Chapter 13

Legal Aspects of Unmanned Warfare and Military Drone Operations

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Abstract

The evolving landscape of warfare has been transformed by the technological advancement of unmanned platforms. The use of drones has facilitated the remote execution of military operations, allowing armed conflict to achieve a global and presumably selective scope through sophisticated technological organisation. Nevertheless, the past two decades of mainly American practices have revealed that so-called "precision warfare" poses novel ethical and legal challenges. Despite the multifaceted roles played by contemporary military robots, especially in scenarios where they replace human combatants and execute lethal actions, comprehensive legal scrutiny is imperative.

Although unmanned platforms do not attain the same level of autonomy as military systems enabled by artificial intelligence, they still present challenges. In the case of unmanned platforms, the contentious aspects predominantly relate to their methods of employment rather than the inherent illegality of this means of warfare. This chapter critically dissects the legal complexities surrounding these technological innovations, distinguishing drones from autonomous weapons and examining their deployment methods and the relevant legal framework.

Key issues include the necessity for legal review of weapons before deployment, the use of unmanned platforms beyond the theatre of active armed conflict, and contentious combat methods such as targeted killings and signature strikes. While predominant discussions centre on U.S. drone warfare, this chapter incorporates a European perspective where relevant, highlighting the need for harmonisation of democratic standards.

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1. Introduction

In the ever-evolving landscape of warfare, the introduction of unmanned platforms is a significant technological leap. This chapter scrutinises the legal intricacies of these innovations, aiming to unravel the implications of their deployment. While drones are often lumped together with autonomous weapons, it is crucial to define the differences. This chapter elucidates why the legal dilemmas surrounding unmanned platforms, especially within drone warfare involving targeted killings and signature strikes, demand critical examination.

While discussions and analyses are predominantly around the experiences and surrounding U.S. drone warfare, the focus is also directed towards the European approach towards military drone technologies, ensuring a comprehensive understanding of diverse perspectives.

This chapter begins by defining key terms pertaining to unmanned platforms, distinguishing them from autonomous weapons. It then examines the history of drones in military operations and legal reviews of new weapons. Further, it explores the use of unmanned platforms within and outside armed conflicts, including the rise of drone warfare, the controversies surrounding targeted killings, and the challenges posed by these precision strikes. It also investigates the subject of responsibility in drone operations, considering both state and individual accountability. The chapter culminates by underscoring the imperative of formulating a unified European strategy to effectively manage and regulate the utilisation of military drones. This necessitates consideration within European policy frameworks of the legal, ethical, and policy dilemmas inherently associated with these technologies within the contemporary landscape of warfare.

2. Legal Definitions

2.1. Robots, Drones, and Unmanned Platforms: Defining the Terminology

The terms “military robots” and “drones” conjure images that are no longer confined to the realm of science fiction. It is widely acknowledged that a robot can receive information from its surroundings and independently carry out specific physical

actions through a controller and system.[1] This implies that a robot has a supportive and subordinate role to humans. This is precisely how Karel Čapek, the originator of the term "robot", portrayed them as far back as 1920. In the military context, contemporary robots fulfil a diverse array of functions, that at the moment, are mainly confined to supportive tasks. This is why it is important to present the various tasks that are already being performed by robots in a military context, clarify the associated vocabulary, and delineate the legal challenges and consequences related to the legality of their use and the legal consequences of their use.

Transport (logistics) robots play a crucial role in moving people, including disaster victims and those injured during hostilities, as well as equipment that is beyond human capacity to transport, such as various types of ammunition and supplies. Robots are also instrumental in locating and disarming explosive devices, making them valuable assets in clearing minefields and removing dangerous obstacles. Furthermore, robots contribute to surveillance and reconnaissance, penetrating enemy lines to identify potential threats. Robotic systems are also employed in personnel training, enabling the recreation of operational environments without exposing individuals to additional risk. However, the most commonly cited military application of robots undoubtedly pertains to their lethal capacity, which involves the ability to engage kinetically with any object or individual.

The examples of robots mentioned above and described in more detail in Chapter 12 showcase their diverse functions. However, their classification can be expanded based on their operational domain (aerial, terrestrial, underwater, or cybernetic), their resemblance to humans or animals, or any shape. Furthermore, they can be evaluated based on whether they are manned or unmanned. The most critical and existential debate revolves around whether they replace or support humans, and more crucially, in which specific tasks they do so.[2] All these attributes impact every stage in the lifecycle of a robot, from its inception and production to its deployment in military settings, its use in combat scenarios, and the assessment of its legality and potential liability for any unlawful actions involving the technology.[3]

Considering the scope of this chapter, a comprehensive analysis of all the challenges and issues associated with every robot model is not feasible. Instead, the focus will be on a specific subgroup of robots, which are distinguished by their lethal capabilities, unmanned nature and their human-supportive rather than human-substitute roles. It is within this category of military robots that numerous legal and ethical questions arise, warranting in-depth examination by lawyers and ethicists.

Before delving into the legal analysis, it is imperative to establish clear definitions for common terms used in discussions regarding military robots. After all, the lawyer's primary tool is language, as it shapes the reality being examined. While military robots and drones are common subjects in doctrinal considerations, international

1 ISO, 2012.
2 Bober, 2015, pp. 32–47.
3 Copeland, Liivoja and Sanders, 2023, p. 294.

legal definitions for the terms ‘drones’ and ‘military robots’ are lacking. Therefore, it is essential to clarify that throughout this discussion, terms such as military robots, drones, and unmanned platforms, including unmanned airborne vehicles (UAVs,) unmanned ground vehicles (UGVs), and unmanned underwater vehicles (UUVs) will be used interchangeably. Where relevant, the appropriate national regulations will be cited; otherwise, this analysis is solely focused on international law.

Beyond the terms previously mentioned, there exist additional concepts that necessitate clarification for legal analysis. A common misconception that arises in public discourse on drones is the use of the term “unmanned systems”, which should be more accurately referred to as “unmanned platforms”. A useful standard of reference here is the NATO glossary (AAP-06), which contains definitions to which all Member States have agreed.[4] The term “weapon systems” emphasises that technology or weaponry does not operate in isolation.[5] Therefore, achieving “weapon system self-sufficiency” entails combining the requisite equipment, materials, personnel, and means of installation and delivery necessary for its autonomous operation. The concept of a system also encompasses human involvement, which is particularly pertinent when characterising these systems as “unmanned”.

Consequently, an “unmanned system” is an unmanned platform with the necessary equipment, communications, software, and personnel for remote control or supervision.[6] The illustration provided in Chapter 12 regarding the Reaper system encompasses various elements, such as the ground control station, line-of-sight and beyond-line-of-sight satellites, terrestrial data links, support equipment and deployed personnel. Another essential point requiring clarification in the term “unmanned” is whether it signifies the absence of a physical human presence on the platform or system or the absence of human control, irrespective of physical presence. Adopting the latter definition has led to the following definitions:

- Human-in-the-loop weapons (a human in the process): In this category, a robot can only select a target and use force when directed by a human operator.
- Human-on-the-loop weapons (a human above the process): Robots can select a target and use force under human supervision. The human operator holds the authority to override the robot’s decisions.
- Human-out-of-the-loop weapons (there are no humans in the process): Robots can autonomously select targets and employ force without human intervention.[7]

While not without limitations, especially considering the delicate balance between the human capacity to swiftly react and override robot decisions (human-on-the-loop)

4 NATO, 2021.

5 A combination of one or more weapons with all related equipment, materials, services, personnel and means of delivery and deployment, if applicable, required for self-sufficiency. Ibid.

6 A system whose components include the unmanned aircraft, the supporting network and all equipment and personnel necessary to control the unmanned aircraft. Ibid.

7 Human Rights Watch, 2012, p. 2.

versus the absence of such control (human-out-of-the-loop), this framework aids in categorising human-robot interactions. This categorisation is significant because, in the context of such weaponry, there are legal considerations around the role of humans as the recipients of legal norms and their consequent place in the loop. These circumstances stem from at least three key factors. First, robots are not yet recognised as legal entities subject to the law. Second, there is no specific international treaty that explicitly prohibits or restricts their use, unlike those regulating anti-personnel mines and chemical or nuclear weapons. Third, the human role in human-robot interactions is crucial from both ethical and legal points of view, particularly regarding criminal responsibility.

Consequently, the legal analysis of military robots relies on interpreting the collective body of legal norms applicable to their deployment. This includes fundamental areas of international law, such as the use of force, the law of armed conflict (LOAC), international human rights law (IHRL), and international criminal law.

2.2. Unmanned Platforms versus Autonomous Weapon Systems

In the following analysis, it is imperative to distinguish between autonomous military robots that can replace humans and those in which human involvement remains a factor. This differentiation arises not only from technological advancements, such as equipping these machines with artificial intelligence (AI), but also from a distinction in the fundamental nature of these weapons. Given that unmanned platforms are capable of delivering kinetic force, the legal and ethical considerations hinge on whether these robots are remotely guided or operated in real-time by a human or if they are controlled by AI. The division of human in/on/out of the loop mentioned earlier exists to categorise military robots precisely because of this issue.

An alternative framework involves classifying weapons as automatic, automated, or autonomous. In this context, the emphasis is not on the human-robot relationship but rather on the predictability of the weapon's behaviour.[8] In automatic systems, future actions are predictable as they are programmed to react consistently to a given stimulus (for example, anti-personnel mines). In automated systems, the scope of action is expanded but remains limited to situations where actions have been pre-programmed (e.g., the early self-driving cars). Finally, in autonomous systems, the outcomes of actions are unpredictable because of their ability to make decisions in variable and complex environments (e.g. the AI's "black box").

Hence, the crux of the matter concerning military robots and autonomous weapon systems is human control, which can be understood as either remote control or the assurance of high predictability in the systems' actions. It is worth noting that the boundary between these two categories is quite fluid (a technological continuum), as the manner in which robots are operated can significantly impact the quality of

8 Development, Concepts and Doctrine Centre, 2022, p. 11.

the human-robot interaction.[9] Some of the most frequently mentioned challenges include confirmation bias[10] or the "android fallacy", characterised by excessive reliance on information from sensor systems and information analysis, as well as the illusory nature of remote control, particularly when overseeing a swarm of robots simultaneously (like Sparrowhawks mentioned in Chapter 12), which can lead to task monotony and slower response times.[11] As a result, discussions on autonomous weapons systems, particularly within the framework of the Convention on Certain Conventional Weapons in Geneva, emphasise the concept of "meaningful human control" as a prerequisite for the deployment of such systems and an important factor in attributing individual responsibility for violation of the LOAC.[12]

Hence, in the case of military robots that are remotely controlled or highly predictable, the issues surrounding whether their actions align with LOAC and IHRL[13] and the issue of the "accountability gap" (the challenge of assigning responsibility for law violations using these technologies to a specific individual) are less prominent.[14] It appears that the matter of remotely controlled and predictable military robots is comparatively more straightforward. Nevertheless, this does not imply that it is without challenges. These types of technologies, unlike autonomous ones, have been in use on the battlefields since the early 21st century and the practical application of these technologies has raised numerous legal questions, which will be explored in this chapter.

3. Introduction of Drones to the Armed Forces

3.1. Means and Methods of Warfare: Understanding the Context

A historical analysis of the rationales and methods of weapons regulation reveals that states are motivated by both humanitarian and practical considerations. On the one hand, weapons that inflict excessive suffering, such as blinding laser weapons or weapons of mass destruction, are prohibited. On the other hand, extra-legal factors, such as safeguarding public safety, protecting the strategic interests of arms manufacturers and users, and sustaining arms races, sometimes lead to the absence of regulation or dual-track regulation, as seen in cases like anti-personnel mines and cluster munitions. As Sean Watts aptly points out, weapons can be categorised as

9 Kate-Devitt, 2018, pp. 161–184.
10 Mentioned in the case of the use of a MQ-9 Reaper in Afghanistan on 29 August 2021, in Chapter 12.
11 Richards and Smart, 2016, pp. 18–21.
12 Moyes, 2016; Santoni De Sio and Van Den Hoven, 2018, p. 15; Acquaviva, 2023.
13 Human Rights Watch, 2012.
14 Human Rights Watch, 2015.

either regulation-tolerant or regulation-resistant.[15] It is the latter group, characterised by their military utility, effectiveness, novelty, and disruptiveness, that is reluctantly regulated, especially by military powers.

Consequently, it can be argued that military robots, due to their distinctive characteristics (presented in Chapter 12), fall into the category of regulation-resistant weapons, akin to nuclear weapons, submarines, firearms, and ammunition. With the absence of specific legislation and minimal prospects for its enactment, an analysis of the legality surrounding the development and use of military robots necessitates the identification of the most relevant general regulations that provide guidance on the norms governing these processes.

A crucial foundational concept is the definition of *weapons*. Treaty norms and customary international law lack a specific definition for weapons, which underscores the pivotal role of doctrine in this regard. From a practical perspective, weapons are tools employed by individuals to surpass their physical or mental limitations in combat. A weapon is essentially a means of combat used during warfare. In this context, means of combat includes firearms, rockets, bombs, or other munitions capable of causing death or injury to individuals or destroying or damaging objects.[16] Weapons can exert force through kinetic means or through the transmission of electrical energy, the dispersion of chemical substances biological agents, through sound, through manipulation of electromagnetic energy, or the generation of effects in cyberspace.

The terms "means of warfare", "means of combat", "means of attack", and "weapons" are interchangeably used in doctrine and international agreements concerning arms.[17] In practice, "means of combat" is the prevailing concept in LOAC doctrine, while the term "weapons" is more commonly found in disarmament and arms control agreements. "Means of combat" is a broader yet more precise concept than "weapons", as it encompasses not only arms used in armed conflicts but also weapons platforms and systems employed by parties engaged in hostilities. Consequently, it does not pertain to arms used in crowd control, for instance, or by state security authorities.

Doctrine distinguishes between "means of combat" as pieces of equipment, such as ammunition, substances or objects, and "weapons", which refer to the actual capability used to incapacitate or reduce a military target's effectiveness, rendering individuals unable to effectively participate in combat. Another concept often associated with weapons and means of warfare is "methods of warfare", which are ways a particular weapon or means of combat may be employed during military actions or

15 Watts, 2015, pp. 540–621.

16 The Program on Humanitarian Policy and Conflict Research, 2013, p. 16.

17 Article 1 of the Treaty on the Non-Proliferation of Nuclear Weapons, 1968; Article 1 of the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, 1972; Articles 35, 36, 51 and 57 of Additional Protocol (I) to the Geneva Conventions of 12 August 1949 and relating to the protection of victims of international armed conflicts, 1977 (AP I).

the strategies or tactics used. However, the international legal framework also lacks a specific definition for methods of warfare, and doctrine tends to examine them only infrequently.

Military robots are commonly categorised as weapon platforms and systems rather than specific types of weapons. After all, a robot can be equipped with various types of weapons and ammunition (for example, the MQ-9 Reaper has AGM-114 Hellfire guided missiles and GBU-12 Paveway II bombs). An essential distinction with military robots is they are remote controlled and unmanned. The term "drone warfare" has already emerged as a method of warfare conducted using remotely controlled UAVs. Consequently, the central focus of this chapter is not solely on the legality of military robots as a means of warfare but rather on the legality of the way in which they are utilised as a method of warfare. This, of course, does not exclude the legality of the weapons specifically utilised by military robots, but this issue is beyond the scope of the research presented in this chapter.

3.2. Legal Review: Ensuring Compliance

Contrary to common belief, new military technologies do not operate in a legal void. While it is true that international law often lags behind the development and deployment of technologies, which are typically created, used, and only then subject to regulation (potentially through complete bans or limitations on their use), international law does take these possibilities into account. This is primarily accomplished through the application of fundamental principles of LOAC, such as the limited right to select means and methods of warfare, the prohibition of superfluous injury or unnecessary suffering, the prohibition of extensive, enduring and severe harm to the natural environment, and the principles of distinction, precautions, and proportionality.[18] A pivotal provision that plays a preventive role, anchored in these principles, is art. 36 AP I:

> Article 36 – New weapons. In the study, development, acquisition or adoption of a new weapon, means or method of warfare, a High Contracting Party is under an obligation to determine whether its employment would, in some or all circumstances, be prohibited by this Protocol or by any other rule of international law applicable to the High Contracting Party.

In simpler terms, this regulation places a responsibility on States Parties to consistently ensure that the weapons they procure and the methods of warfare they develop align with the stipulations of AP I, as well as a range of other relevant international legal norms applicable to the circumstances of their use.

At the outset, it is crucial to delineate the nature of this provision. It is a treaty norm that has not been subject to reservations or declarations and, therefore, is

18 Hagger and McCormack, 2012, pp. 1–26.

binding on all 174 States Parties, which include all Member States of the European Union (EU). Furthermore, as emphasised by Natalia Jevglevskaja, there is no consistent and established state practice (*usus*) despite the recognition of the provision's enforceability as law (*opinio juris*), and, as a result, this norm has not attained customary status.[19] However, it is noteworthy that certain states like the United States (a signatory state) or Israel (not even a signatory state) conduct legal reviews based on their domestic laws. What adds further significance to this is that based on available information (since there is no requirement to publicly disclose the conduct of a legal review), only around 20 states globally undertake such reviews.[20] This raises questions about the effectiveness of this provision. Nevertheless, in the discourse on autonomous weapon systems, the matter of legal review has experienced a resurgence, as states consider this process as a means to address the legality of disruptive weapons.[21]

3.2.1. Scope and Standards of Legal Review

It is essential to consider the following issues concerning the legal review process: the material and normative scope of the review, the timing at which the obligation is activated, and procedural considerations. Given the ambiguity of art. 36 AP I and the lack of comprehensive international legal regulations on the matter, this analysis is based on best practices advocated by the International Committee of the Red Cross (ICRC) and drawn from operational national procedures.[22]

The complexity of legal reviews is contingent upon the sophistication of the subject under examination. While it is reasonable to assume that evaluating the legality of firearms is relatively straightforward, assessing the legality of military robots, especially autonomous ones, demands a more intricate and resource-intensive analysis. Here, it is important to emphasise that states are only required to scrutinise whether the typical and anticipated use of a particular weapon could be prohibited under any circumstances.[23] A legal review cannot reasonably cover all conceivable misuse scenarios, as that would render the study unfeasible. Any weapon (or object) can be employed in ways that breach legal norms. Therefore, a critical element of the examination involves characterising the means of warfare, such as a military robot, encompassing its inherent functions and intended purposes (method of warfare). These aspects establish the parameters for the scenarios within the legal review.

Despite the title of art. 36 AP I, the obligation to conduct a legal review is not applicable to every newly introduced weapon in the market. The notion of novelty, in this context, pertains to the standpoint of a state developing or acquiring the specific

19 Jevglevskaja, 2018, pp. 186–221.
20 Jevglevskaja and Liivoja, no date.
21 Copeland, Liivoja and Sanders, 2023, pp. 285–316.
22 ICRC, 2006.
23 Sandoz, Swiniarski and Zimmermann, 1987, para. 1469.

means or method of warfare in question. This includes conventional weapons, which were the primary focus of the AP I, but also extends to novel types of weaponry, following the wisdom that '[i]f humans do not master technology but allow it to master them, they will be destroyed by technology'.[24]

This matter is intertwined with the normative scope of the review. The language of art. 36 AP I makes it evident that the legal review must consider the provisions of AP I, with particular emphasis on art. 35 AP I. Furthermore, it should encompass other pertinent international laws that are applicable to the state and subject of the review. In particular, it is advisable to adopt a multidisciplinary approach that takes into consideration safety, environmental impact, health, human rights, and administrative regulations concerning matters such as registration, transportation, and insurance of the subject of the review.[25] As a result, it has been recommended that the team responsible for the legal review should comprise specialists with diverse backgrounds, including military experts, engineers, lawyers, psychologists and medical professionals. It cannot be ruled out that ongoing cooperation with the manufacturer's representatives will be necessary with more technically advanced weapon systems. This collaboration would aim to adequately assess the robot's suitability and to tailor the methods and scope of end-user training, or define specific conditions linked to updating and maintaining it.

For older or well-established weapons, the legal review process is relatively straightforward, as it primarily involves an analysis of existing international agreements to determine whether a specific means of warfare is prohibited or restricted by these agreements. In contrast, when dealing with newer means of warfare, such as military robots, dedicated international standards are lacking. Therefore, the legal analysis relies primarily on the interpretation of existing general standards, especially the fundamental principles of the LOAC, resulting in potential variations in assessments by individual states. It is important to note that in the case of military robots, the evaluation primarily focuses on their intended purpose and methods of use, as the design of the platform itself does not inherently pose legal challenges.

The above is significant because only a limited group of military powers are weapon-producing states, and others procure weapons from these producers. Consequently, a situation may arise where a producer state (e.g., the United States) may assert that a specific weapon complies with the applicable international laws. However, this assertion may not hold true for the acquiring state. A prime example of this is the cooperation among NATO member states, which include EU Member States and the United States, among others.[26] Due to variations in states' international legal obligations (stemming from differences in the ratification of various international agreements), they may not always be able to act uniformly in a combat environment. Within the context of European States, a notable distinction arises from the

24 Ibid., para. 1746.
25 ICRC, 2006, p. 935.
26 Olson, 2013, pp. 653–657; Abbott, 2014, pp. 107–137.

regional human rights protection system, with the European Court of Human Rights at its core. This system places additional obligations on these states, particularly concerning IHRL standards on the methods of warfare employed. Added to this, the lack of transparency and public disclosure of review methods, the absence of standardisation and divergent scopes regarding international legal obligations significantly impact interoperability. Consequently, the obligation to conduct a legal review is tailored to each manufacturing, purchaser, or user state. If any modifications or enhancements are made to a robot, a legal assessment of its legality must be re-conducted to evaluate the implications of such alterations.

Notably, aside from the legal aspects, there is no consensus regarding whether the subject of the review should also be assessed in terms of the *Martens clause*,[27] which is: the 'principles of humanity and requirements of public conscience'.[28] The author holds the view that such an ethically-oriented approach is acceptable, and this viewpoint is confirmed in the practices of states such as Australia and the United Kingdom. In essence, invoking the ethical dimension and assessing the desirability of developing a specific means or method of warfare can methodologically strengthen a state's ultimate decision on whether to engage in research or incorporate a particular means or method of warfare into its armed forces' arsenal.[29] It is worth noting that the Martens clause frequently arises in discussions regarding autonomous weapons systems, and it can also be a significant reference point in the context of drone warfare.

Regarding procedural aspects, the review team should be chosen on a case-by-case basis, taking into account the specific challenges associated with the subject of the review. There are a few key points from good practice that states should consider. The ICRC recommends that a responsible authority, whether within the political or military state structures, be designated to oversee the review[30] and should establish a clear trigger point for the procedure's implementation, introduce appropriate documentation, and establish rules for making the final decision. The outcome of the review can be presented in the form of a report, which should indicate whether a particular measure or method of combat is deemed acceptable and, if so, specify the situations in which the state should refrain from using it and outline the necessary precautions. While there is no obligation to publicly disclose the results of the review, considering the strategic interests of states and the necessity of maintaining military capabilities as classified information, the ICRC advocates for at least a partial release of such a report or the establishment of an international body to oversee the transparency and integrity of national review procedures. A similar demand has also been recently made in the context of autonomous weapon systems.[31]

27 Art. 1 (2) AP I.
28 Meron, 2000, pp. 78–89.
29 ICRC, 2006, p. 945.
30 Ibid., p. 949.
31 Argentina, 2019.

3.2.2. EU's Unique Approach

Given the lack of domestic legal reviews, despite the international legal obligation to conduct them, with only a few cases documented based on publicly available data, this study strongly recommends the establishment, maintenance, and regular update of such procedures, especially in those states bound to do so by AP I. This recommendation extends to the EU Member States, which are founded on democratic principles, including the rule of law, and are expected to conduct these processes diligently. Among the 27 EU Member States, only 12 have disclosed that they are conducting legal reviews. These states are Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, the Netherlands, and Sweden.[32] Therefore, when urging the other 16 domestic governments of European nations to fulfil their international legal obligations, it is worth presenting a general comparative overview of procedures practiced in other EU Member States.

EU Member States commonly delegate the responsibility for legal reviews to military-associated entities, primarily housed within defence ministries or directly within armed forces. However, Sweden stands out as an exception, leading the way in establishing an independent delegation appointed by the government and operating autonomously outside these structures since as early as 1974. In Italy, the review team includes representatives from the Ministry of Defence and both houses of Parliament. The overseeing body is often interdisciplinary and multidisciplinary, with potential for the inclusion of external experts.

With the exception of Sweden, where the delegation conducting legal reviews convenes three or four times annually, most procedures are *ad hoc* but initiated at the earliest stages of acquiring or developing means or methods of warfare. This typically happens prior to issuing a tender or signing a contract, as seen in Denmark and the Netherlands.

The outcomes of the legal review typically result in internal reports providing advice or recommendations, except in the Netherlands, where they hold binding authority. Accessibility and transparency of the review varies across states. Generally, the findings are not considered public. However, in specific states, such as Italy and Sweden, they are treated as partially accessible to the public.

The exposition of commonalities underscores that EU Member States engaged in legal reviews have achieved a minimal but uncoordinated level of harmonisation. The exercise of such actions distinctly pertains to the exclusive competence of sovereign states, rendering advocacy for overarching harmonisation presently unfeasible. However, it is important to note that 23 EU Member States are also NATO members. This affiliation strengthens the case for effectively enforcing art. 36 AP I, driven by political, military, and economic considerations. In cases involving advanced systems, such as military robots, where joint coordination, data sharing, and

32 Farrant and Ford, 2017, p. 391; Jevglevskaja, 2018, p. 192.

collaborative programmes are essential, establishing standardised procedures at a basic level becomes crucial.

4. Use of Drones

The integration of unmanned platforms, specifically aerial ones, has revealed challenges in implementing international legal norms, particularly those governing the use of force (*jus ad bellum*) and LOAC (*jus in bello*). The introduction of these technologies has functioned as a lens, highlighting and magnifying the complexities associated with interpreting and applying these legal frameworks.

4.1. Use of Unmanned Platforms outside Armed Conflicts

In the context of the use of force, a crucial aspect is the utilisation of unmanned platforms in settings removed from active armed conflicts. This detachment refers to their deployment in geographical areas where there is no ground-based combat or in situations where there are no ongoing armed conflicts. This includes instances where states opt for UAV-led attacks without deploying troops for a full-scale mission in the field. Put differently, it specifically pertains to employing force through targeted killings.

4.1.1. The Rise of Drone Warfare and Targeted Killings

The 21st century has witnessed a surge in targeted killings, a practice previously associated with special forces missions.[33] Traditionally, these missions involved specific forces being dispatched to eliminate a particular adversary and then returning to base. These operations typically cross borders, occurring on the territory of another state; however, the advent of UAV technology has transformed these missions into fully unmanned operations. In this evolution, the UAV operator remains within their home state's territory while directing the UAV abroad to execute its intended action. According to Philip Alston, Special Rapporteur on extrajudicial, summary or arbitrary executions,

> (…) a targeted killing is the intentional, premeditated and deliberate use of lethal force by States or their agents acting under colour of law, or by an organized armed group in armed conflict, against a specific individual who is not in the physical custody of the perpetrator.[34]

33 Blum and Heymann, 2013, pp. 69–92.
34 HRC, 2010, para. 1.

Examples include the operation that led to the killing of Osama Bin Laden in Abbottabad, Pakistan (April 2011), the shelling of a column near Sirte in Libya, resulting in the death of Muammar Gaddafi (October 2011), and the incidents involving Qasem Soleimani in Baghdad (January 2020) and Ayman Al-Zawahiri in Kabul (July 2022).

The widespread use of UAVs for targeted killings is commonly associated with the aftermath of the 9/11 attacks and the subsequent 'war on terror' within the asymmetric warfare paradigm. However, this approach results in misinterpretations of legal principles and breaches of IHRL standards, leading to adverse consequences such as the proliferation of terrorist organisations, diminished security for populations, and widespread public backlash.[35]

An aspect not directly within the realm of international law but rather concerning domestic law involves the process of consent for drone usage. As highlighted by Milena Sterio, consolidating these decision-making powers within a single office or branch of government can pave the way for potential abuse.[36] In the instance of the attack on Soleimani, the U.S. President used independent domestic legal authority to employ military force overseas, bypassing Congress and executing an operation that significantly raised the probability of engaging in armed conflict with Iran.[37] Indeed, a crucial aspect of drone warfare is how relatively easy it is for decision-makers to employ them for attacks. Unlike sending soldiers who face potential danger and may not return, drones are costly military equipment supposedly designed for surgical precision in their attacks.[38] This characteristic is marketed to the decision-makers as a less risky option when engaging in use of lethal force. As it happens, and as will be discussed below, this turns out to be a myth.[39]

The described characteristics have rendered drone warfare an exceedingly attractive alternative to conventional warfare.[40] With a focus on minimising self-inflicted losses and leveraging technological superiority, drones promise heightened effectiveness and the reduction of collateral damage. Therefore, states have progressively expanded their arsenals by developing and deploying new UAV models.[41]

Unfortunately, certain drone programmes, notably those overseen by entities such as the CIA, have been conducted clandestinely.[42] The use of clandestine drone operations hampers the possibility of subjecting this method of warfare and its individual operations to thorough legal scrutiny and evaluation.[43] Consequently, a substantial part of drone warfare policy is veiled in secrecy despite over ten states

35 Walsh, 2015, pp. 507–523; Coyne and Hall, 2018, pp. 51–67.
36 Sterio, 2018, pp. 35–50.
37 Anderson, 2020.
38 White House, 2013.
39 HRC, 2020, paras. 15–21; Khan, 2021.
40 Walsh and Schulzke, 2015.
41 DroneWars.net, 2023.
42 Lubold and Harris, 2017.
43 Blum and Heymann, 2013, pp. 69–92.

utilising UAVs for such purposes and several others possessing these systems in their military inventory.[44]

4.1.2. Use of Lethal Force via Unmanned Platforms

The laws governing the use of force are shaped by customary and treaty norms that delineate the circumstances under which states can lawfully utilise force in international relations. Until 1928, warfare was perceived as a means of settling disputes. However, with the adoption of the Briand-Kellogg Pact,[45] a significant shift occurred. Article I of the pact condemns the use of war to resolve international controversies and renounces it as a tool of national policy in state relations. While this commitment did not withstand the test of the Second World War, it gained significant reinforcement afterward.

The quest for peace and condemnation of aggressive warfare became foundational principles within the United Nations (UN). The UN Security Council (UNSC) has the 'primary responsibility for the maintenance of international peace and security' (Art. 24 of the UN Charter), and the obligation to 'determine the existence of any threat to the peace, breach of the peace, or act of aggression (…)' (Art. 39 of the UN Charter).[46] The prohibition of the use of force is embodied in Art. 2(4) of the UN Charter, which explicitly prohibits 'the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations'. This provision underscores the fundamental values of sovereignty, political independence (embodying the principle of non-intervention), and territorial integrity,[47] safeguarded within the contemporary international legal framework. Indeed, the definition of an act of aggression was adopted by the General Assembly through Resolution 3314 in 1974.[48] Furthermore, within the realm of international criminal law, aggression has been recognised as an international crime, detailed in art. 8bis of the Rome Statute.[49] Thus, any breach of these principles through the utilisation of military force can result in states being held accountable for internationally wrongful acts under ARSIWA,[50] whereas individuals may be judged accountable by the International Criminal Court or domestic courts.[51] In both scenarios, the use of a military UAV could be categorised as an act

44 NewAmercia.org, no date.

45 *The General Treaty for Renunciation of War as an Instrument of National Policy*, 1928.

46 *The Charter of the United Nations*, 1945.

47 In this context, it is important to note that airspace constitutes an integral part of a state's territory. Therefore, any infringement upon it could be considered a violation.

48 UNGA, 1974.

49 *Rome Statute of the International Criminal Court*, 1998.

50 *Articles on Responsibility of States for Internationally Wrongful Acts*, 2001.

51 The history of the 20th and 21st centuries bears witness to violations of this prohibition; however, these transgressions do not nullify its application. Recent events, particularly Russia's overt aggression against Ukraine on 24 February 2022, have revitalized discussions surrounding the crime of aggression, prompting renewed scrutiny.

or crime of aggression. The declaration of war becomes irrelevant in this context. What matters is that State A is invading or attacking State B's territory using armed forces such as UAVs, UUVs UGVs or any other weapon.

In regard to *jus ad bellum*, unmanned platforms serve as a means through which the use of force can be executed. However, their unique characteristics, especially their remote attack capabilities, have exacerbated tensions surrounding previously contentious doctrines. The advent of drone use has made the use of lethal force more cost-effective, quicker, and simpler. Consequently, we are witnessing numerous brief violations of the prohibition on the use of force in interstate relations that are sometimes challenging to assess. The imperative to combat terrorist organisations has further fuelled the surge in such instances, with targeted killings proving to be an effective method in pursuit of this goal.

The prohibition on the use of force typically allows for only two exceptions. The first exception involves a state invoking its inherent right to self-defence, a principle deeply rooted in customary law and explicitly recognised in art. 51 of the UN Charter. The second exception is the use of military force based on authorisation by the UNSC under Chapter VII of the UN Charter. For a state to lawfully use force, it must either act with another state's consent or adhere to the cited exceptions – authorisation by the UNSC or the right of self-defence. To invoke the latter, a state must first be the victim of an armed attack, then officially notify the UNSC which should take action necessary to maintain international peace and security. The prevailing stance is that any action involving the use of force in interstate relations should adhere to the principles of proportionality, determining the extent and type of force permissible and necessity, and ensuring that force is employed as a last resort. However, with the proliferation of UAVs, an alternative perspective has gained prominence. The concept of pre-emptive self-defence lacks direct justification in the treaty law as Art. 51 of the UN Charter clearly stipulates that an armed attack must occur to trigger the right to self-defence. However, ongoing doctrinal debates persist regarding the legitimacy and extent of military action aimed at prevention and mitigation of potential harm. Furthermore, in its most recent report, the Special Rapporteur on the promotion and protection of human rights and fundamental freedoms while countering terrorism accepted that

> (…) the dominant contemporary international position is that the use of lethal force in anticipatory self-defence by a State may be lawful so long as it responds to an *imminent* threatened armed attack, and where that response is necessary and proportionate.[52]

The proliferation of UAVs has significantly heightened the ongoing debate, particularly focusing on the concept of 'imminency' within legal contexts.[53] While these

52 HRC, 2022, p. 11.
53 Brooks, 2014, pp. 93–94.

drones offer a technological solution that streamlines actions and reduces adverse consequences, there's apprehension about their potential to establish risky legal precedents and expand justifications for employing force within the realm of international law.

Moreover, the UN Charter does not explicitly address armed attacks conducted by non-state actors (such as terrorist organisations). However, it is now widely accepted that states have the right to invoke self-defence in response to such attacks[54] which leads to another legal dilemma. It is acknowledged that using force on another state's territory with its explicit consent is a straightforward scenario. However, the situation becomes considerably more complex when the territorial state remains silent, exhibits hostility, or fails to respond in any way. The right to use force within the territory of a state when that state is unwilling or unable to prevent an attack by a non-state actor is a contentious issue. While some states support this right,[55] the principle faces strong condemnation within academic circles.[56] In the Special Rapporteur's view, when a non-state actor operates independently from the territorial state's control or when the actions of these actors cannot be attributed to that state under ARSIWA, a state sending a drone to neutralise that non-state actor would violate both the prohibition of the use force and the principle of state sovereignty.[57]

In principle, the UNSC should be notified of any use of force under the self-defence principle. However, these notifications are often superficial, and the legal justifications they provide in them can be contentious. There have been instances where states have unlawfully stretched interpretations of UNSC resolutions, expanding their scope. For example, UNSC Resolution 2249 did not authorise intervention in Syria without the consent of the Syrian government.[58] In certain instances, legitimacy rather than legality has been cited as grounds for action, as seen in NATO's bombing of Kosovo in 1999 without any UNSC resolution. Furthermore, some states have neglected to report their use of force to the UNSC.[59] Given the increasing occurrence of drone attacks and the lack of transparency surrounding vital aspects of drone warfare, it is not surprising that numerous questions remain unanswered.

4.2. Use of Unmanned Platforms during Armed Conflict

As previously outlined, deploying a military unmanned platform beyond a state's borders could potentially violate territorial integrity, political independence, or even constitute an act or crime of aggression. Consequently, such actions might instigate an armed conflict, necessitating adherence to the norms outlined in LOAC during the conduct of such hostilities.

54 UNSC, 2001a; UNSC, 2001b; ICJ, 2005, para. 11; Tams, 2009, pp. 359–397.
55 USA, 2014; Australia, 2015; Turkey, 2015.
56 *A plea against the abusive invocation of self-defence as a response to terrorism*, no date.
57 HRC, 2022, pp. 19–20.
58 UNSC, 2015.
59 HRC, 2022, pp. 19–20.

4.2.1. The Unbounded Scope of Armed Conflict

Criticism of the "war on terror" largely stems from its proponents' assertion that it should be classified as a global non-international armed conflict (NIAC), treating terrorist organisations as non-state actors. This classification negates the relevance of geographic boundaries within an armed conflict and lacks a clear endpoint.[60] It implies that a member of such a terrorist group can be targeted or attacked anywhere and at any time. Whereas, according to international law, military operations should be confined to the territories of the aggressors during armed conflicts.[61] Nevertheless, there have been instances where drones were employed by states not directly involved in conflicts or in the territories of states unrelated to ongoing conflicts. These incidents primarily involved targeting specific individuals, such as terrorists, who were located outside the conflict zone and were not engaged in any armed activities at the time. Killing individuals without any attempt to apprehend or offer them the chance to surrender, is inconsistent with international law. The utilisation of drones for these purposes could also result in casualties among bystanders near the target. Any use of UAVs in territories not involved in armed conflict should also be regarded as unlawful.

In this context it is crucial to consider the legal frameworks governing armed conflicts. While actions deemed impermissible during peacetime become lawful under LOAC, it is important to note that IHRL remains applicable. There is a consensus in legal doctrine that these two legal frameworks are complementary. Particularly in NIACs, such as the 'war on terror', IHRL paradigm plays a significant role due to the comparatively limited regulation of NIACs in contrast to international armed conflicts (IACs). The primary distinction lies in law enforcement operations during peacetime, where a suspect is held accountable based on individual guilt and is entitled to a fair trial in a court of law. The use of lethal force in these situations is restricted to cases of self-defence. Any other scenario would be categorised as an extrajudicial execution or murder. However, under the LOAC paradigm, the scope of permissible killings is significantly broader. Such killings do not necessitate judicial review and are not based on individual guilt but rather on the individual's status as designated by the military command and determined through gathered intelligence. Assessments are made beforehand, and only deliberate violations of specific fundamental LOAC principles qualify as international crimes. As a result, standards diverge between these two contexts.[62]

Therefore, the fact that many states have been involved in NIACs for more than 20 years results in substantial tensions, especially concerning the right to life, which, as a human right, also pertains to individuals classified as terrorists.[63]

60 Brooks, 2015.
61 Art. 1(3) AP I.
62 Blum and Heymann, 2013, pp. 69–71.
63 Melzer, 2008a, pp. 91–139; Heyns et al., 2020, pp. 153–189.

4.2.2. Targeting Law

To grasp the transformation of warfare caused by the utilisation of unmanned platforms, it is essential to briefly examine the fundamental principles of targeting employed during armed conflicts.

In armed conflicts, military objectives (lawful targets) include combatants from the enemy state (in both IAC and NIAC) or fighters associated with organised armed groups (in NIAC). Additionally, civilians who directly participate in hostilities can lose their protected status and become targets.[64] Identifying a combatant typically involves them wearing a military uniform with visible insignia and openly carrying a weapon. Under most circumstances, a combatant can be lawfully targeted, irrespective of their activity (such as sleeping, resting, or retreating), except when they are *hors de combat*. The attacking party is not obligated to issue prior warnings, attempt arrest or capture, or minimise casualties among enemy forces.[65]

In the case of fighters in NIACs, the issue of identifying a legitimate military objective becomes considerably more complicated. A status-based classification is crucial again, based on membership of an organised armed group.[66] However, this is challenging due to the dispersed structures of armed organisations, which differ from traditional military entities. Members often do not wear uniforms or openly carry weapons. Additionally, the phenomenon of fighters seamlessly transitioning between combat and civilian roles – referred to as "farmer by day, guerilla by night" or "revolving door" phenomenon – greatly complicates the identification of targets in NIACs.[67]

In all instances, those responsible for planning or authorising an attack must take all feasible measures to verify that the targets are not civilians or civilian objects and do not possess protected status.[68] The burden of proof lies with the attacker to demonstrate incontrovertible evidence, such as an individual's sustained engagement in combat functions within an organised armed group. However, the LOAC does not stipulate exact evidentiary requirements for identifying a civilian as a member of such a group or a person engaged in direct armed activities. Pursuant to Art. 50(1) AP I, when uncertainty arises, the individual must be regarded as a civilian. Therefore, prior to and during the attack, continuous assessment and adaptation based on unfolding circumstances are imperative.

Thus, in principle, civilians are protected under the principle of distinction and cannot be identified as military objectives. However, this does not categorically render the act of killing a civilian impermissible in all circumstances. Two exceptions exist. Firstly, when a civilian directly engages in hostilities, they individually

64 Melzer, 2009, p. 69.
65 Schmitt, 2009, p. 314.
66 Gaggioli, 2018, pp. 901–917.
67 Silvestri, 2020, pp. 410–446.
68 Art. 51 AP I.

forfeit their legally mandated protection. Secondly, civilian casualties may be acceptable if they are incidental, meaning they are not disproportionately high in terms of the anticipated concrete and direct military advantages according to the principle of proportionality. Additionally, the attacking party must take all feasible precautionary measures to minimise incidental harm to civilians according to the principle of precautions. Hence, the conflicting parties are mandated to conduct hostilities in a manner that minimises civilian suffering, loss, and casualties caused by armed conflict.[69]

Drone warfare was envisioned as a solution to reducing civilian casualties; however, its implementation has revealed that precision alone cannot guarantee casualty-free conflict.[70] Moreover, the anticipated precision of drones was not demonstrated in practice.

4.3. Controversial Methods of Warfare

From a legal point of view, the legality of unmanned platforms as a means of warfare, is generally not controversial as there is not a specific ban on them. Rather, the controversy concerns the ways in which unmanned platforms are used since their use is not unrestricted.[71] Key aspects revolve around the direction of the drone during an attack and the manner in which the attack is executed.

An operator of an unmanned platform, holding combatant status as a member of the armed forces, is permitted under LOAC to operate the platform and use lethal force during armed conflicts. However, if the operator is a civilian – for instance, an employee of a private military company or an agent of civilian intelligence services – direct involvement in armed action would contravene the LOAC. Such individuals lack the right to participate directly in armed activities and may face criminal responsibility as a consequence.

The deployment and use of unmanned platforms must adhere to fundamental principles of LOAC and, in cases of NIAC, to all other relevant legal frameworks.[72] Our focus in this chapter will be solely on two methods of their use: targeted killings and signature strikes.

4.3.1. Targeted Killings

The first known public instance of targeted killing beyond a theatre of active war occurred in Yemen in November 2002. A Predator drone, an unmanned and remotely operated platform, was deployed against a car carrying Al-Harethi, suspected

69 Queguiner, 2006, pp. 793–821.
70 Cole, 2018, pp. 793–821.
71 Art. 35 AP I.
72 Heyns et al., 2020, pp. 153–189.

in the U.S.S. Cole bombing, and four others.[73] The Yemen attack had the approval of the Yemeni government, easing some international legal complexities associated with the use of force mentioned earlier.

While no specific international law has defined methods of targeted killing, numerous definitions have been crafted within academic doctrine.[74] Terms synonymous with targeted killings include targeted elimination, targeted self-defence, selective targeting, targeted assassination, extrajudicial killing, and extrajudicial execution. The methods for targeted killings vary, spanning sniper rifle shots or close-range attacks to missile strikes from helicopters, ships, or UAVs. In principle, the following elements of this method of warfare can be distinguished: use of lethal force; intent, deliberateness and planning to cause death (*dolus directus*); elimination of specific, selected persons; no deprivation of liberty; and imputability of the action to a subject of international law (state or non-state).[75] There is no universal consensus on the legality of targeted killings. Advocates often stress its necessity in countering terrorist threats and asymmetric conflicts. However, it blurs and extends the boundaries of applicable laws.[76] Even when assessed under the LOAC, there is a trend in practice to widen the range of permissible targets and conditions for its use. Particularly contentious are the 'double tap' strikes, where an initial attack is followed by another targeting those who offer aid. This often leads to casualties among civilian responders or rescue teams, triggering significant controversy.[77]

The legality of targeted killings hinges on accurately qualifying the situation in which they are used. In cases involving armed conflict, adherence to the LOAC becomes paramount. Hence, it remains imperative to adhere to the delineated targeting principles and conduct a thorough assessment to ascertain the individual's classification as a military target (a combatant or someone directly participating in hostilities). It is equally crucial to ensure that potential collateral damage remains proportionate and that all feasible precautions were implemented beforehand. If targeted killings are contemplated during peacetime, adherence to the law enforcement paradigm – operating under IHRL is essential. In this context, taking someone's life is only justifiable when necessary to protect life, and other alternatives like arrest or non-lethal incapacitation cannot prevent an immediate threat to life. The legality of using lethal force here hinges on meeting the criteria of proportionality and necessity. Proportionality demands that the force employed should be proportional to the level of threat posed by the individual. Necessity mandates minimising the use of force while maintaining a balance between force and the threat at hand.

The use of lethal force through remote attacks from unmanned platforms, even within an appropriate legal framework, presents considerable challenges.[78] In recent

73 Downes, 2004, pp. 277–294.
74 Melzer, 2008b.
75 Ibid., pp. 3–8.
76 Corn, 2019, pp. 246–273.
77 Alexander, 2017, pp. 261–295.
78 IBA, 2017, para. 16.

decades, the United States, Israel, and the United Kingdom have expanded the interpretation of this approach. They have utilised drone attacks in situations where it was more convenient than capturing, trying, or extraditing individuals posing threats to their national interests, often without substantiated justification. This underscores the harmful impact of portraying drone warfare as risk-free, emphasising precision attacks, and promoting the ability to deploy lethal force across the globe.

4.3.2. Signature Strikes

Signature strikes, also known as "crowd killings", were authorised by U.S. President George W. Bush in 2008 to target individuals affiliated with al-Qaeda and Taliban operatives in Pakistan, and later extended by U.S. President Barack Obama to Yemen.[79] Signature strikes are akin to targeted killings but differ in their approach. They can be conducted both within and outside armed conflicts, and therefore, they share the challenges associated with the standards applied in targeted killings.

Signature strikes involve an attack, often carried out by UAV, on a group of individuals sharing a specific characteristic associated with the armed or terrorist activities of an adversary.[80] However, unlike targeted killings, the identity of these individuals is not known beforehand. Instead, targets are chosen based on criteria such as behaviour patterns and personal networks to judge the probability that these individuals qualify as legitimate military targets. Within the framework of the targeting principles previously outlined, the legality of the signature strikes method hinges on an individual's characteristics to classify them as a legitimate target under LOAC, substantiated by clear evidence confirming this characteristic.

However, within the context of LOAC, not all these characteristics or traits are deemed acceptable. These traits can be categorised into three groups based on this perspective.[81] The first group comprises traits that align with LOAC standards, including planning attacks, transporting weapons, planting explosives, or being present at a terrorist organisation's facilities or training camps. The second group encompasses traits that are debatable under the LOAC, such as groups of armed individuals moving towards a combat zone, running training camps for terrorist organisations, participating in training to join a terrorist group, providing support to a terrorist group, or attacking recreational facilities. Finally, the third group pertains to characteristics that are deemed unacceptable under LOAC, including being of draft age in a terrorist-controlled or affected area, associating with terrorists or combatants, or travelling with weapons in trucks within an area controlled by a terrorist organisation.

The primary challenge to the legality of signature strikes arises from the anonymity of targets, making it difficult to uphold the principle of distinction as some of

79 Zenko, 2013, pp. 12–14.
80 Zenko, 2012.
81 Marcinko, 2015.

the targets might be civilians.[82] Cases like the incident in December 2013, which resulted in the death of 12 Yemeni civilians (prompting $1 million in condolence payments from the U.S. government), and the attack in Pakistan that killed 18 workers and injured 22 others, highlight the severe consequences and human toll associated with the use of signature strikes.[83]

4.3.3. The Myth of Precision

The promise of precision in drone warfare, often lauded as a way to limit civilian harm, has faced significant challenges in reality. Several reports of drone strikes that resulted in a significant number of civilian casualties have challenged claims of their precision and efficacy.[84] Operational complexities have resulted in discrepancies between the intended and actual outcomes of drone strikes. Despite advanced technological capabilities, drone operators encounter challenges in accurate target identification and verification within dynamic conflict zones where situations can rapidly change (as described in Chapter 12).

The role of intelligence reports in guiding drone strikes is pivotal. Inaccurate or outdated information about targets, inconsistencies in intelligence assessments, and reliance on remote operators distanced from active conflict zones contribute to misinterpretations and erroneous judgements during strikes.[85] Additionally, the human factor in drone operations introduces the potential for error. Decisions made by operators, often removed from the conflict area, rely on intelligence reports and may lack contextual on-the-ground understanding. These factors collectively highlight why the precision of drone warfare often falls below expectations. Limitations in surveillance technologies and the inherent uncertainties of armed conflicts further complicate matters, challenging the perceived precision of drone strikes and revealing their complexity and fallibility.

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5. Presenting Responsibility Regimes

This section offers brief insights into the responsibility frameworks applicable to both states (ARSIWA) and individual operators of unmanned platforms (international criminal law). These frameworks are particularly relevant since drone use can result in violations of the prohibition against the use of force, contravene fundamental targeting principles within the LOAC regime, or amount to breaches of IHRL.

82 Buchanan and Keohane, 2015, pp. 22–23.
83 McLeary and DeLuce, 2016.
84 Open Society, 2014; Singh, 2015; Amnesty International, 2020; Khan, 2021.
85 Currier and Maass, 2015.

5.1. State Responsibility

Under international law, a State is accountable for wrongful acts by its agents or actions attributable to it as outlined in the ARSIWA. This type of liability is considered objective, requiring proof of a breach of international legal norms and the imputation of the act to the state (Art. 2). Therefore, actions executed with the use of unmanned platforms operated by a state's armed forces, intelligence agencies, or other state organs are attributable to the state (Art. 4). ARSIWA also delineates various other methods for attributing an act to the state, including actions by entities exercising elements of governmental authority (Art. 5) or entities directed or controlled by the state (Art. 9). In instances where injury is inflicted by such acts, the state is obligated to provide full reparation, including restitution, compensation, and satisfaction (Arts. 34-37). However, a significant challenge arises in collecting evidence, particularly given the lack of transparency from states concerning their drone operations and the actors involved.

An under-explored area pertinent to EU Member States is state responsibility rooted in complicity. The execution of combat drone operations necessitates intelligence sharing and cooperation in terms of lending military bases closer to the target of the attack than those of the drone-sending state or providing logistical and technological support. While most of the practices described in this chapter have been closely associated with the United States, NATO allies and, at the same time, EU members states, have not been entirely inactive in these endeavours. In fact, their support holds substantial significance, as highlighted by Eleonora Branca:

> (…) Germany affords constant support to the U.S. drone operations through the satellite infrastructures of the Ramstein military base. Italy has concluded a series of technical military agreements with the USA allowing the use of the Sigonella air and naval military base to fly U.S. armed drones operating in Libya and in the Mediterranean. A huge amount of data and metadata collected by Netherlands' geo-localisation system are regularly shared with U.S. agencies to be used to identify individuals in counterterrorism operations, especially in Somalia.[86]

There has already been a judicial evaluation of the activities conducted at the Ramstein air base in Germany. The case involves the Bin Ali Jaber family, some of whom were killed in a U.S. drone strike in Yemen in 2012. The remaining family members filed a legal complaint against Germany, in the light of their constitutionally guaranteed right to life, to prevent further attacks linked to the U.S. Ramstein Air Base. In March 2019, the Higher Administrative Court of Münster mandated Germany's responsibility to ensure compliance with international law by the U.S. using the military base. However, in November 2020, the Federal Administrative Court overturned this ruling, asserting that diplomatic efforts by Germany would be

86 Branca, 2022, pp. 253–254.

more suitable than using litigation to discuss potential violations of international law in U.S. drone missions. Although a constitutional court complaint was submitted in 2021, the case is pending a final ruling, illustrating the complex challenges of state responsibility in joint drone operations and the struggles of victims and their families seeking legal recourse.[87]

This leads us to consider the implications of state responsibility under IHRL. A significant challenge arises due to the absence of ratification by all states of specific legal instruments that confer jurisdiction to IHRL courts or bodies. For instance, the United States does not fall under the jurisdiction of the Inter-American Court of Human Rights, nor have they ratified Optional Protocol I to the International Covenant on Civil and Political Rights, which would allow individual complaints to the Human Rights Committee.

The situation varies across European states, particularly those under the jurisdiction of the European Court of Human Rights, which includes all EU Member States. Although the Court has not yet addressed any drone warfare cases, the potential that exists for Member States of the Council of Europe to face scrutiny over drone-related targeted killings, considering previous precedents related to the extraterritorial applicability of the European Convention on Human Rights.[88]

5.2. Operator Responsibility

Debate is lacking in the context of individual responsibility for military robots due to the direct human operation feature (human-in-the-loop), a stark contrast to autonomous systems.[89] The operator's role in a drone's attack aligns with that of a pilot in a manned aircraft, allowing for the application of similar targeting law rules, including potential criminal responsibility for deliberate attacks on civilians and assessments of compensation liability akin to attacks using manned platforms (under Art. 8(2)a(i) and Art. 8 (2)b(i) of the Rome Statute).[90]

It is important to note that individual criminal responsibility is judged on the assessment made before the attack, regardless of its direct impact. Regarding *post-facto* legal responsibility, the decision-makers' access to pertinent information is paramount, particularly in remotely piloted platforms where decisions are contingent upon available data. Individual responsibility evaluations are centred around the reasonableness of decisions, use of potential precautions, attack proportionality, and endeavours to mitigate civilian harm. This underscores the critical role of intelligence reports and operational data, outweighing the significance of the means of warfare employed. The remote nature of the attack significantly amplifies the operator's reliance on this information.

87 ECCHR, 2021.
88 Bodnar and Pacho, 2012, pp. 189–208.
89 Weigend, 2023.
90 Boothby, 2012, pp. 589–594.

In principle, there is potential to assign accountability to operators of unmanned platforms, yet its practical implementation is not straightforward. Most states engaged in drone warfare (such as the United States, Israel, China, India, and Russia) or receiving drone strikes (including Iraq, Libya, Pakistan, Somalia, and Yemen) are not parties to the Rome Statute. Consequently, attempts to prosecute violations of LOAC and IHRL during armed conflicts in national courts have mostly met with limited success. Domestic judges often feel incapable of effectively constraining the state's national security strategies.[91]

6. Common European Drone Strategy

The European discourse on armed drone usage lacks historical depth. While there have been notable advancements, considering the region's aspirations for prosperity, the upholding of the rule of law, and the application of the most rigorous human rights standards, its progress has been slow. The need for a common EU policy regarding drones is essential not only to ensure compliance with the rule of law but also in light of the EU's plans to integrate drone and counter-drone technology into its defence strategies and initiatives.[92]

The most actively involved institution, by a considerable margin, has been the European Parliament (EP). In April 2012, several members of the EP (MEPs) issued a declaration urging the EU to prohibit targeted killings and combat drone operations.[93] In 2013, MEPs organised a briefing on transparency and accountability around U.S. targeted killings, followed by a statement expressing concern about the legal, moral, ethical and IHRL implications of this practice.[94] Additionally, the DG for External Policies of the EU released a study recommending a broad inter-governmental dialogue to seek international consensus on legal standards and constraints for unmanned weapon systems and a binding or non-binding agreement governing drone use.[95]

In February 2014, the Transnational Institute reported on the EU's support for the drone industry.[96] The authors highlighted that drone research and defence subsidies are predominantly shaped by minimally accountable officials and defence corporations, significantly favouring the interests of major defence contractors. They further presented recommendations aimed at mitigating these democratic shortcomings and ensuring the protection of international law and IHRL in this sphere.

91 Casey-Maslen, 2018, pp. 180–193.
92 Borsari and Davis Jr., 2023.
93 *Written declaration on the use of drones for targeted killings*, 2012.
94 Yachot, 2013.
95 Melzer, 2013.
96 Transnational Institute and Statewatch, 2014.

In the same year, the EP adopted Resolution 2014/2567(RSP)[97] condemning illegal drone use; it urged the EU to 'develop an appropriate policy response at both European and global level which upholds human rights and international humanitarian law'. The resolution strongly denounced the unlawful deployment of armed drones, particularly the practice of targeted killings conducted outside declared conflict areas and in violation of established international legal frameworks. It condemned the detrimental impact of such strikes, such as unknown civilian casualties, severe injuries, and traumatic disruptions to civilian lives. It recommended EU Member States to ensure transparency and accountability and refrain from supporting or engaging in extrajudicial targeted killings, including sharing information which could be exploited for illegal targeted killings. When allegations of civilian casualties emerged, states were mandated to conduct prompt, independent investigations and, upon confirmation, publicly assign accountability, penalise those responsible, and facilitate redress, including compensation for affected families. Additionally, the resolution highlighted the urgent need to integrate armed drone production within European and global arms control structures, given regulatory gaps in the rapidly expanding military drone market. The EP removed funding from the EU budget for operations with military or defence implications and urged the European Commission to provide comprehensive information to the EP concerning the use of EU funds allocated to drone development initiatives.

In 2015 the Parliamentary Assembly of the Council of Europe adopted Resolution 2051.[98] The Assembly identified numerous legal concerns arising from ambiguities in compliance with national and international legal frameworks. It stressed that targeted killings should only be used as a last resort when deemed necessary to protect national sovereignty and respect territorial integrity. There was a call upon states to respect the LOAC and IHRL, acknowledging that some states had employed a permissive interpretation of an 'imminent threat'. Transparency in authorisation procedures for targeted killings was deemed crucial, alongside thorough investigations into all casualties caused by drone strikes for accountability and compensation to victims' families. Subsequently, the International Centre for Counter-Terrorism assessed Member States' positions on armed drones, revealing a lack of unified EU positions.[99]

In 2016, the EP reiterated concerns regarding the use of armed drones outside international legal frameworks in Resolution 2016/2662(RSP).[100] In the same year, the European Forum on Armed Drones (a civil society network) launched a Call to Action, urging the EU to articulate clear policies to prevent complicity, ensure transparency, establish accountability and control the proliferation of drones and drone-related technology.[101] In 2017, the Human Rights Subcommittee commissioned

97 EP, 2014.
98 PACE, 2015.
99 Dorsey and Paulussen, 2015.
100 EP, 2016.
101 EFAD, 2016.

a paper on armed drones, outlining the elements for a European-wide policy, legal standards and requirements necessary at the national level to align with the EU's dedication to the rule of law and previous EP resolutions.[102]

Despite extensive deliberations, meetings, and non-binding resolutions, the EU has yet to establish a unified and binding stance on its drone policy. Despite repeated appeals from scientific circles and non-governmental organisations, there has been a dearth of subsequent actions. This situation is partly due to the EU's authority in the Common Security and Defence Policy as delineated in the Chapter 1 and partly to the divergent approaches and differing combat backgrounds of its Member States. However, considering the dynamic security landscape, particularly within the immediate vicinity of the EU, it is essential to develop bolder more ambitious plans and policies for the consolidation of European armies.

7. Conclusions

The multifaceted roles of contemporary military robots – spanning logistics, reconnaissance, and lethal capabilities – highlight the need to delineate their functions and categorise them within a legal framework. These technologies operate in diverse capacities, from aiding humanitarian efforts to engaging in combat, raising critical legal and ethical questions that warrant nuanced examination within the international legal sphere.

The absence of universally recognised definitions for military robots and drones calls for exploring national regulations and policy frameworks, emphasising the need for clear terminology and legal classification. A key distinction in legal and ethical discourse is between autonomous military robots and those involving human oversight. The demarcation between remotely controlled systems and autonomous entities underscores the significance of human control over these technologies, an important concept in discussions around compliance with international law (including the use of force, LOAC and IHRL) and the attribution of responsibility for their actions.

The intricate relationship between humanitarian considerations and state interests exposes the diverse motivations underlying weapon regulations. Military robots are difficult to regulate, owing to their unique attributes, necessitating an examination of broad regulations to navigate the complex legal landscape governing their development and deployment. This analysis also exposes the absence of specific international norms defining these technologies, highlighting the pivotal role of doctrine in shaping discussions. Classified as weapon platforms, military robots pose a distinct challenge, demanding scrutiny of their classification as a means of warfare but, critically, the legality of their method of use.

102 Dorsey and Bonacquisti, 2017.

Despite fundamental principles of LOAC being embedded in international law, such as the legal review under art. 36 AP I, the inconsistent practice of these reviews raises concerns about their effectiveness in regulating disruptive technologies like military robots. The challenge lies in sourcing diverse expertise to evaluate these technologies and developing unified global standards, which are currently lacking. With divergent interpretations of international legal norms among states, a unified framework becomes crucial to ensure ethical, lawful, and accountable development and deployment of modern weaponry. Within the EU, Member States vary in their approaches to reviewing new weapons, highlighting the pressing need for harmonised, transparent, and enforced standards, at least at the regional level.

The proliferation of UAVs, particularly in the "war on terror", complicates established doctrines, particularly the notions of pre-emptive self-defence and response to non-state actor attacks, sparking contentious debates on imminency, necessity, and proportionality within the use of force framework. Deploying military unmanned platforms outside a state's borders raises substantial legal concerns, potentially violating territorial integrity and sovereignty.

Using unmanned platforms to apply lethal force in targeted killings and signature strikes causes legal ambiguity. While the targeting principles under the LOAC govern legitimate military objectives, the difficulty of distinguishing between combatants and civilians in NIACs raises crucial concerns. This challenge often contradicts the perceived precision of drone strikes, amplifies concerns about collateral damage, and raises questions about the validity and ethical justification of using these operations.

The attribution of state responsibility for actions executed through unmanned platforms is a challenging endeavour. The crux of the matter lies in the collection of evidence, which is significantly impeded by the lack of transparency exhibited by states. This lack of openness hampers the process of seeking reparation for injuries or harm inflicted by these actions. Moreover, operators engaged in drone operations, similar to pilots in manned aircraft, may bear individual criminal responsibility. However, the enforcement of this responsibility is challenging due to the limited avenues available for prosecution at both international and national levels. This complexity is further exacerbated when the states involved are not signatories to key legal frameworks governing armed conflict and human rights, creating an intricate legal landscape for accountability.

The EU's discourse on using armed drones has seen notable advancements but remains limited, considering its commitment to upholding the rule of law and rigorous human rights standards. Establishing a common EU policy on drones becomes imperative in light of the region's integration of drone technology into defence strategies and the lack of transparency in operations. Despite extensive discussions and non-binding resolutions, the EU has not achieved a unified, binding policy on drone use due to divergent Member State'a approaches, differing experiences of combat, and limitations within the CSDP. The lack of actions following repeated appeals from scientific and non-governmental circles underscores the challenges of consolidating a coherent EU-wide approach to drones.

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