities of the arms industry transcend to armed conflicts and their products can have harmful effects on civilians and combatants.

There are several ways through which business conduct concerning LAWS would be applied, namely corporate criminal responsibility for international crimes, corporate civil liability for LAWS malfunction, arms transfer control relating to LAWS, and legally binding documents prohibiting or regulating LAWS (in the development phase in particular). There is also a non-compulsory path of corporate social responsibility and due diligence standards for LAWS manufacturers and dealers. Below, criminal, civil, and social corporate responsibility are analysed in the context of arms manufacturers' facilitating IHL violations. As for corporate administrative responsibility, the only case known to the author that is relevant to debating on responsibility for LAWS has been initiated by Israel against the Israeli defence contractor Aeronautics Ltd. The company conducted live tests of their suicide drones (drones capable of targeting with small explosive payloads) against positions of the Artsakh Defence Army on

43 Sassòli, "Autonomous Weapons and International Humanitarian Law: Advantages, Open Technical Questions and Legal Issues to Be Clarified," 324–325.

Azerbaijan's behalf[44]. In addition to the company's license being suspended[45], natural persons have been charged for violating the domestic law on the export of defence products and export control law. The Israeli court decided not to publish the details of the case[46]. When administrative responsibility is concerned, it is necessary to clearly separate the responsibility of a State for issuing arms licenses from the arms manufacturer's direct administrative responsibility. As described in Section 4.2, the case brought by the Campaign against the Arms Trade against the Secretary of State for International Trade, arms manufacturers (BAE Systems and Raytheon) were listed as interested parties, not as defendants. Secondly, one has to distinguish between the criminal responsibility of a company and that of an individual CEO or employee responsible for a particular arms deal. However, when charges concern IHL violations, usually the criminal, not administrative responsibility regime comes into play.

Corporate criminal responsibility

Treaties concerning international crimes touch upon legal persons, but in most cases, the responsibility lies with natural, not legal persons. Article 26 of the UN Convention against corruption of 2003 provides for the liability of legal persons. Still, it allows states to decide how to establish liability (criminal or non-criminal), including monetary sanctions[47]. The Convention also leaves states to introduce how sanctions (criminal, civil or administrative) against legal persons can be imposed. Similarly, Article 6(8) of the Draft on prevention and punishment of crimes against humanity 2019 sets forth that each state shall take, where appropriate, to establish the liability of legal persons for the

44 "Israeli Company Is Charged with Live-Testing Drone on Armenian Soldiers," *Middle East Eye*, accessed January 8, 2023, http://www.middleeasteye.net/news/israeli-company-charged-live-testing-drone-armenian-soldiers.

45 Ari Gross, "Licenses Suspended for Dronemaker Accused of Bombing Armenia for Azerbaijan | The Times of Israel."

46 Sarukhanyan, "Delayed Justice: Israeli Court Charges Domestic Arms Manufacturer of Violating Export Law by Arms Selling to Azerbaijan," *Hetq.Am*, December 31, 2021, https://hetq.am/en/article/139619.

47 "UN Convention against Corruption *Adopted 31 October 2003, Entered into Force 14 December 2005*," 2349 UNTS 42146 §, accessed January 7, 2023, https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XVIII-14&chapter=18&clang=_en.

crimes against humanity[48], and it is up to states to determine if the liability is criminal, civil or administrative. The phrase "where appropriate" weakens the possibility of operationalising corporate liability, because states are not necessarily obliged to establish liability in all cases of crimes against humanity committed by legal persons.

Theodor Meron notes that corporations become the leading actors in international arena, so the criminalisation and penalisation of their offences is nowadays crucial in today's debate about enforcing international law and addressing violations of international law in general, and IHL in particular[49]. Due to difficulties in proving the mental elements of crimes, the criminalisation of corporate offences began with strict liability when the mental element is less or not relevant to criminal responsibility. The lack of corporate responsibility does not necessarily result from the character of an entity as corporate but the lack of will of states to criminalise corporate offences.

However, there are international and municipal exceptions to the *societas delinquere non potest* principle. In international law, according to Article 10 of the UN Convention against Transnational Organized Crime, states parties are required to adopt the necessary measures to establish the liability of legal persons for participation in serious crimes involving an organised criminal group and for participation in an organised criminal group, laundering of proceeds of crime, corruption, and obstruction of justice[50]. The Convention does not limit the scope of state obligation, but stipulates that, subject to its own principles, a state can determine whether liability of legal persons is criminal, civil or administrative. The sanction mechanism is also not limited in the Convention, but according to Article 10(4), states parties shall ensure that sanctions are effective, proportionate and dissuasive criminal or non-criminal, including monetary.

National solutions can be found that provide criminal responsibility for a corporate manufacturer who intentionally, recklessly or negligently creates

48 ILC, "Draft Articles on Prevention and Punishment of Crimes Against Humanity" (ILC, 2019).

49 Theodor Meron, "Is International Law Moving towards Criminalization?" *European Journal of International Law*, 9, no. 1 (January 1, 1998): 19, doi:10.1093/ejil/9.1.18.

50 "UN Convention against Transnational Organized Crime *Adopted 15 November 2000, Entered into Force 29 September 2003*," UNTS 39574 § (2003).

defective machines, which leads to human loss[51]. However, it does not mean that corporate criminal responsibility for LAWS is entirely excluded. There are two issues that have to be taken into account. First, whether it is possible to deconstruct corporate obligations under IHL. Secondly, whether, for this purpose, it is necessary to stick to IHL in analysing the responsibility of the corporate entities for developing LAWS or a broader impact of the arms manufacturers on armed conflicts. There are at least two possible fora to address IHL-related corporate activities concerning LAWS: before international mechanisms and before municipal institutions. The report of the Amnesty International concerning the defence sector indicates that there are evolving concepts emerging that concern to the so-called corporate complicity in international crimes as well as aiding and abetting of these crimes[52]. The ICRC brochure on Business and International Humanitarian Law of 2006 indicates that complicity in war crimes is likely to be the most relevant to business enterprises. The arms dealers who, knowing that the weapons are to be used to commit war crimes, are complicit in these crimes. Here, complicity in committing war crimes occurs regardless of the shared intent to commit the crime[53].

With regard to criminal law, including international criminal law, in principle, it is not possible to bring corporate entities to criminal responsibility, but there are exceptions to this rule, in particular in the Anglo-Saxon legal systems[54]. After the Second World War, Articles 9 and 10 of the IMT Charter provided for the possibility to conclude upon the criminal nature of a group or an organisation, but this conclusion was linked to the criminal responsibility of an individual who was a member of such a group or organisation. It is worth noting that the IMT's conclusions as to the criminal nature of the group or organisation were related to the groups and organisations that no longer existed. Therefore, the consequences of the criminal nature were not aimed at

51 Sassòli, "Autonomous Weapons and International Humanitarian Law: Advantages, Open Technical Questions and Legal Issues to Be Clarified," 324.

52 Amnesty International, "Outsourcing Responsibility," 5.

53 "Business and International Humanitarian Law. An Introduction to the Rights and Obligations of Business Enterprises Under International Humanitarian Law" (Geneva: ICRC, 2006), 26, https://shop.icrc.org/the-globilization-of-market-economies-offers-new-opportunities-for-business-enterprises-and-they-also-give-rise-to-risks-pdf-en.html.

54 Karski, *Osoba prawna prawa wewnętrznego jako podmiot prawa międzynarodowego*, 215–216.

dissolving the group or organisation or confiscating their assets[55]. There may have been two hypotheses as to the linkage between individual criminal responsibility and determining the criminal nature of the group or organisation. First, there were criminal trials of individuals not organisations, or, secondly, that it was in fact a criminal trial of the groups themselves. Karol Karski opts for the second option, namely that the practical consequence of Articles 9 and 10 of the IMT Charter could not be interpreted as allowing to sentence individuals *in absentia.* Moreover, the practice of the IMT indicated that the accused were in fact the groups and organisations and not their members. The practice related to, for example, invoking defence for the accused that were absent or who did not have their own legal counsels or by indicating that the crimes committed by the group or organisation, albeit not against peace, were crimes against humanity and war crimes[56]. Since this type of criminal responsibility was linked to individual criminal responsibility, it is located in Chapter 4 of this book. In practice, the jurisdiction of the following international criminal courts and tribunals (with a rather linguistic exception to the Statute of the Special Court for Sierra Leone) embrace only physical, not legal persons.

The Nuremberg legacy, especially the afore-discussed trials of I.G. Farben[57] and Flick[58], clearly demonstrated that the economic activities of corporations could violate IHL. Therefore, while negotiating the ICC Statute, there were proposals for criminal responsibility of legal persons[59]. The construction of their criminal responsibility was to apply only to private enterprises and be linked to the individual criminal responsibility of a person in charge of the enterprise, who held a position of control and who committed a crime with the authority, and to express consent of the enterprise, within the scope of its functions[60]. This proposal was nonetheless rejected on practical grounds re-

55 Ibid., 228.

56 Ibid., 229.

57 The USA v Carl Krauch et al. (Sentence), VIII Trials of War Criminals Before the Nuernberg Military Tribunals (US Military Tribunal 1948).

58 The USA v Friedrich Flick et al. (Judgment, Records of the United States Nuernberg War Crimes Trials (US Military Tribunal 1947).

59 Ambos, “General Principles of Criminal Law in the Rome Statute,” 7.

60 Gavriel Halevi, *When Robots Kill Artificial Intelligence under Criminal Law* (Boston: Northeastern University Press, 2013), 35.

lated to a lack of a direct corporate criminal responsibility in many states and the impact such responsibility could have had on the complementarity rule of the ICC's jurisdiction.

However exceptional it would be to use international jurisdictions to address corporate international crimes, the consequence of the IMT judgment would be relevant to corporate criminal responsibility for LAWS. Once an international agreement allowed for addressing LAWS-related IHL violations committed in the particular armed conflict, and the international court or tribunal had jurisdiction over concluding the criminal nature of the corporate entities, the corporate criminal responsibility could – as the next logical step (inconvenience) – open the way to individual criminal responsibility which could be based on the mental element of war crimes. Karski points to the long-term impacts of the IMT judgment with respect to these corporate entities. According to him, the psychological sanction against these groups has been a demonstration of the success of the justice-related function of the international criminal law[61]. However, corporate criminal responsibility of arms manufacturers before the international courts or tribunals would most probably be excluded as a trade-off of negotiating the constitutional agreement of this court or tribunal. Moreover, international criminal courts or tribunals are an extraordinary solution. Even the ICC has the complementary jurisdiction, which means that municipal courts are at the frontline of imposing sanctions (or inconveniences) against the criminal corporate activities.

The Lafarge case is probably a milestone in addressing business activities in armed conflicts. The Lafarge and its subsidiary Lafarge Cement Syria made arrangements with the so-called Islamic State and several other non-state armed groups to purchase oil and pozzolan from the groups. It paid them fees to keep the cement factory plant running. The Lafarge was accused of complicity in crimes against humanity committed by the so-called Islamic State in Syria. The Paris Court of Appeal upheld the charges concerning aiding and abetting crimes against humanity by knowingly transferring millions of dollars to the criminal organisation. The difficulty was to prove a mental element of crimes. Still, the Court inferred the mental element from the knowledge that a principal perpetrator was committing or about to commit an international crime and that the aid or assistance facilitated the preparation or commission

61 Karski, *Osoba prawna prawa wewnętrznego jako podmiot prawa międzynarodowego*, 235–236.

of the crime[62]. Pursuing commercial activity as a part of the motive was irrelevant to the Court.

Similar proceedings against Lafarge and its subsidiary were initiated before the US federal court on 18 October 2022. In the US, in the proceedings against Lafarge, the company entered into an agreement with the court, agreeing to pay fines and forfeiture to conspiring to provide material support to foreign terrorist organization. However, this plea differs from the *French Lafarge case*, because it did not address corporate complicity in international crimes and reparations for those affected. It was limited to terrorist financing. On 24 October 2019, the Investigation Chamber of the Paris Courts of Appeals rejected the admissibility of Sherpa and the European Center for Constitutional and Human Rights as civil parties. Sherpa and ECCHR filed a criminal complaint as civil parties for financing of terrorism, complicity in CAH committed in Syria, endangerment of people's lives and labour violations. After appeal from Sherpa and the European Center for Constitutional and Human Rights, the Supreme Court referred the case back to the Court of Appeal for a new decision, notably by confirming the inadmissibility of Sherpa as a civil party on all charges, but the European Center for Constitutional and Human Rights' inadmissibility for all but complicity in crimes against humanity.

There is also another layer of the arms trade potentially criminal in nature. As described by Feinstein, the structure of the arms trade is primarily uncontrolled and unreported. Except for the black market of weapons, most deals occur in the so-called grey (shadow) zone, because the arms industry is highly formalised and hidden. It means that the arms industry represents states and private entities (often supported or assisted by states) and comprises legal aspects (like national security interests) and the black market. The pragmatic economic feature of the arms industry is that arms manufacturers and dealers can sell weapons irrespective of the customers' profile, affiliation and represented values. According to Amnesty International, corporate manufacturers, with BAE Systems, Boeing, Raytheon, and Lockheed Martin included, supply large volumes of weapons to unstable regions, which are then unlawfully used (for example, by the Saudi-led coalition in Yemen)[63]. Feinstein indicates that

62 The European Center for Constitutional and Human Rights and Sherpa et al. v Lafarge SA *decision*, No. Appeal No 19-87.367 (Cour de Cassation September 7, 2021).

63 Amnesty International, "Outsourcing Responsibility."

the arms trade is susceptible to abuses as a consequence of its very structure, which is unaccountable. A small number of transactions involving great financial resources, a relatively low number of individuals making decisions about arms deals, and secrecy imposed by national security can lead to violations of the UN arms embargoes, corruption or IHL violations. He gives an example of South Africa, where weapons transactions with the BAE were made because of corruption that later undermined the country's stability[64]. Even more controversial, both in scale and substance, government-to-government deal was made between the UK and Saudi Arabia in the Al Yamamah deal in which British Aerospace (now BAE Systems) became the final contractor. It was later calculated that significant corrupt commissions were made to the Saudi royal family and government, including to Prince Bandar, a son of the Saudi defence minister, who negotiated the arms deal with the UK government. However, an investigation was discontinued after political pressure from both the Saudi and British governments[65].

Although in the previously mentioned case *EECHR et al. vs UAMA's officials and managers of RWM Italia S.p.A.* the criminal case was launched against the officials of the Italian Ministry of Foreign Affairs and RWM Italia directors, it could have opened the way of addressing arms manufacturers' responsibility for complicity in potential war crimes. The Italian Minister of Defence stated that the bombs found on the ground were not Italian but contracted by an American company and sub-contracted to the German Rheinmetall, who owned factories in Italy. Even though the Italian Court assessed that the Italian National Authority for the Export of Armament was certainly aware of the possible use of the arms transferred by RWM Italia to Saudi Arabia in the conflict in Yemen and despite that, it continued to license arms transfers in violation of Articles 6 and 7 of the ATT (prohibiting arms transfers if the transferring state is aware of the possible use of arms against civilian targets), on 15 March 2023, the case was dismissed on the grounds of lack of proof that

64 Feinstein, *The Shadow World. Inside the Global Arms Trade*, 175–196.

65 "The Al Yamamah Arms Deals – Compendium of Arms Trade Corruption," *World Peace Foundation*, 2007, https://sites.tufts.edu/corruptarmsdeals/the-al-yamamah-arms-deals/; Feinstein, *The Shadow World. Inside the Global Arms Trade*, 35–38.

the RWM Italia profited from the abuse of power, whereas Italian officials had complied with the binding arms export laws[66].

The two criminal cases held in Germany against employees of arms manufacturers resulted in convictions of individuals, and the court imposed fines directly on the manufacturers in the framework of the criminal proceedings. The first case concerned exporting weapons to several regions of Mexico which were covered by the prohibition in the German arms exports control laws with the knowledge and factual assistance of Heckler and Koch. The second case related to the export of small arms to the US and then re-export to Columbia by Sig Sauer in violation of the end-use certificate. In both cases, the arms manufacturers were subjected to a sanction.

In France, a criminal case against the French arms manufacturer Exxelia Technologies was brought by a Palestinian family who lost three children in an Israeli airstrike on their house in Gaza Strip in 2014. On 17 July 2014, a missile hit the roof of the civilian object in Gaza City killing three children. In the accident, a missile, probably fired by a drone, hit the civilian object and killed three civilians. The missile fired by the drone was precise, as it did not extend beyond a specifically framed area and was designed to kill a human being without destroying an object[67]. A Hall effect sensor manufactured by Eurofard France (now Exxelia Technologies) was found on the ground[68]. The victims' family, supported by an NGO, brought a criminal case against the arms manufacturer claiming that the company supplied the Israeli armed forces in the full knowledge that it would be part of a missile and with knowledge that their military products might be used to commit war crimes. Thus, the complainants argued that Exxelia Technologies was complicit in a war crime

66 "Italy: Indictment against Manager of Rheinmetall Subsidiary RWM Italia for Contributing to Potential War Crimes in Yemen Dismissed," *Business & Human Rights Resource Centre*, March 15, 2023, https://www.business-humanrights.org/en/latest-news/death-in-yemen-made-by-rheinmetall/.

67 Christophe Ayad, "French Judges Investigate Possible War Crimes in Gaza," *Le Monde.Fr*, September 8, 2023, https://www.lemonde.fr/en/france/article/2023/09/08/french-judges-investigate-possible-war-crimes-in-gaza_6128576_7.html.

68 Al Mezan Center for Human Rights, "ACAT (Action by Christians for the Abolition of Torture) and, Cabinet Ancile-Avocats," *Al Mezan Center for Human Rights*, June 29, 2016, https://mezan.org/en/post/42836.

or manslaughter. The criminal case was dismissed, but as of September 2023, the civil action against the arms manufacturer is ongoing[69].

Therefore, municipal laws of different states provide for fragmented jurisdictional requirements to litigating arms manufacturers. While implementing the ICC Statute, some states (like Canada and Australia) have not distinguished between natural and legal persons[70]. However, difficulties in litigating arms transfers have led Kai Ambos to a concept of *international economic criminal law* as a part of international criminal law that deals with international crimes committed by economic actors and persons in charge of them. The criminal conduct, most often (direct, indirect or silent) assistance in abuses, is allegedly performed as ancillary/neutral and hence legal business activity, since frequently a state is also involved in the criminal conduct. Ambos has then separated the collective corporate responsibility (with an organisational model) from individual criminal responsibility (based on an attribution model), and assessed that individual-accessorial model of attribution is "easiest to reconcile" with the corporate criminal responsibility for international crimes[71].

Corporate civil liability

Civil law solutions would be another path for addressing LAWS-related harm to business. Some legal systems introduce civil producer liability for product defects (such as under Article 449[1] of the Polish Civil Code). Such solutions aim at addressing consequences of errors or malfunctions of products, but are devoted to civil not military applications of the products concerned. Because of the difficulties with agreeing on a universal model of corporate criminal responsibility, Kai Ambos has suggested that civil litigation of torts offers certain advantages to victims, including lower burden of proof, independence of civil procedure of a prosecutor's decision, and easier causation-related burden[72].

69 Wilsken, "Missing Targets."

70 Karavias, *Corporate Obligations under International Law*, 101–102.

71 Kai Ambos, "International Economic Criminal Law," *Criminal Law Forum*, 29, no. 4 (December 1, 2018): 499–505, doi:10.1007/s10609-018-9356-9.

72 Ayad, "French Judges Investigate Possible War Crimes in Gaza"; Al Mezan Center for Human Rights", "ACAT (Action by Christians for the Abolition of Torture) and, Cabinet Ancile -Avocats"; Wilsken, "Missing Targets."

When it comes to the military equipment used for the purposes of hostilities, in the re Agent Orange Product Liability Litigation, the US Vietnam veterans sued the US chemical companies which produced Agent Orange herbicide. The herbicide was used in Vietnam war and disrupted claimants' hormone systems, caused cancer and had severe impacts on veterans' children, including birth defects and miscarriages. Plaintiffs claimed that defendants negligently manufactured and sold to the government for use in the Vietnam war herbicides that were thought to be one of the most toxic substances at the time. Notably, the claim was based on strict liability theory, intentional tort, and breach of warranty. Also, civilian plaintiffs, including civilian residents of the County of Kaui who were exposed to the herbicides during a testing program, civilian employees of defence contractors in Vietnam, and a medical doctor who served in Vietnam, made claims concerning their exposure to the herbicides in the Vietnam war or related to the Vietnam war. Claims against several of the defendant companies were dismissed due to the lack of evidence that these companies ever designed, manufactured or marketed the herbicides to the US government for the purpose of their being used in Southeast Asia[73]. The defendants further raised the government contractor defence claiming that they had not manufactured Agent Orange before or after the time of the military contracts. The final settlement renounced the chemical companies all liability for injuries in return for establishing a settlement trust even though there was evidence that the defendants knew about the toxic effects of Agent Orange[74].

The government contractor defence allows US-based corporations which produce weapons for the US government to invoke government contractor defence in the cases of the allegedly defective design of military equipment. *The Boyle case* of 1988 confirms the existence of this defence, and it pre-empts a state law that imposes liability on military producers under three premises: that the US approved reasonable product specifications; the military equipment in question conformed to those specifications, and the supplier notified the

73 In Re Agent Orange Product Liability Litigation, No. 597 F. Supp. 740 (1984) (MDL No. 381) (U.S. District Court, E.D. New York September 25, 1984).

74 Alexis Abboud, "In Re Agent Orange Product Liability Litigation (1979–1984)," *The Embryo Project Encyclopedia*, April 10, 2017, https://embryo.asu.edu/pages/re-agent-orange-product-liability-litigation-1979-1984.

government of the known dangers of using this equipment[75]. Similarly to an exemption of the criminal responsibility in municipal arms control regimes, an interesting part of *the Boyle case* is that the US Supreme Court admitted that military equipment that met requirements set up by the federal government could not have a design defect which would suffice to hold the military manufacturer liable. Therefore, at least some LAWS-producing companies can easily shield themselves from civil liability in domestic proceedings by the presumption. However, Jordan Paust notes that any immunity of private persons, including private corporations, for violations of international law should be seen as an exception to the general principle of law, namely that there is no immunity for such acts. Arms manufacturers are bound by domestic law and, *mutatis mutandis*, by international law (if applicable to individuals)[76].

For example, the US Alien Torts Statute opens US federal courts' jurisdiction to civil actions brought by foreign nationals for torts committed in violation of "the law of nations or a treaty of the United States"[77]. Therefore, non-US citizens are entitled to legal standing even if the events in question occurred outside the USA. In *Kiobel v Royal Dutch Petroleum Co.*, the US Supreme Court applied the presumption against extraterritoriality to legal standing in the Alien Torts Statute stating that the claims based on the Statute shall "touch and concern the territory of the United States" with sufficient force to rebut the presumption[78]. However, in *Doe v Nestle USA, Inc.*, plaintiffs sought to recover damages from US corporations (Nestle USA, Inc., Cargill and several other entities) that aided and abetted slavery in Cote d'Ivore by providing farms engaged in child slavery with technical and financial resources in exchange for the exclusive right to purchase cocoa. The case was dismissed by the District Court on grounds that the Alien Torts Statute did not apply extraterritorially. According to the court, the questioned domestic conduct concerned general corporate activity. Claimants appealed that aiding and abetting forced labour

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75 Boyle v United Technologies Corp. *decision*, No. 487 U.S. 500 (1988) (US Supreme Court June 27, 1988).

76 Jordan Paust, "Sanctions Against Non-State Actors For Violations of International Law," *ILSA Journal of International & Comparative Law*, 8, no. 2 (January 1, 2002): 423.

77 "28 U.S. Code § 1350 - Alien's Action for Tort," Pub. L. No. Ch. 646, 62 Stat. 934. (1948), https://www.law.cornell.edu/uscode/text/28/1350.

78 KIOBEL, individually and on behalf of her late husband KIOBEL, et al. v ROYAL DUTCH PETROLEUM CO. et al., No. 10-1491 (Supreme Court of the United States April 17, 2013).

is a violation of international law, so domestic conduct can aid and abet an injury that occurred abroad. The US Court of Appeals for the Ninth Circuit partly reversed the court's decision and stipulated that the domestic application of the Alien Torts Statute related to the financing decisions which were made in the US (*Doe v Nestle*, S.A., 2018, paras. 1124–1126). The Ninth Circuit argued that every major operational decision by both defendants were made in or approved, and hence are attributable to the US domestic corporations[79]. The US Supreme Court stipulated that plaintiffs improperly applied extraterritorial application of the Statute because the conduct did not occur in the USA. The mere corporate presence in the USA was insufficient to rebut the presumption against extraterritoriality, whereas allegations of general corporate activity cannot alone establish domestic application of the Statute[80]. Furthermore, under the US Protection of Lawful Commerce in Arms Act (PLCAA), foreign nationals cannot bring legal claims against licensed US arms manufacturers and arms dealers on the ground of harm resulting from the unlawful acts of third parties. The PLCAA is to exclude extraterritorial application and prevents law-making by US courts. It does not allow to bar civil actions against US arms manufacturers or arms dealers that comply with the US law regulating their activities. The question where occurred the harm for which the civil action seeks compensation is irrelevant.

The government contractor defence, to some extent, unveils that none of the arms industry companies needs international subjectivity, because they can benefit from protection under municipal law. Their position is strong enough to safeguard business interests and impose soft power on states to gain assistance. This leads to a situation when the global arms trade is an essential contributor to national defence, a tool of foreign policy and a significant contributor to the domestic economy[81], but it also perpetuates armed conflicts, disables the development of unstable regions, and – most importantly – deprives potential victims of access to remedies for the harm or damage suffered. Moreover, the general trading of weapons is hidden behind security claims where both states

79 Doe et al. v Nestle S.A. et al., No. 17-55435 (US Court of Appeals for the Ninth Circuit October 23, 2018).

80 Nestle USA, Inc. v Doe (06/17/2021), No. 19-416 (US Supreme Court June 17, 2021).

81 Campaign Against Arms Trade, "Who Calls the Shots? How Government-Corporate Collusion Drives Arms Exports," 10.

and arms manufacturers highly formalise weapons trading processes. It is not easy to access information about global arms deals, including LAWS[82]. A good solution would be to introduce liability for civil damages attributable to the manufacturer, designer, software engineers and programmers, analogous to strict product liability[83]. However, product liability law remains untested with robotics. The production of LAWS involves many people, none of whom necessarily understands the complex relationships between various system components. The process should be initiated by an affected individual, which makes the civil procedure usually unachievable for a victim in an armed conflict due to a distance from the arms manufacturer's jurisdiction. Unachievable does not mean impossible, though. Although the criminal case of the French arms manufacturer who produced and delivered military components to Israeli armed forces was dismissed, the case continues with the civil suit. Producer liability could encourage LAWS manufacturers to produce more secure weapons systems. It is suggested that the arms manufacturers and arms traders of LAWS should be held liable for the functioning of the weapons system throughout its lifetime[84]. However, neither private arms manufacturers nor arms traders are penalised for how the end-user deploys their products.

Corporate social responsibility and due diligence

Throughout the 20th century and particularly in the 21st century, standard-setting and normative efforts have been taken to address business responsibility under international law. Developing and deploying LAWS should be located in the broader framework of the UN business and human rights. The UN framework for Business and Human Rights *Protect, Respect and Remedy* underlines an immense significance of remedying human rights violations by business enterprises, with arms manufacturers covered as well. Norms on the Responsibilities of Transnational Corporations and Other Business Enterprises with

82 Feinstein, *The Shadow World. Inside the Global Arms Trade.*

83 Beard, "Autonomous Weapons and Human Responsibilities," 647.

84 Heyns, "Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Christof Heyns," April 9, 2013, 14; K.M. Ballard, "The Privatization of Military Affairs: A Historical Look into the Evolution of the Private Military Industry," in *Private Military and Security Companies: Chances, Problems, Pitfalls and Prospects*, eds. Thomas Jäger and Gerhard Kümmel (Wiesbaden: VS Verlag für Sozialwissenschaften, 2007), 49.

Regard to Human Rights of 2003 refer to "human rights" as also covering rights recognised by IHL. Although these norms constitute soft law instruments and have no legally binding effect on corporations, they underpin that, for respecting human rights *and* IHL, private entities would perform as addressees of obligations under international law, including that they should take measures to prevent their products from being used to violate IHL[85]. The addressee of such responsibilities should indicate circumstances and environment in which a system can be lawfully used and train those responsible for deciding whether to develop and deploy LAWS. An evolution from social to legal responsibility was domestically applied in environmental law cases as "a proper social conduct"[86]. Such extensive interpretation would be impossible to apply in the context of the arms industry's criminal responsibility.

An important contribution to IHL violations and human rights adverse impacts in LAWS results from the business activities. Although the existence of direct IHL obligations of the arms manufacturers is controversial, it is stressed that they contribute to IHL compliance. The UN Guiding Principles on Business and Human Rights of 2011 (UNGP) divide issues concerning business responsibilities into three pillars: 1) state's duty to protect; 2) business responsibility to respect; as well as 3) state and business responsibilities to grant access to remedies[87]. This soft law instrument has grown out of society expectations towards business as entities acting for the benefit of society as a whole[88]. The first section develops state duty to protect against human rights violations within its territory or jurisdiction by third parties. The duty to protect covers prevention, investigation, punishment and redress for these

85 "Resolution 2003/16: Norms on the Responsibilities of Transnational Corporations and Other Business Enterprises with Regard to Human Rights" (UN Sub-Commission on the Promotion and Protection of Human Rights, August 13, 2003), https://digitallibrary.un.org/record/501576.

86 For example, in the Shell company case, the Hague District Court considered a violation of a duty imposed on the corporation by what, according to an unwritten law, has to be regarded as proper social conduct as a tortious act. VERENIGING MILIEUDEFENSIE et al. v Royal Dutch Shell PLC *judgment*, No. C/09/571932 / HA ZA 19-379 (Rechtbank Den Haag May 26, 2021).

87 Human Rights Council, *Resolution 17/4: Guiding Principles on Business and Human Rights*, 16 June 2011, HR/PUB/11/04.

88 E.M. Aswad, "The Future of Freedom of Expression Online," [2018] 17 *Duke Law & Technology Review*, 1, 26, p. 39.

violations committed by all business enterprises domiciled in the state territory or jurisdiction. The private entities that are owned, controlled or supported by a state, require taking additional steps on the state's side as long as the nexus between the state and the private entity entails that acts of the latter can be attributed to the former in terms of state responsibility. This legal or factual link is particularly important in providing support and services involving LAWS systems by the private entities to states' authorities. It implies a stricter human rights due diligence with respect to the tools purchased by the state. Principle 12 of the UNGP stipulates that "the responsibility of business enterprises to respect human rights refers to internationally recognized human rights – understood, at a minimum, as those expressed in the International Bill of Human Rights and the principles concerning fundamental rights set out in the International Labour Organization's Declaration on Fundamental Principles and Rights at Work".

The Commentary to the Principle 12 stipulates that this provision also covered, in situations of armed conflicts, that business enterprises should respect IHL[89]. The Commentary to Principle 11 of the UNGP also indicates that the business responsibility to respect exists independently of state's ability and/or willingness to fulfil their own human rights obligations. It corresponds to what arms manufacturers tend to claim while explaining their compliance with IHL and human rights, namely that their responsibility is legitimised by state approval of arms transfer. The Commentary to Principle 11 of the UNGP states that business responsibility to respect exists "over and above compliance with national laws and regulations".

Human rights due diligence means that the private companies should identify, prevent, mitigate and account for human rights (and IHL) adverse impacts. Due diligence should be undertaken to prevent these adverse impacts, be adapted to the severity and likelihood of the adverse impact, and adapt to the changing circumstances as operating contexts of businesses evolve[90]. The responsibility to respect IHL lying on the private entities means that they

89 OHCHR, "Guiding Principles on Business and Human Rights. Implementing the United Nations 'Protect, Respect and Remedy' Framework," UN Documents (New York & Geneva: United Nations, June 6, 2011), https://digitallibrary.un.org/record/720245.

90 Schliemann and Bryk, "Arms Trade and Corporate Responsibility. Liability, Litigation and Legislative Reform," 20.

should avoid causing IHL impacts through their own activities and address IHL impacts attached to their activities. Arms manufacturers as business entities fall into an increase due diligence, since their products and services can be and are deployable in armed conflicts. It means that their products such as LAWS should be audited from the IHL and human rights perspectives. The duty of due diligence is an important part of increasing IHL compliance by arms manufacturers. However, the identification of risks of negative impacts of the use of the transferred weapons is still largely absent in the arms sector[91]. Clear policy commitments to respect human rights in relation to using their product are missing. Even more concerning is the lack of respect for IHL in risk assessments[92]. The example of the arms manufacturer that conducts due diligence is Kongsberg from Norway. The Canadian Commercial Corporation (an export promotion branch of the Canadian government) supports the Canadian arms exporters with contracts with foreign states and requires that arms manufacturers fill a due diligence check-list, which is based on the ATT and UNGP. Starting from 2017, in France there is the mandatory human rights due diligence under the Duty of Vigilance Law. It applies to companies registered or incorporated in France employing 5,000 people or more. The UN Working Group on Business and Human Rights indicates that this municipal law may apply to arms manufacturers taking into account their size and revenue[93]. In relation to due diligence performed by arms manufacturers, an argument on IHL and human rights due diligence compliance by arms manufacturers is blurred by the statement that apparently they comply with IHL and human rights by the mere fact that home states approve their contracts on arms transfers[94]. On the contrary, Pillar II of the UNGPs sets forth that the business responsibility to respect HR exists independently of state abilities or willingness to fulfil their own international obligations.

91 UN Working Group on Business and Human Rights, "Responsible Business Conduct in the Arms Sector: Ensuring Business Practice in Line with the UN Guiding Principles on Business and Human Rights," 6.

92 Schliemann and Bryk, "Arms Trade and Corporate Responsibility. Liability, Litigation and Legislative Reform," 20.

93 UN Working Group on Business and Human Rights, "Responsible Business Conduct in the Arms Sector: Ensuring Business Practice in Line with the UN Guiding Principles on Business and Human Rights," 6.

94 Amnesty International, "Outsourcing Responsibility," 6.

The UNGP belong to soft law, therefore they are non-binding instruments that do not by themselves create corporate obligations under international law, including IHL. However, since regulating business sector as well as human rights and IHL is a complex issue, which means that it takes time to regulate it, but various actors should still be able to interact with each other. The UNGP belong to the institutionalised and incremental decision-making processes which nonetheless bear the normative value. The institutional context of the UNGP is that they have entered the normative discourse by several ways, including by way of General Comments of human rights treaty bodies and civil society reports. They develop substance of legal infrastructure and become part of this infrastructure by way of further decision-making processes. For example, the UN Working Group on Business and Human Rights proposes recommendations to arms sector which involve implementing and enhancing due diligence as well as committing to responsible business practices, including identifications and investigations of corruption in the arms industry, as well as the establishment of grievance mechanisms in cases of human rights or IHL violations[95].

States have taken the significant soft law instrument in the framework of the OECD. The Guidelines for multinational enterprises of 1976 (as amended in 2011)[96] form government recommendations for responsible business conduct globally and create national contact points through which victims of international law abuses can ask for remedies in non-responsible business conduct before a non-judicial grievance mechanism. The normative (albeit still non-binding) efforts focus on human rights bodies, including the UN Guiding Principles on Business and Human Rights of 2011[97]. The UN Guiding Principles relate to business responsibility to respect IHL (see Commentary to Principle 12). The most institutionalised normative effort, however, was undertaken in 2014 by the Human Rights Council, which established the open-ended intergovernmental working group to prepare a draft of a legally binding instrument to

95 UN Working Group on Business and Human Rights, "Responsible Business Conduct in the Arms Sector: Ensuring Business Practice in Line with the UN Guiding Principles on Business and Human Rights," 8.

96 OECD, "OECD Guidelines for Multinational Enterprises" (OECD Publishing, May 25, 2011), http://mneguidelines.oecd.org/guidelines/.

97 OHCHR, "Ruggie Principles."

regulate the activities of transnational corporations and other business enterprises in relation to international human rights law. According to Article 3(3) of the third revised draft of this legally binding instrument, it would also cover international humanitarian and criminal law[98]. The project departs from the previous treaties concerning legal persons that refer to responsibility in a sectoral approach, and covers all violations irrespective of the sector in which they are committed. The nature of responsibility is accounted in the direction of both criminal responsibility and civil liability at the same time. A significant contribution of the project is that, if adopted, it would regulate a legal person's own activities and its business relations. There are two forms of such responsibility: direct – a legal person is responsible and liable for its own violations, and indirect – for omission or a lack of preventing the violation over person's subsidiaries and co-contractors. Another crucial aspect of the draft is that it would let a victim decide about jurisdiction, including *ratione loci* and *ratione iuris*, from among those given in the draft treaty. The success of this normative proposal is not predicted in the following years, though.

One therefore cannot lose sight of the OECD Guidelines as the potential international framework for addressing LAWS-related IHL violations committed by arms manufacturers. Chapter IV of this set of governments' recommendations to multinational enterprises indicates that the OECD Guidelines draw on the UN Framework for Business and Human Rights so they are in line with the UNGPs. The OECD Guidelines are supported by a unique compulsory state agencies (national contact points, NCPs)[99]. All adhering states[100] set up this mechanism to mediate between business enterprises and any potential victims of human rights violations. The NCPs allow individuals to lodge a complaint with the mechanism that assesses the complaint and can offer a dialogue between a company and a victim. They could be operationalised in the context of LAWS to identify potential IHL violations and grant remedies. The OECD

98 The Open-ended Intergovernmental Working Group, "OEIGWG Chairmanship Third Revised Draft: A Thrid Revised Draft Legally Binding Instrument to Regulate, in International Human Rights Law, the Activities of Transnational Corporations and Other Business Enterprises," *Human Rights Council*, August 17, 2021, https://www.ohchr.org/Documents/HRBodies/HRCouncil/WGTransCorp/Session6/LBI3rdDRAFT.pdf.

99 OECD, "OECD Guidelines for Multinational Enterprises," 31.

100 All OECD member states (38) and further 12 non-OECD states have adhered to the OECD Guidelines for Multinational Enterprises.

Guidelines are supported by the OECD Due Diligence Guidance for Responsible Business Conduct. The implementation of the CSR varies among arms manufacturers. Both the UNGP and the OECD Guidelines are indicated as relevant to clarify the responsibilities of arms manufacturers and their home-states to avoid harmful impacts of business operations[101]. The good practices have been put in place by Thales and Leonardo. Both arms manufacturers expressly declared to uphold the UNGPs and to comply with the OECD Guidelines[102].

However, the current state of art before the NCPs is not optimistic with regard to arms manufacturers' compliance with the OECD Guidelines due to an extricable link of arms transfer with state conduct. The European Centre for Democracy and Human Rights and two other NGOs submitted a Specific Instance of acting inconsistently with the OECD Guidelines by Boeing and Lockheed Martin before the US National Contact Point in relation to targeting civilians by the Saudi-led intervention in Yemen. The submitters alleged that the arms manufacturers failed "to take appropriate steps to ensure that their products did not cause or contribute to human rights abuses" and to carry out human rights due diligence[103]. The NCP stated that the practices of the arms manufacturers were intertwined with the state conducts, namely those of the US government licensing arms transfer and Saudi Arabia using the transferred arms. As a result, according to the US NCP, this Specific Instance would not serve to advance the OECD Guidelines which are not a state-to-state mechanism but private party dispute resolution, therefore mediation was not offered[104]. Amnesty International assessed that the refusal of mediation in this instance exposed the fundamental problem of outsourcing arms manufacturers'

101 Azarova, Isbister, and Mazzoleni, "Domestic Accountability for International Arms Transfers: Law, Policy and Practice," 52.

102 "Incorporating CSR Principles All along the Value Chain," *Thales Group*, accessed September 8, 2023, https://www.thalesgroup.com/en/global/corporate-responsibility/governance/incorporating-csr-principles-all-along-value-chain; "Group Policy on Human Rights" (Leonardo), accessed September 8, 2023, https://www.leonardo.com/documents/15646808/16737734/Group+Policy+Human+Rights_general+use_new.pdf?t=1581339111551.

103 Wilsken, "Missing Targets."

104 Specific Instance between European Centre for Democracy and Human Rights, Defenders for Medical Impartiality, and Arabian Rights Watch Association, and The Boeing Company and Lockheed Martin Corporation (Final Statement) (US National Contact Point September 18, 2018).

responsibility of due diligence to states, even though these states would violate IHL[105]. Similarly, state authorisation of arms transfer by the UK company to Saudi Arabia was used by the UK NCP to dismiss the case. As provided by in the Initial Statement of 2016, the UK NCP stated that it is contrary to the purpose and effectiveness of the OECD Guidelines to "examine a supply for which a human rights assessment was made by the UK government as part of export licensing controls"[106]. For LAWS-related cases, it would mean that even though LAWS targeted civilians due to the software error or mistake, if state authorisation to arms transfer were issued, NCPs would not hear the case because of the supremacy of state's arms export relations. Here, the concept of shared responsibility between state duty to protect and business responsibility to respect IHL and human rights becomes a burning issue. As long as state duty to protect overcomes the compliance with IHL and human rights, business responsibility remains secondary and so is the protection of victims.

A more optimistic scenario is present in relation to new technologies in human rights applications. In specific instance of Gamma International, the manufacturer delivered surveillance technology, Finfischer, to the Bahraini government, which used it to commit human rights violations and targeted pro-democracy activists. The UK NCP elaborated on the company's due diligence and recommended the manufacturer to adapt its due diligence to make it more consistent with the OECD Guidelines by taking note of evidence from human rights bodies in performing due diligence, participating in industry best practice schemes, reconsidering its communications strategy to increase transparent engagement appropriate for its sector[107]. Similarly, in specific instance notified by an NGO regarding activities of Alsetex, the French NCP pointed to concrete recommendations on due diligence. The due diligence process should be approved at the highest level of the company, published and communicated internally and externally to all personnel, business partners and other relevant parties. Since the case concerned tear gas exported to Bahrain which was

105 Amnesty International, "Outsourcing Responsibility," 50.

106 Initial Assessment by the UK National Contact Point, Complaint from an NGO against a UK company (National Contact Point October 14, 2016).

107 "Privacy International Complaint to UK NCP about Gamma International UK Ltd" (UK National Contact Point, December 2014), para. 73, https://www.gov.uk/government/publications/privacy-international-complaint-to-uk-ncp-about-gamma-international-uk-ltd.

later used to commit human rights violations, the NGO suggested that Alsetex should include a special clause in its future arms deals to provide that those affected by the tear gas receive compensation. The clause should state that, in the case of re-exports of Alsetex's products which is not authorised by the French government, the party must compensate Alsetex, which would use the compensation to fund actions to protect human rights[108].

108 "Specific Instance Notified by the NGO 'Americans for Democracy and Human Rights in Bahrain' (ADHRB) Regarding the Activities of Alsetex, a Subsidiary of the French Multinational Enterprise Etienne Lacroix Group Trading with Bahrain, in the Gulf Region (Final Statement)" (NCP France, July 4, 2016), https://mneguidelines.oecd.org/database/instances/fr0021.htm.

Concluding remarks

Violations of specific IHL rules amount to grave breaches or serious violations of IHL, which *prima facie* connote criminal responsibility for international crimes. Determining the substance of these violations has severe implications for determining if using LAWS constitutes an international crime *per se* or implies only exceptional compensation possibilities in case of an error or mistake of LAWS. The latter follows with an understanding of the nature of responsibilities under international law as not exclusively civil or criminal but rather heterogenous. These responsibilities are fragmented, meaning that their scope depends on the type of participants of the war industry (not necessarily subjects of international law or parties to an armed conflict). The criminal responsibility of individuals also depends on the applied regime (which does not necessarily involve the ICC Statute). Even when the ICC Statute applies, it constitutes a compromise between the will of the participating states, so its domestic implementation depends on, for example, the law of the state of an alleged perpetrator's nationality.

The discussion on the topic is mainly centred on the GGE on LAWS. It focuses on terminological problems, human-machine relationships, and the subsequent legality of LAWS, whereas correctly and consistently naming challenges for the international community is impossible. Although states agree on applying IHL to LAWS, there is a lack of will to define LAWS and their exact classification in the catalogue of means and methods of warfare. The focal point is human control over the system, which can take the form of proper, significant, meaningful control, judgment, assessment, and supervision. The only unquestionable aspect of the whole phenomenon is a human's presence in the system's performance chain.

This book has challenged the traditional narrative about international subjectivity and responsibility, which resulted in the artificial presupposition that only states and individuals can (exceptionally, though) bear responsibility for LAWS performance. This narrative is useful in remaining internationally

silent to address civilian harms and damages in armed conflicts and to arms dealers' contribution to perpetuating armed conflicts. It usually follows with the dystopian perspective on (omnipotent and destructive) capabilities of LAWS while overlooking the long history of IHL and various forms of international responsibility to avoid or limit the protection crisis. The narrative also ignores the problem of how corporations' power often results from state support and sets aside the complexity of correlations between business and IHL. The book, in contrast, has taken the critical approach to touch upon the most fundamental and topical problem of contemporary international governance, namely the effective enforcement of responsibility for violations of international law that approach other than states participants of the war industry. This goal is achieved by pinpointing that what happens outside IHL significantly impacts victims of armed conflicts, and it is counter-productive to expect that IHL is enforceable by its own means. As Carrie McDougall has suggested, debates surrounding the accountability gap concerning LAWS as indicating the necessity to regulate or prohibit LAWS are like putting a cart before a horse. The "accountability gap" argument used as a pre-condition would presume that accountability is a primary indicator for the regulatory processes concerning LAWS. In contrast, accountability as a secondary regime should facilitate compliance with the primary law regulating or prohibiting weapons, not *vice versa.* Obviously, putting the horse first does not entail avoiding putting accountability questions on the table, but we should focus on the impact of LAWS on IHL as such, with accountability regimes in mind[1].

Development and deployment of LAWS benefit from ambiguities in IHL's interpretation, because not every civilian damage or harm constitutes an IHL violation. Furthermore, although duties and responsibilities under IHL relating to LAWS have been increasingly attributed to other participants of international relations, namely business enterprises, even though the responsibility of these actors for their impact on the effects of armed conflicts (including IHL violations) is still in its infancy. Therefore, taking a broader approach to interdependencies in the war industry allows one to depart from disturbances in the status of subjects of international law and parties to an armed conflict and centre on the concept of a "participant" of the war industry as a cross-cutting term. The war industry engages various actors, including traditional subjects

1 McDougall, "Autonomous Weapon Systems and Accountability," 25–29.

of international law, whose activities widely affect the conduct of hostilities, but are currently in a grey zone regarding responsibility for how they produce adverse impacts on armed conflicts and contribute to the IHL enforcement crisis. It is argued that IHL, albeit a partly separate regime, constitutes a preventative paradigm of the war industry as a whole, also in times of peace, because it lies at the heart of global values. Likewise, IHL forces us to reflect on the contribution of every participant of the war industry to ensure the peace and security of humankind.

IHL principles are fundamental and they are a starting point for adopting and applying IHL targeting rules to LAWS. International tribunals and courts have used them to fill in ambiguities in the treaty and customary law and apply them simultaneously, since principles often provide the basis for the emergence of a norm of treaty or customary law. The latter, in turn, specifies the principles and should not contradict them[2]. It is evidenced, for example, by the transformation of *mutatis mutandis* custom into a principle of international law. On the other hand, the basic principles of IHL are often seen as too vague to respond to the challenges of new technologies. For this reason, the CCW framework has been broadened by five additional protocols relating to specific weaponry. Hence, in the context of armaments, customary international law, binding on states that are not parties to a particular international agreement (unless they become persistent objectors), is of great importance. Moreover, customary international law may, in some cases, develop faster than treaty law, as evidenced, among other things, by the jurisprudence of the *ad hoc* tribunals. An analysis of the particular norms referred to in the discourse as principles leads to the following conclusion: except in the cases of the complete inability of LAWS to comply with IHL norms (and thus its illegality *per se*), the use of LAWS is not explicitly prohibited.

However, the legality of the use is conditional on the nature of the environment in which such a system may be used, with the consequence that the risk of accidental casualties and collateral damage is minimised. Otherwise, the party using such weapons can be responsible for violating specific IHL rules. The principle of humanity occupies a special place among these sources of IHL. Even in the absence of specific rules derived from it, it performs as a tacit presumption

2 Judge Fernandez, The Right to Passage Over Indian Territory (Portugal v India) (Judgment), *Dissenting Opinion of Judge Fernandez*, No. Reps (ICJ December 4, 1960).

of the system, introducing an obligation to consider at least whether using LAWS is contrary to the commonly accepted values of IHL. The only IHL norm explicitly named as a principle in the treaty law is the principle of distinction. Its value is to protect civilians from the effects of hostilities. In this context, it is primarily, but not exclusively, that the legality of using LAWS is questioned. However, a strict distinction should be made between non-discriminatory weapons and the non-discriminatory use of an inherently discriminatory means of warfare, which may be the case of some LAWS. The rule of proportionality is closely linked with the carrying out of the attack, setting out specific duties, including taking appropriate precautions. Extending the obligation to exercise constant supervision over the proportionality of the planned means and methods of warfare to the intended results also to the planning stage of the operation is a vital element in examining the legality of using LAWS, including taking into account the possible risks of violating the principle of humanity and distinction. A sufficiently early evaluation of the fulfilment of the subjective requirement of proportionality in the context of the LAWS' use leads to minimising civilian casualties, which should remain a commander's decision. Finally, the principle of military necessity opposed to humanity in the aspect of responsibility (juridical dimension) is not a principle of IHL but a derogation clause that can be invoked in a case strictly provided for by a rule of IHL.

All the norms mentioned above matter for transparency procedures concerning weapons development and deployment presented at the GGE. The debate, albeit unproductive, regarding a new regulation is a treasure trove of such mechanisms. At least in this respect, it is recommended to conduct further discussions with states' involvement. Transparency mechanisms concerning weapons constitute a significant conjunction between targeting law, weapons law and disarmament law. Despite an obligation of weapons review not being followed by any institutional control mechanism, it is impossible and counterproductive to introduce any changes in this respect. Additionally, a corresponding customary obligation of weapons review is questionable. It is also unclear what (if any) is the scope of the customary obligation of weapons review. The emergence of a new IHL obligation is challenging, and states prefer soft, instead of binding, mechanisms to which they can voluntarily adhere. It could be a good idea to create a review guide that lists good practices in relation to LAWS, would help to strengthen compliant, transparent and comprehensive standards and consequently increase confidence in review procedures.

Transparency measures cannot be perceived as a redemption for all the problems of the international community. Nevertheless, they form part of increasing cooperation within the international community, and are consequently complementing deficiencies in IHL compliances by preventing specific activities from being carried out. One has to consider what the most accurate moment would be to introduce such mechanisms in order to be productive enough to reduce tensions between states. Weapons do not know boundaries, and therefore more transparent dialogue in both arms production and transfer not only contributes to a safer world, but goes some way to preventing the partial or total destruction of humanity. In weapons law, information-as-dialogue is obviously impossible to apply, but the disclosure of precise and specific information concerning transparent compliance procedures contributes to a broader adherence to, or at least observance of, a particular treaty. The discourse on LAWS is conducive to both a better understanding of IHL obligations and their development. However, it probably contributes more to dialogue and cooperation between states and civil society. Transparency plays a pivotal role in this process. The proper meaning given to transparency has an effect on the IHL implementation procedures, and consequently, on protection for victims of armed conflicts. IHL itself contains some minimum transparency procedures, including Article 84 of Additional Protocol I of 1977. It also creates, through Article 36 of the Protocol, or the corresponding customary rule, a bridge towards any developments in weapons systems. States are obviously not obliged to publish the results of their weapons review in terms of the capabilities of the AWS in their possession. Nonetheless, by virtue of Article 84 of Additional Protocol I of 1977, they are obliged to share information about the laws and procedures of IHL implementation. This uneven obligation is fulfilled voluntarily. The regulatory regimes (both international and municipal) of international arms transfer usually require state authorisation to transfer military equipment. Each regime's influence over individual corporate behaviour differs from criminal penalties to non-criminal sanctions to non-binding standards.

International law should respond to various situations, sometimes having only rudimentary tools and regulations as a basis. State responsibility results primarily from the attribution of an internationally unlawful act. An internationally wrongful act is understood as an act or omission that is imputable to a state under international law and constitutes a breach of an obligation of that state. Violations of IHL are classified as internationally wrongful acts.

State responsibility for harmful consequences of using LAWS may therefore be a more effective route than individual responsibility. However, there are clearly defined cases when a wrongful act can be attributed to the state. This results from the rule of attributing behavior to the state, which is related to a specific functional or actual bond with the state, and this is related to human (and not LAWS) conduct. A corollary of responsibility for grave breaches and serious violations of IHL is, on the one hand, a remedial obligation towards the injured state. On the other hand, the international community as a whole gains the right to hold the violating state responsible and to make a claim for compensation to the injured state or community, but this is not a form of *actio popularis.* As indicated above, compensation is divided into compensation and reparation. The former, in relation to armed conflicts, is a consequence of violations of IHL. Reparations concern the consequences of causing an armed conflict, to which the defeated state is obliged to compensation for violating obligations arising from the peace treaty. Pursuant to Article 31 of ARSIWA, the state is obliged to fully compensate for the damage resulting from the violation. Compensation may therefore be granted on the basis of *lex specialis* in IAC. However, ARSIWA grant the right of compensation to an injured State, but not to an individual who has suffered the harm or damage.

State responsibility is *independent* of the responsibility of other subjects of this law and individuals. To hold a state responsible for an internationally wrongful act, the use of LAWS would have to violate a specific primary rule of IHL. Invoking circumstances excluding the unlawfulness of an act in the case of IHL is very limited. Although the scope of state responsibility is broader than that of other participants, there is only a hypothetical possibility of holding a state internationally responsible for the use of LAWS, since, in practice, there are significant procedural obstacles and political reluctance to account states for IHL violations.

Liability in national law is applicable in relation to lawful but dangerous acts, such as owning an animal with dangerous properties. Independent actions taken by LAWS can be unpredictable as well as produce certain risks. Acceptance of these risks by the using state should also imply acceptance of responsibility for some consequences of acts not prohibited by international law, including those committed without fault or negligence. In the civil use of autonomous systems there are procedures in place to operationalise manufacturer or user liability or responsibility. If an autonomous system is intentionally used in an

inappropriate manner or damage is caused by negligence, the human-operator can be held criminally responsible. If a mental element (intent, knowledge, recklessness or unjustified lack of awareness of the damage) of the user cannot be demonstrated, then a responsibility gap arises. Outside an armed conflict, this gap does not cause major problems if LAWS present certain social benefits. When no fault can be shown in the occurrence of the damage, national solutions are adopted, such as strict liability (as for animal behaviour), mandatory user compensation or manufacturer's compensation obligation. However, in military use the balance of profits and losses cannot be fully translated from civil solutions. It would be difficult to use civil law liability instruments in the military, because the very essence of military operations implies the admissibility of causing certain effects in the form of losses to persons who do not participate in them. *De lege ferenda*, a solution may be proposed, according to which a state which decides to allow using LAWS should provide for compensation for losses resulting from the conduct of armed actions, which resulted from the unforeseen behaviour of LAWS. However, a number of non-state actors (including non-state armed groups and private enterprises) would remain outside the scope of such responsibility.

The impact of technology on law is increasing not only in the military use. Instead of using technical solutions, the individual begins to interact with it in certain ways. This raises the problem of attribution of the effects of this interaction, including criminal responsibility for its improper use[3]. Such dependencies between human and technology make the law no longer able to keep up with these dependencies. In the area of international criminal law, the problem seems to be greater, as it is difficult to adopt a proper basis for responsibility for the consequences of the use of a means of warfare that affect victims of armed conflicts. The mental element of war crimes is based on direct or exceptionally indirect intent. The possibility of criminal responsibility for simple negligence resulting from the use of LAWS therefore remains within the jurisdiction of national law.

International criminal law can also serve as a tool for addressing LAWS-related harms that occur in armed conflicts. Proving the elements of crimes when no human controls LAWS may be difficult. It does not mean that no international responsibility is engaged. The purpose of international criminal law is, among

3 Gabriel Hallevy, *When Robots Kill: Artificial Intelligence under Criminal Law* (Boston, 2013), xv.

others, to protect international values (for example, life) by punishing those involved in the conduct of LAWS. It is not the only purpose to which general international responsibility serves. Despite punishing individuals, it should also provide rehabilitation and remedies. Therefore, when harm is done, it may not be necessary to engage international criminal law regime but to provide remedies to victims of the harm. Compensation appropriate to the damage or harm caused by an armed conflict may be provided either through the mechanisms of IHL and international human rights law, transitional justice, business and human rights framework[4]. Each of these solutions, however, relates to different participants of the war industry, depending on the regime applied. IHL accepts compensation in such cases, but does not contain a remedial obligation in the event that appropriate measures are taken to ensure compliance with, for example, the obligation of distinction. Access to compensation under Article 75 of the ICC Statute is limited because of the link between the compensation claim and individual criminal responsibility, including the demonstration of the mental element in the form of direct intent. Harm resulting from an act done through negligence (indirect intent) is therefore generally not covered by the right to compensation.

Corporations cannot be held responsible before criminal tribunals and courts[5]. Nevertheless, individuals employed by such corporations can be held criminally accountable like others, which implies that the premises of this responsibility are indirectly fulfilled. A clear distinction between individual and corporate criminal responsibility is nevertheless relevant for many municipal laws, especially in the civil law systems. A diversity of domestic solutions exist and co-exist that can operationalise arms manufacturers' and arms dealers' responsibility. To facilitate business liability, some states establish legal instruments in specific fields. These instruments relate to corruption, due diligence standards, unilateral sanctions against private entities, claims mechanisms, and criminal responsibility for international crimes. Business responsibility can arise in the forms of legal responsibility and social responsibility.

4 Fernando Val-Garijo, "Reparations for Victims as a Key Element of Transitional Justice in the Middle East Occupied Territories: A Legal and Institutional Approach," *Https://Cadmus.Eui.Eu/Bitstream/Handle/1814/14040/ISJ%20Val-Garijo_EN.Pdf?Sequence=2* 6, no. 4 (2010): 40–41.

5 Ronald Slye, "Corporations, Veils, and International Criminal Liability," *Brooklyn Journal of International Law*, 33, no. 3 (2008): 955.

However, when specific law evolves, one can easily transcend from legal norms that have sanctions to social norms. International law obstacles to pursuing corporate criminal responsibility are formal rather than material objectives. ICC's personal jurisdiction covering also legal persons was rejected due to lack of consistency in corporations' criminal responsibility. Taking into account the diverse impacts of business on perpetuating armed conflicts and developing weapons systems that are morally challenging, social business responsibility is currently the main path to prevent and suppress such business power. Besides, the defence contractor exception before the US courts has serious implications on what weapons are developed in peacetime, how they are used in hostilities[6]. Hence, the PAX report on LAWS market proposes several recommendations for business developing LAWS. These recommendations suggest, among other things, establishing clear policies concerning the company's approach toward LAWS development, ethical assessment of each project, as well as personnel training on IHL, international human rights law and ethics[7].

Litigating LAWS-related civilian casualties demonstrate yet another layer of state and business blurring relationships. Both in criminal and civil responsibility regimes, arms manufacturers are usually released from responsibility because of state secrecy or government contractors' defences, all of which serve the higher "collective" interests, namely to foster state economy and contribute to state foreign policy. On the other end of the spectrum are state obligations in the field of IHL and human rights, in which states do not fully internalise the full meaning of state duty to protect (as reflected in the UNGPs), especially with regard to preventing and punishing abuses by non-state actors, such as arms manufacturers. It must be concluded that, as long as the duty to protect IHL and human rights remains at the centre of IHL and international human rights regimes, the concerns of military-industrial complexes remain unsettled. It is so because the lack of clarity on who is bound by which obligations affects how corporate power interrelates with state's duty to protect. Some solutions suggest replacing discussions on who and what should be blamed by the concept of shared responsibility. The UNGPs seem to reflect this idea of

6 Richard T. De George, "Non-Combatant Immunity in an Age of High Tech Warfare," in *Intervention, Terrorism, and Torture: Contemporary Challenges to Just War Theory: 1*, ed. Steven P. Lee (Dordrecht: Springer, 2007), 312.

7 PAX, "Slippery Slope. The Arms Industry and Increasingly Autonomous Weapons."

shared responsibility as they explain both state's duty to protect and business responsibility to respect.

One cannot underestimate the role the ATT has been playing in litigating arms transfers that challenge IHL compliance. After the entry into force of the ATT, this type of litigation by the civil society has increased. One of the factors fostering this litigation could be the fact that the Saudi-led intervention in Yemen has led to a serious humanitarian crisis resulting, *inter alia*, from serious IHL violations that could not be brought into accountability so far. Therefore, obligations imposed on states parties to the ATT, which nonetheless continued to transfer weapons to Saudi Arabia and UEA, have been triggered, in particular an obligation to ensure that the transferred weapons are not used to commit IHL violations. Strong and transnationally-linked civil societies, like those operating within the EU context, further enhance litigating arms transfers decisions, therefore preventing IHL violations being committed by the recipients of arms transfers.

To sum up, the autonomy of weapons systems impacts international responsibility in its formal and material aspects. Formally, it challenges who, if anyone, bears responsibility for the effects of LAWS performance, as well as who is entitled to submit a claim for violating international law. Materially, discussions about attribution concerning LAWS performance reveal that the current international framework of any responsibility focuses on human behaviour. In other words, it requires involving human conduct (either act or omission) to demonstrate the causal link between conduct and its effects. In this sense, LAWS do not preclude the responsibility of any war industry participant. For example, the very structure of the war industry that involves US domestic law precludes businesses' responsibility in developing LAWS. With regard to state responsibility in a broader sense, it is recommended that those states who develop or deploy LAWS adopt or enforce existing mechanisms for addressing arms exports decisions as well as for accessing remedies. The concept of war torts or insurance-like models of state liability for the conduct of hostilities should be further developed. All the conclusions indicate that what happens outside IHL, including weapons law, confidence-building mechanisms (including transparency in weapons systems), the law of international responsibility, domestic law enforcement of international criminal law, and corporate social responsibility, can prevent humanitarian crises resulting from deploying LAWS.

Depending on the participant of the war industry, there are fragmented legal obligations, duties and social responsibilities imposed on each of them as well as consequences for violating those that are legally binding. Social norms introducing responsibilities such as preventing the adverse humanitarian impacts of LAWS cannot be violated themselves. However, because of its occurrence in legal documents produced by various institutions, Business and Human Rights framework indirectly enters the normative discourse and constitutes a point of departure for corporate due diligence. Using LAWS in hostilities is first and foremost addressed through state responsibility. Here, both serious violations and grave breaches of IHL as well as non-serious and non-grave ones can be addressed. Weapons review and arms export control act as safeguards against any IHL violations committed with LAWS. Criminally assessed conducts committed with LAWS do not in itself preclude responsibility of individuals and corporate entities. However, IHL compliance is highly dependent on state implementation and therefore fragmented. Therefore, if LAWS are more and more frequently used in armed conflicts, is it necessary to develop the existing liability frameworks for civilian casualties resulting from LAWS in the form of war torts. Good practices have already been established in some municipal laws. Procedural obstacles to litigating war torts can be reduced to increase the scope of persons having the legal standing in proceedings. Conduct of those who develop LAWS cannot be underestimated. As long as state authorisation (and primary obligation to ensure respect for IHL) excludes corporate responsibility to respect IHL and consider adverse impacts of products, arms manufacturers will naturally continue to produce means of warfare for home states and foreign recipients. It is questionable whether companies developing LAWS take direct part in hostilities for which they or their employees can be held responsible for while accounting harmful effects of using LAWS. Nor do they bear direct corporate *obligations* under international law that are relevant in the context of LAWS. However, they should perform due diligence in any transfer of LAWS that takes into account at least the criminalised rules of IHL.

While LAWS contribute to overall military advantage and reduction of military loss, they create a problem around legal responsibility for lack of human control leading to probable unpredictability of technology. Much research into AI and weapons systems focuses on the legality of LAWS, obstacles to enforcing accountability and responsibility gaps. However, one must look at international responsibility more broadly by focusing on the perspective of victims and the

possibilities for preventative measures taken by the war industry. The traditional narrative on international law and LAWS creates a governance, not responsibility, gap. To fully understand moral and legal responsibility for the conduct of hostilities, it is essential to place further corporate responsibility in the broader sweep of international law.

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Responsibility of war industry for lethal autonomous weapons systems

Summary

The complexity of legal and moral questions posed by the revolution in military affairs primarily affects civilians' lives. Whereas lethal autonomous weapons systems' contribution to overall military advantage and reduction of military loss is tempting and will likely grow in the coming years, international tools for addressing civilian harm and damage resulting from weapons systems require immediate clarification. Despite abundant evidence that lethal autonomous weapons systems (LAWS) limit the human loss and highly dehumanise armed conflicts, we know little about how these weapons systems transpose responsibility for critical decisions and malfunctions of Artificial Intelligence. The book explains pathways through which responsibility for the consequences of machine decision-making in armed conflicts can be performed through international law. It identifies conditions under which various participants of the war industry, namely states, individuals, and private entities, prevent and fail to prevent the occurrence of civilian casualties in the conduct of hostilities. The central theoretical insight of the monograph is that the fragmented war industry's compliance with international law resonates with the protection of victims of armed conflicts. This argument draws on practical rationalism on international law derived from original data on the voluntary deployment of international tools in domestic procedures among states (with a particular focus on the USA and Israel) as well as the lack of any responses to IHL violations involving means and methods of warfare in Yemen, Syria, and more recently – Ukraine. Unfortunately, the invasion of Russia in Ukraine reveals that IHL violations are not a *niche* and can be used even by a permanent member of the Security Council as a means of their external policies. Overall, the book highlights available pathways through which the participants of the war industry may effectively contribute to the protection of victims of LAWS. The findings have clear implications for how we think about various ways in which IHL compliance should be ensured and how the war industry shapes the presence and future of armed conflicts.

Dominika Iwan-Sojka

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Streszczenie

W konfliktach zbrojnych coraz więcej broni jest zautomatyzowanych, zaś ludzi w coraz większym stopniu zastępuje technika. Chociaż przyczynia się to do ogólnej przewagi militarnej i zmniejszenia strat wojskowych, technika stwarza problem dotyczący moralnej i prawnej odpowiedzialności za swoją nieprzewidywalność. Wiele badań nad śmiercionośnymi autonomicznymi systemami broni (ang. *lethal autonomous weapons systems*, LAWS) koncentruje się na ich legalności, przeszkodach w egzekwowaniu i możliwych lukach w odpowiedzialności. Ta książka podchodzi do odpowiedzialności szerzej, koncentrując się na uczestnikach przemysłu wojennego i możliwościach działań zapobiegawczych podejmowanych przez ten przemysł. Książka zakłada, że tradycyjna narracja na temat prawa międzynarodowego i LAWS może prowadzić do luki w zarządzaniu ale nie odpowiedzialności. Aby w pełni zrozumieć odpowiedzialność prawną za prowadzenie działań zbrojnych, szczególnie ważne jest umieszczenie odpowiedzialności podmiotów zbiorowych w szerszym kontekście prawa międzynarodowego.

Przy opracowywaniu i wdrażaniu LAWS w sprytny sposób wykorzystuje się niejasności w interpretacji międzynarodowego prawa humanitarnego konfliktów zbrojnych (MPHKZ) w tym sensie, że nie każda krzywda lub szkoda wyrządzona ludności cywilnej stanowi naruszenie MPHKZ. Co więcej, chociaż obowiązki i odpowiedzialność wynikające z MPHKZ odnoszące się do LAWS są w coraz większym stopniu przypisywane innym uczestnikom stosunków międzynarodowych, a mianowicie organizacjom międzynarodowym i przedsiębiorstwom, odpowiedzialność tych aktorów za skutki konfliktów zbrojnych (w tym naruszenia MPHKZ) ewoluuje. W szerszym kontekście książka analizuje odpowiedzialność wszystkich uczestników przemysłu wojennego, niezależnie od ich statusu jako podmiotów prawa międzynarodowego. Książka skupia się więc na pojęciu „uczestnika" przemysłu wojennego jako określeniu przekrojowym, niezwiązanym w pełni z tradycyjnym pojęciem stron konfliktu zbrojnego i podmiotów prawa międzynarodowego. Przemysł wojenny angażuje różne podmioty, których działalność w dużym stopniu wpływa na prowadzenie działań zbrojnych, ale które obecnie znajdują się w szarej strefie odpowiedzialności za wpływ, jaki wywierają na konflikty zbrojne. Książka zakłada, że MPHKZ, będące częściowo odrębnym (ang. *self-contained*) reżimem, stanowi prewencyjny paradygmat przemysłu wojennego także w czasie pokoju, ponieważ leży w sercu wartości międzynarodowych. Podobnie MPHKZ zmusza do refleksji nad wkładem każdego uczestnika przemysłu wojennego w zapewnienie pokoju i bezpieczeństwa ludzkości.

Książka oferuje nowe spojrzenie na to, kto faktycznie jest zaangażowany w przemysł wojenny, ale niekoniecznie ponosi odpowiedzialność za swój wkład w konflikty zbrojne i przestrzeganie wartości międzynarodowych. Przedstawia nową teorię na temat wpływu tych uczestników na kryzysy humanitarne. Książka analizuje oryginalny zbiór danych na temat odpowiedzialności różnych (zarówno korporacyjnych, jak i indywidualnych) uczestników przemysłu wojennego, w tym państw, osób fizycznych i przedsiębiorstw, za skutki działań wojennych wynikające

z decyzji podjętych przez ludzi i sieci neuronowe (w ramach relacji człowiek-maszyna lub bez niej). Na nowo konceptualizuje sposób, w jaki jasno sprecyzowane i egzekwowalne normy o odpowiedzialności zapewniają przestrzeganie MPHKZ. Stanowi to punkt wyjścia do nowej debaty na temat: na ile humanitarne jest MPHKZ i na ile odpowiedzialne jest prawo odpowiedzialności międzynarodowej w obliczu rewolucji technicznych w sprawach wojskowych. Książka umieszcza kwestię odpowiedzialności za LAWS w szerszym kontekście prawa międzynarodowego. Oferuje znaczące i aktualne ponowne zbadanie i nową konceptualizację stosunkowo ugruntowanych koncepcji prawa międzynarodowego kwestionowanych przez pojawiające się techniki w działaniach wojennych. Łączy różne, czasem sprzeczne reżimy odpowiedzialności związane z LAWS, których celem jest podzielenie ze sztuczną inteligencją powierzonego wcześniej siłom zbrojnym monopolu na przemoc. W książce stwierdza się, że unikanie trudnych dyskusji na temat odpowiedzialności za LAWS umożliwia niebezpieczną dyfuzję tych technik do niepaństwowych grup zbrojnych, w tym organizacji terrorystycznych i zwiększa kryzys prawa międzynarodowego.

Niniejsza książka rozpoczyna się od podważenia tradycyjnej narracji na temat międzynarodowej podmiotowości i odpowiedzialności, co skutkuje sztucznym założeniem, że tylko państwa i jednostki mogą (choć w wyjątkowych przypadkach) ponosić odpowiedzialność za LAWS. Narracja ta okazuje się użyteczna, jeśli chodzi o zachowanie milczenia na arenie międzynarodowej w kwestii szkód cywilnych i szkód powstałych w konfliktach zbrojnych oraz w odniesieniu do obowiązków handlarzy bronią wynikających z prawa międzynarodowego. Zwykle podąża się za dystopijną perspektywą (wszechmocnych i destrukcyjnych) możliwości LAWS, pomijając długą historię MPHKZ i różne formy międzynarodowej odpowiedzialności zwiększenia ochrony wynikającej z prawa międzynarodowego. Narracja ignoruje również fakt, że władza przedsiębiorstw wynika z niewiedzy lub celowego zaniechania państwa i pomija złożoność korelacji między biznesem a MPHKZ. Książka natomiast wypełnia tę lukę, dotykając najbardziej podstawowego i aktualnego problemu współczesnego ładu międzynarodowego, jakim jest skuteczne egzekwowanie odpowiedzialności za naruszenia prawa międzynarodowego. Cel ten osiąga się poprzez wskazanie, że to, co dzieje się poza MPHKZ, znacząco wpływa na ofiary konfliktów zbrojnych, a oczekiwanie, że MPHKZ będzie możliwe do wyegzekwowania za pomocą własnych środków, przyniesie efekt przeciwny do zamierzonego.

W poszczególnych rozdziałach staram się wypełnić luki teoretyczne i praktyczne, zadając następujące podstawowe pytania: W jaki sposób autonomia systemów uzbrojenia wpływa na odpowiedzialność międzynarodową? Czy korzystanie z LAWS wyklucza odpowiedzialność jakiegokolwiek badanego uczestnika? Jeśli tak, czy konieczne jest przyjęcie nowych ram odpowiedzialności za ofiary cywilne wynikające z LAWS w formie deliktów wojennych i ubezpieczeń na wypadek nieprawidłowego działania systemu? Jeżeli nie, kto jest za to odpowiedzialny i w jaki sposób można wywiązać się z tej odpowiedzialności? Czy przedsiębiorcy produkujący LAWS wykorzystywane w działaniach zbrojnych ponoszą odpowiedzialność za skutki stosowania LAWS? Czy odrębne mechanizmy egzekwowania przestrzegania MPHKZ przez wszystkich badanych uczestników zmniejszają kryzys ochronny?

Rozdziały otwierające (rozdziały 1–3) przedstawiają niezbędne koncepcje normatywne, a także tło polityczne i normatywne dla tematu. W rozdziałach składających się na tę książkę systematycznie testowane są teoretyczne ramy normatywne odpowiedzialności, aby lepiej zrozumieć fragmentację i następstwo odpowiedzialności (rozdziały 4–6), a nie ujednolicone międzynarodowe ramy odpowiedzialności oraz wpływ tej fragmentacji na dyskusje na temat LAWS. W konkluzji rozważono rekomendowany plan działania dotyczący odpowiedzialności za LAWS.

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