STATE RESPONSIBILITY FOR TARGETED KILLINGS BY DRONES: AN ANALYSIS THROUGH THE LENS OF IHL PRINCIPLES*

İnsansız Hava Araçları Tarafından Gerçekleştirilen Hedef Alarak Öldürmelerde Devlet Sorumluluğu: Uluslararası İnsancıl Hukuk İlkeleri Merceğinden Bir Analiz

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ABSTRACT

This study analyses whether targeted killing by drones is inherently consistent with International Humanitarian Law (IHL) principles. Despite its commonly held negative perception, this study contends that targeted killing can align with IHL. This is due to the targeted killing method of drone strikes offering the unique advantage of being in accordance with IHL principles compared to other forms of attacks. However, the use of autonomous drones poses a significant risk to IHL and is likely to violate international obligations. This study discusses that autonomous drones may be unable to analyze data accurately and extract valuable insights. This could cause them to face difficulties in maintaining the necessary balance between civilian harm and anticipated military advantage. As a result, it is argued that autonomous drones are unable to adhere to the IHL principles, particularly the principle of proportionality. The study examines the attribution issue of autonomous drones and proposes that they should be regarded as agents of the State, making their actions attributable to the State.

Keywords: targeted killing, State responsibility, international humanitarian law, drone, IHL principles

ÖZET

Bu çalışma, insansız hava araçlarıyla gerçekleştirilen hedef alarak öldürmenin özü itibarıyla Uluslararası İnsancıl Hukuk (UİH) ilkeleriyle tutarlı olup olmadığını incelemektedir. Yaygın olarak kabul edilen olumsuz algıya rağmen bu çalışma, hedef alarak öldürmenin UİH ile uyumlu olabileceğini ileri sürmektedir. Bunun nedeni, hedef alarak öldürmenin, diğer saldırı türlerine kıyasla UİH ilkelerine uygun olabilme hususunda benzersiz avantajlar sunmasıdır.

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Ancak otonom insansız hava araçlarının kullanımı UİH açısından önemli bir risk teşkil etmekte ve uluslararası yükümlülükleri ihlal etme riski barındırmaktadır. Bu çalışma, otonom insansız hava araçlarının verileri doğru bir şekilde analiz edemeyebileceğini ele almaktadır. Bu da sivillerin zarar görmesi ile elde edilmesi beklenen askeri avantaj arasında gerekli dengeyi sağlamada zorluklarla karşılaşmalarına neden olabilecektir. Sonuç olarak otonom insansız hava araçlarının UİH ilkelerine, özellikle de orantılılık ilkesine uymadığı ileri sürülmektedir. Çalışma, otonom insansız hava araçlarının eylemlerinin devlete atfedilebilirliği konusunu incelemekte ve bunların Devletin ajanları olarak görülmesi gerekliliği sebebiyle eylemlerinin Devlete atfedilebilir olduğunu önermektedir.

Anahtar Kelimeler: hedef alarak öldürme, Devlet sorumluluğu, uluslararası insancıl hukuk, insansız hava aracı, UİH ilkeleri

INTRODUCTION

This study aims to clarify whether the concept of targeted killing is inherently compatible with International Humanitarian Law (IHL) principles. From the perspective of IHL, targeted killing tools, e.g., drones, are often viewed skeptically. This perception is not unfounded. An examination shows that drone attacks in Afghanistan were ten times more likely to cause civilian casualties than other air strikes.[1] Similarly, the drone attacks in Yemen, Pakistan, and Syria have caused excessive civilian casualties. The use of drones and their efficiency in the Nagorno-Karabakh conflict and the Russia-Ukraine war showed that drones will likely become more prevalent on the battlefield in the coming years. Despite this critical innovation in armed conflicts, the legal regime of drones and targeted killings has not yet been adequately studied.

The concept of targeted killing began to draw attention, especially with the targeted killing of Iranian General Qasem Suleimani by the United States. Now, in both international and non-international armed conflicts, the method of targeted killing is frequently used. This study argues that the concept of targeted killing can be compatible with IHL principles, despite the generally accepted negative perception. The targeted killing method has potential benefits that other types of attacks do not offer. However, a targeted killing operation incompatible with IHL will result in a breach of international law, bringing about State responsibility, provided that it is attributable to the State.

This study suggests that autonomous drones pose a significant threat to IHL, and their utilization will most likely result in a breach of international obligations. This study argues that autonomous drones lack the ability to turn

[1] 'A/HRC/44/38: Use of Armed Drones for Targeted Killings - Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions' (OHCHR) 7 <https://www.ohchr.org/en/documents/thematic-reports/ahrc4438-use-armed-drones-targeted-killings-report-special-rapporteur> accessed 20 July 2023.

data or information into knowledge or insight, which is needed for striking balance in the principle of proportionality, therefore, not possibly upholding the principle of distinction and the principle of proportionality. Bearing in mind that drone operations frequently result in civilian casualties, this study suggests that autonomous drones cannot operate in accordance with IHL principles, especially the principle of proportionality. This study also discusses the attribution issue of autonomous drones and suggests that they should be considered a State agent and, thus, their acts should be attributable to the State.

This study is structured in three main chapters. Chapter 1 analyzes the main concepts. It shows why drones have become a popular tool in armed conflicts and the reasons that make the method of targeted killing a favorable option for the participants in an armed conflict. Chapter 2 explores the compatibility of the concept of targeted killing with IHL principles, namely the principle of distinction, the principle of proportionality, and the principle of precautions. It concludes that the concept of targeted killing is not inherently incompatible with IHL principles. Chapter 3 discusses the autonomy issue with drones and delves into whether autonomous drones may comply with IHL principles, especially when conducting targeted killing operations.

A. Killing Remotely: Mapping the Concepts

"Being a robot means never having to tell the Judge you're sorry." [2]

1. Drones

Over the past twenty years, using drones in armed conflicts has significantly impacted military engagements in different regions. This can be seen in various examples, such as in operations conducted by the United States of America (USA)[3] related to the *"global war on terror*"[4], in Bush and especially in the Obama Administration[5], and in Israel's regular targeted killing operations.[6]

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2 Jay Logan Rogers, 'Legal Judgment Day for the Rise of the Machines: A National Approach to Regulating Fully Autonomous Weapons' (2014) 56 Arizona Law Review 1257, 1257.

3 Targeted killings have been initiated primarily during the presidency of George W. Bush and have notably escalated during the tenure of Barack Obama. see: Aaron M Drake, 'Current U.S. Air Force Drone Operations and Their Conduct in Compliance with International Humanitarian Law - An Overview' [2011] Denver Journal of International Law & Policy 632.

4 see further on the concept Russell Hogg, 'Law, Death and Denial in the "Global War on Terror"' in Simon Bronitt, Miriam Gani, and Saskia Hufnagel (eds), *Shooting to Kill: Socio-Legal Perspectives on the Use of Lethal Force* (Bloomsbury Publishing 2012).

5 Robert P Barnidge, 'A Qualified Defense of American Drone Attacks in Northwest Pakistan under International Humanitarian Law' (2012) 30 Boston University International Law Journal 409, 411; see further Trevor McCrisken, 'Obama's Drone War' (2013) 55 Survival 97.

6 Barnidge (n 5) 415; Gabriella Blum and Philip Heymann, 'Law and Policy of Targeted Killing' [2010] Harvard National Security Journal 145, 147 also to see the practice of

There are also relatively recent and current examples of the utilization of drones, for instance, the Nagorno-Karabakh conflict between Azerbaijan and Armenia that continued for almost two months in 2020[7] and the ongoing Russia-Ukraine war after Russia's invasion started in February 2022.[8] Drones significantly disrupted Armenia's logistical support and transportation to supply bases and played a crucial role in Ukraine's initial resistance during the conflict.

The use of drones in armed conflicts has steadily increased over the past two decades[9], with over 50 States currently possessing them and others actively seeking to acquire them.[10] Although the USA and Israel's use of drones has greatly influenced and led to how armed conflicts are carried out,[11] other countries, such as Turkey, Russia, Iran, and the United Kingdom, also possess drone technology that is effectively used in various regions during armed conflicts.[12] Additionally, the number of countries producing drones has expanded.[13]

To properly analyze the compliance of the concept of targeted killing carried out by drones with the IHL principles, it is crucial to identify the specific types[14] of drones used in these operations and why States choose to employ them.[15] In general, drones can be defined as effective aircraft with payload capacity, with or without lethal nature, that do not require a human operator to operate

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targeted killing of USA and Israel, 149-154.

7 see further 'Drones in the Nagorno-Karabakh War: Analyzing the Data' (*Military Strategy Magazine*) <https://www.militarystrategymagazine.com/article/drones-in-the-nagorno-karabakh-war-analyzing-the-data/> accessed 9 July 2023.

8 see 'The War in Ukraine Shows the Game-Changing Effect of Drones Depends on the Game' <https://www.tandfonline.com/doi/epdf/10.1080/00963402.2023.2178180?needAccess=true&role=button> accessed 9 July 2023.

9 'A/HRC/44/38: Use of Armed Drones for Targeted Killings - Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions' (n 1) 3–4.

10 Eric Tardif, 'A Particularly Dynamic Field of International Law: Recent Developments in the Laws of Armed Conflict' 5 <https://www.academia.edu/10007409/A_Particularly_Dynamic_Field_of_International_Law_Recent_Developments_in_the_Laws_of_Armed_Conflict> accessed 15 July 2023; Markus Wagner, 'Unmanned Aerial Vehicles' (*Oxford Public International Law*) <https://opil.ouplaw.com/display/10.1093/law:epil/9780199231690/law-9780199231690-e2133?prd=OPIL> accessed 15 July 2023 para 3.

11 'Mapping US Drone and Islamic Militant Attacks in Pakistan' *BBC News* (22 July 2010) <//www.bbc.co.uk/news/world-south-asia-10648909> accessed 15 July 2023.

12 Tardif (n 10) 5; Waseem Ahmad Qureshi, 'The Legality and Conduct of Drone Attacks' (2017) 7 Notre Dame Journal of International & Comparative Law 91, 92.

13 'World of Drones' (*New America*) <http://newamerica.org/international-security/reports/world-drones/> accessed 16 July 2023.

14 Wagner (n 10) para 11; see for the different type of drones Barnidge (n 5) 414.

15 In this study, I will refer -from now on, unless indicated otherwise- armed unmanned aerial vehicles that are equipped with weaponry explicitly to "drones".

the vehicle and can fly autonomously or be remotely[16] controlled.[17] Drones are increasingly utilized in modern armed conflicts for their tactical advantages in providing a strategic edge and deploying lethal force without risking personnel safety.[18] This is of enormous importance to the State, as people who use armed aircraft are crucial to the military strength of a State.[19] Furthermore, drones can potentially eliminate targets that would otherwise be invulnerable to attack.[20]

Drones can reach hard-to-access locations, including those ground troops cannot, and hover for long periods while being operated from a distance.[21] They can work nonstop without human limitations, making them useful for tasks like assisting pilots with flight schedules.[22] In addition, they provide a more affordable option than manned ones. To illustrate, an F-16 aircraft has a price tag of around $50 million, while a Predator drone is priced at roughly one-tenth of that amount.[23] Future drones will likely increase in functionality, shrink in size, and decrease in price, making them more accessible to a broader audience.[24] However, even now, drones are precise, and when intended, they might be less harmful weapon options, and also they can be redirected mid-flight to avoid user error or misuse.[25] The significance of this matter is closely tied to the adherence to the distinction, proportionality, and precautions principles.[26]

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16 to see how it is operated remotely Derek Gregory, 'From a View to a Kill: Drones and Late Modern War' (2011) 28 Theory, Culture & Society 188.

17 "Unmanned Aerial Vehicles: Background and Issues for Congress" (Report for American Congress, 21 December 2005) <http://www.congressionalresearch.com/RL31872/document.php?study=Unmanned+Aerial+> accessed 2 June 2023. see further Wagner (n 10) para 1.

18 Christof Heyns and others, 'The International Law Framework Regulating the Use of Armed Drones' (2016) 65 International and Comparative Law Quarterly 791, 792; see further Tardif (n 10) 2–3.

19 Wagner (n 10) para 22.

20 Allen Buchanan and Robert O Keohane, 'Toward a Drone Accountability Regime' (2015) 29 Ethics & International Affairs 15, 18.

21 see further 'A/HRC/44/38: Use of Armed Drones for Targeted Killings - Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions' (n 1) 5; David Akerson, 'Applying Jus In Bello Proportionality to Drone Warfare' (2015) 16 Oregon Review of International Law 173, 183–184; Mary Ellen O'Connell, 'Unlawful Killing with Combat Drones: A Case Study of Pakistan, 2004–2009' in Simon Bronitt, Miriam Gani, and Saskia Hufnagel (eds), Shooting to Kill: Socio-Legal Perspectives on the Use of Lethal Force (Bloomsbury Publishing 2012) 268; see further on drone advantages Barnidge (n 5) 413.

22 O'Connell (n 21) 267; see further advantages Michael W Lewis, 'Drones and the Boundaries of the Battlefield' (2012) 47 Texas International Law Journal 293, 296–298.

23 Tardif (n 10) 5.

24 Heyns and others (n 18) 793.

25 Buchanan and Keohane (n 20) 18.

26 The principles of distinction, proportionality and precautions will be examined in the second chapter of the study.

Although drones have advantages in theory[27], the over-reliance on drones for military force is a significant concern due to the potential for favoritism and excessive use, especially with decreasing costs.[28] The increase in the number of drones in use and military strikes suggests that operational drones will continue to rise.[29] As drone strikes become more prevalent around the world[30], there is growing debate over whether they comply with IHL and, hence, create State responsibility.

It is worth noting that international law does not explicitly prohibit using drones, unlike certain weapons such as anti-personnel mines[31], laser-blinding weapons[32], or chemical weapons[33].[34] However, whether a particular weapon system is legal under IHL depends on its use, with specific considerations for adhering to IHL requirements.[35] Examining the potential compliance of drone attacks with IHL principles related to targeted killing methods and some real practices may shed light on whether the practice is in accordance with the theory.[36] Prior to an attack, taking precautionary measures and adhering to the principles of distinction and proportionality is essential.[37] If a drone strike does not adhere to the principles of IHL, it gives rise to State responsibility due to violating international obligations.[38]

2. Targeted Killing

In 2002, a one-ton bomb was employed in a targeted killing operation in Gaza. The objective was to eliminate Salah Shehadeh, a prominent Hamas leader. The bomb caused extensive damage to Shehadeh's apartment and 8 nearby buildings. As a result, 14 Palestinians, including 8 children, lost their lives, and over 150 others were injured.[39] A lot of drone operations are classified

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27 see further 'A/HRC/44/38: Use of Armed Drones for Targeted Killings - Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions' (n 1) 5–6.

28 Buchanan and Keohane (n 20) 22.

29 Wagner (n 10) para 3.

30 'Mapping US Drone and Islamic Militant Attacks in Pakistan' (n 11).

31 Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction, 18 September 1997.

32 Protocol on Blinding Laser Weapons (Protocol IV to the 1980 Convention on Certain Conventional Weapons), 13 October 1995.

33 Convention on the prohibition of the development, production, stockpiling and use of chemical weapons and on their destruction, Paris 13 January 1993.

34 Geert-Jan Alexander Knoops, 'Drones at Trial: State and Individual (Criminal) Liabilities for Drone Attacks' (2014) 14 International Criminal Law Review 42, 46.

35 See Article 36 of the AP-I.

36 This, in theory, has the potential to aid in preventing States from violating the norms of IHL, which I will delve into further in the next chapter.

37 Knoops (n 34) 59; Wagner (n 10) para 19-20.

38 See Articles 1 and 2 of Responsibility of States for Internationally Wrongful Acts.

39 Lisa Hajjar, 'Lawfare and Armed Conflict: Comparing Israeli and US Targeted Killing

as targeted killings, like the previous incident. This raises international concerns about the concept of targeted killing and its adherence to the fundamental principles of IHL. To comprehend the IHL aspect of targeted killing, it is crucial to understand its definition clearly.

There is no clear definition of targeted killing in international law. This prompts causing controversy and a lack of consensus on what this concept entails.[40] However, looking at the existing literature to understand this complex issue is useful.[41] According to Solis, targeted killing refers to the deliberate killing of a particular civilian or unlawful combatant who cannot be captured and is actively involved in hostilities during an international or non-international armed conflict.[42] This definition of targeted killings falls short of explaining the concept as a whole since it is frequently used to kill combatants in armed conflicts[43], as seen in the ongoing Russia-Ukraine conflict.[44]

Melzer's definition[45] of targeted killing refers to the intentional and premeditated use of lethal force to individually kill selected persons not under the attacker's physical custody.[46] The components of this definition should be further elaborated. Lethal force is the intentional use of any coercive action that could result in the death of a human being, regardless of the weapon or techniques used.[47] But targeted killing is commonly linked to the use of drones and has been extensively studied in relation to them.[48] The primary objective is killing the targeted individual, regardless of any underlying causes or motivations, ensuring that the intention is deliberate and not impulsive or motivated by emotion rather than accident, negligence, or recklessness.[49]

Policies and Challenges Against Them' [2013] Issam Fares Institute for Public Policy and International Affairs - Research Report 12.

40 see further Georg Nolte, 'Targeted Killing' (*Oxford Public International Law*) <https://opil.ouplaw.com/display/10.1093/law:epil/9780199231690/law-9780199231690-e415> accessed 15 August 2023 para 1.

41 See also UN Doc. A/HRC/14/24/Add.6, Report of the Special Rapporteur on extrajudicial, summary or arbitrary executions, Philip Alston, para. 7-10. See further for a definition putting the "execution without trial" to the center of the definition: Wagner (n 10) para. 22.

42 Gary D Solis, *The Law of Armed Conflict: International Humanitarian Law in War* (Cambridge University Press 2010) 538–541.

43 see Nolte (n 40) para 3.

44 see 'The War in Ukraine Shows the Game-Changing Effect of Drones Depends on the Game' (n 8).

45 see further Nils Melzer, 'Targeted Killings in Operational Law Perspective' in Terry D Gill and Dieter Fleck (eds), *The handbook of the international law of military operations* (second edition, Oxford University Press 2015) 307–308.

46 Nils Melzer, *Targeted Killing in International Law* (Oxford University Press 2008) 3.

47 ibid.

48 UN Doc. A/HRC/14/24/Add.6, Report of the Special Rapporteur on extrajudicial, summary or arbitrary executions, Philip Alston, para. 79-86.

49 Blum and Heymann (n 6) 147.

Targeted killings are aimed at particular individuals. This aspect distinguishes them from other operations that target groups or random individuals.50 Thus, killing acts resulting from intentional attacks on the enemy, without targeting any specific individual, fall outside the concept of targeted killing. This approach is a key characteristic of targeted killings, which seems, in theory, to align with the fundamental principles of IHL, namely the principle of distinction, the principle of proportionality, and the principle of precautions. Because it selects the legitimate target beforehand and plans accordingly. Identifying a specific target minimizes the risk of mistakenly killing someone other than the targeted person or persons and thereby potentially upholds the principle of distinction. Additionally, directing an attack toward a specific person is helpful to strike a balance between the value of the target and the potential effects of the collateral damage. In any case, targeted killings should be conducted with caution to minimize harm to civilians and ensure that the potential harm is proportionate to the anticipated military benefits.

In conclusion, the term "targeted killing" refers to using lethal force with the intent, forethought, and plan to kill specific people who are not in the physical custody of those making the killing.[51] It is an example of targeted killing when a State believes that a person or persons pose a significant threat due to their activities and chooses to kill them, even if they are not currently involved in hostile actions.[52] The term "targeted killing" is a neutral and objective description of a technique that avoids biases or strong language and does not assume legality according to international law.53 It also does not place unnecessary limitations on the methods or motives involved in the act of intentionally causing someone's death.54 To maintain consistency and explain its relation with IHL principles as well as State responsibility, this study uses the term "targeted killing" as a neutral expression.

3. State Responsibility

Without responsibility, international law lacks effectiveness and becomes merely symbolic, similar to a *brutum fulmen,* which is a harmless thunderbolt.[55]

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50 ibid 147–148; see Nolte (n 40) para 4.

51 see further Melzer (n 45) 307–308.

52 This study will analyze targeted killings by States using drones, focusing on their compliance with IHL and hence State responsibility but findings may also apply to non-State actors if held to the same standards. Melzer (n 46) 5.

53 Roland Otto, *Targeted Killings and International Law: With Special Regard to Human Rights and International Humanitarian Law*, vol 230 (Springer Berlin Heidelberg 2012) 9; Nolte (n 40) para 1.

54 Melzer (n 46) 8.

55 Aaron Xavier Fellmeth and Maurice Horwitz, *Guide to Latin in International Law* (Oxford University Press 2009) 47; as cited in Thompson Chengeta, 'Accountability Gap:

Ratner suggests that international law has a two-fold purpose: setting out guidelines for governments, non-state actors, and their representatives to follow and outlining consequences for those who fail to comply with these standards.[56] Responsibility mechanisms are crucial for ensuring the effectiveness of IHL principles, including those considered part of jus cogens. Without such mechanisms, their impact would be greatly diminished.[57] The examination of the concept of targeted killing by drones, a relatively recent and extensively employed concept, is necessary to determine the probable consequences of noncompliance with IHL.

The International Law Commission's study on State Responsibility[58] (ARSIWA) provides that, "*every internationally wrongful act of a State entails the international responsibility of that State.*"[59] Thus, international law requires two elements to establish responsibility for an act: first, the act must be attributed to the State, and second, the act must breach an international obligation of the State.[60] What ultimately determines State responsibility is the action or lack thereof that they take[61], regardless of whether they intended to cause harm or not. This means that the law of State responsibility is built upon objective liability rather than subjective factors.[62]

State responsibility may be incurred if it is known that a targeted killing operation by drones carries a danger that the operation would violate any of the three IHL principles mentioned above[63]. To fully explore the issue of State responsibility regarding drone-based targeted killings, we must examine the problems of breach and attribution that can arise from such operations.

Autonomous Weapon Systems and Modes of Responsibility in International Law' (2016) 45 Denver Journal of International Law and Policy 1, 5–6.

56 Steven R Ratner, Jason Abrams and James Bischoff, *Accountability for Human Rights Atrocities in International Law: Beyond the Nuremberg Legacy* (Third Edition, Third Edition, Oxford University Press 2009) 3; as cited in Chengeta (n 55) 6.

57 Anja Seibert-Fohr, *Prosecuting Serious Human Rights Violations* (Oxford University Press 2009) 292–293; as cited in Chengeta (n 55) 6.

58 United Nations, *Materials on the Responsibility of States for Internationally Wrongful Acts* (United Nations) <https://www.un-ilibrary.org/international-law-and-justice/materials-on-the-responsibility-of-states-for-internationally-wrongful-acts_1b3062be-en> accessed 20 July 2023.

59 Art. 1 of Draft Articles on Responsibility of States for Internationally Wrongful Acts (ARSIWA).

60 ibid Art. 2.

61 İbid, *"There is an internationally wrongful act of a State when conduct consisting of an **action** or **omission**..."*

62 Wolff Heintschel von Heinegg, Robert Frau and Tassilo Singer (eds), *Dehumanization of Warfare: Legal Implications of New Weapon Technologies* (Springer International Publishing 2018) 195 <http://link.springer.com/10.1007/978-3-319-67266-3> accessed 21 March 2023.

63 Knoops (n 34) 80.

However, in both practice and the relevant literature, there is a lack of information and discussion regarding the attribution of drone-based targeted killing operations; this is due to the fact that these operations are conducted by States like any other military operation.[64] Therefore, only the "breach of an international obligation" element will be examined in relation to the IHL principles.

B. Calibrating Lenses: The Compliance of Targeted Killings by Drones with the Relevant IHL Principles

"*There can be no justice in war if there are not, ultimately, responsible men and women.*"[65]

In 2009, the USA targeted a Taliban leader, Mehsud, while he was receiving medical treatment on the house's roof. The drone-based targeted attack killed Mehsud, his wife, parents-in-law, seven bodyguards, and one lieutenant.[66] The strike killed 12 for one intended target, and the US attempted up to 16 drone strikes to kill Mehsud.[67] Examples like this raise questions about targeted killing operations, mainly because of the death of civilians, and require an examination based on IHL,[68] because IHL is the legal framework that assigns responsibility for actions in armed conflicts.

IHL differentiates between international and non-international armed conflicts.[69] While international armed conflicts occur between States, non-international armed conflicts are between States and organized armed groups, or between multiples of these groups.[70] The rules applicable to international armed conflicts are the four Geneva Conventions[71] and the Additional Protocol

64 The specific attribution problem arises in case drones operate autonomously, and this will be discussed shortly in Chapter 4.

65 Michael Walzer, *Just and Unjust Wars: A Moral Argument with Historical Illustrations* (4th ed, Basic Books 2006) 288; as cited in Rebecca Crootof, 'War Torts: Accountability for Autonomous Weapons' (2016) 164 University of Pennsylvania Law Review 1347, 1349.

66 see further O'Connell (n 21) 273; also Barnidge (n 5) 440–441.

67 Jane Mayer, 'The Predator War' [2009] *The New Yorker* <https://www.newyorker.com/magazine/2009/10/26/the-predator-war> accessed 5 August 2023.

68 see for discussion on that incident Akerson (n 21) 175–178.

69 'How Is the Term "Armed Conflict" Defined in International Humanitarian Law? - ICRC' (14:00:28.0) <https://www.icrc.org/en/doc/resources/documents/article/other/armed-conflict-article-170308.htm> accessed 19 July 2023 International Committee of the Red Cross (ICRC) Opinion Paper, March 2008.

70 ibid.

71 see for the texts of Conventions: 'The Geneva Conventions of 1949 and Their Additional Protocols - ICRC' (00:00:00.0) <https://www.icrc.org/en/doc/war-and-law/treaties-customary-law/geneva-conventions/overview-geneva-conventions.htm> accessed 19 July 2023.

I[72], and to non-international armed conflicts, they are Common Article 3 of the Geneva Conventions and the Additional Protocol II[73]. This study will examine the targeted killing operations' compliance with IHL principles in both dimensions. So which rules will be relevant?

According to IHL, the fundamental principles in international and non-international armed conflicts are basically the same.[74] Since they reflect the customary international law,[75] they are applied to either of the armed conflicts.[76] The principles at issue here are the principles of distinction, proportionality, and precaution, constituting the guidelines that must be adhered to.[77] These principles are included in Additional Protocol I to the Geneva Convention (AP-I) and are also recognized in customary international law.[78] Some may suggest that they only apply in international armed conflicts since they are in AP-I. But their nature of customary international law and acknowledgment of their fundamentalness for IHL rejects that and makes it clear that they are in use in any armed conflicts. In its 1996 advisory opinion on the *Legality of the Threat or Use of Nuclear Weapons*, the International Court of Justice (ICJ) stated that the principle of distinction and the principle of proportionality are the cardinal principles of IHL, and it did not consider the classification of the armed conflict in question.[79]

Regulations regarding targeting during armed conflict do not rely on the weapon or method used.[80] Modern weapons like drones and targeted killing methods are legal as long as they adhere to IHL. Therefore, when conducting drone-based targeted killing operations in armed conflicts, States must comply with IHL principles: the principle of distinction, the principle of proportionality,

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72 'Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I), 8 June 1977.' <https://ihl-databases.icrc.org/en/ihl-treaties/, https://ihl-databases.icrc.org/en/ihl-treaties/api-1977> accessed 19 July 2023.

73 'Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of Non-International Armed Conflicts (Protocol II), 8 June 1977.' <https://ihl-databases.icrc.org/en/ihl-treaties/, https://ihl-databases.icrc.org/en/ihl-treaties/apii-1977> accessed 19 July 2023.

74 Knoops (n 34) 59.

75 see Jean-Marie Henckaerts and others (eds), *Customary International Humanitarian Law* (Cambridge University Press 2005).

76 Akerson (n 21) 190.

77 O'Connell (n 21) 285.

78 Gabriel Sweney, 'Saving Lives: The Principle of Distinction and the Realities of Modern War' 39 734. Michael N. Schmitt, 'The Principle of Discrimination in 21 Century *Warfare' Yale Hum. Rts. & Dev. LJ 2* (1999): 143.

79 'Legality of the Threat or Use of Nuclear Weapons' <https://www.icj-cij.org/case/95> accessed 16 July 2023 para 78; as cited in Barnidge (n 5) 433.

80 Knoops (n 34) 59.

and the principle of precaution.[81]

1. The Principle of Distinction

Drone and other airstrikes by the USA since the 9/11 attacks have resulted in the deaths of at least 22,000 civilians, with estimates suggesting the actual number of civilian casualties may be as high as 48,000.[82] To ensure the safety and protection of the civilian population, it is essential for all parties involved in armed conflicts to distinguish between civilians and combatants, as well as between civilian objects and military objectives.[83] Thus, all parties should only engage in operations against military objectives. The principle of distinction is outlined in AP-I[84], and as mentioned before, it is recognized in customary international law.[85] It is also Rule 1 and 7 of the International Committee of the Red Cross' (ICRC) customary IHL.[86] This is why it should be upheld both in international and non-international armed conflicts, like the other fundamental principles.

Distinguishing between combatants and non-combatants in the past was straightforward due to the presence of uniforms on combatants and their absence on non-combatants.[87] The "*global war on terror*"[88] has posed challenges due to terrorists not wearing traditional uniforms and often hiding among civilians.[89] Hence, distinguishing between civilians and terrorists has become a challenging issue that raises concerns. When it comes to addressing such issues, some States view the utilization of drone strikes for targeted killings as a feasible solution. Because it is believed that targeted killing enables a State to identify and lawfully eliminate a specific target in accordance with IHL.[90] This

81 ibid.

82 Peter Beaumont, 'US Airstrikes Killed at Least 22,000 Civilians since 9/11, Analysis Finds' *The Guardian* (7 September 2021) <https://www.theguardian.com/global-development/2021/sep/07/us-airstrikes-killed-at-least-22000-civilians-since-911-analysis-finds> accessed 18 July 2023; to see the casualty in Pakistan between 2004-2014 Heyns and others (n 18) 793. For an updated numbers, see: 'Drone Wars: The Full Data' (*The Bureau of Investigative Journalism (en-GB)*, 28 October 2017) <https://www.thebureauinvestigates.com/stories/2017-01-01/drone-wars-the-full-data> accessed 18 July 2023.

83 Article 48 of the AP-I.

84 Articles 58, 51 and 52.

85 see 'Principle of Distinction | How Does Law Protect in War? - Online Casebook' <https://casebook.icrc.org/law/principle-distinction> accessed 16 July 2023.

86 'The Principle of Distinction between Civilians and Combatants' <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule1#> accessed 16 July 2023.

87 Vivek Sehrawat, 'Legal Status of Drones under LOAC and International Law War in the 21st Century and Collected Works' (2017) 5 Penn State Journal of Law and International Affairs 164, 185–186.

88 see further on the concept Hogg (n 4).

89 O'Connell (n 21) 287.

90 see further ibid 273.

method, in theory, has the potential to improve precision in targeting while minimizing unintended harm.[91] Hence, in theory, it seems that using drones for targeted killings is one of the most efficient choices for States to comply with IHL principles during armed conflicts.[92] However, ensuring this principle is effectively implemented in practice is crucial to avoid any possible breaches of the IHL.

The principle of distinction is of utmost importance in IHL; therefore, violations of this principle are considered "grave breaches" of the Protocol.[93] This indicates that this principle is at the core of the IHL. Nevertheless, States have frequently disregarded this principle by employing heavy weaponry to target irregular forces in densely populated regions, leading to the unfortunate loss of numerous innocent civilian lives.[94] On the other hand, due to technological advancements enabling more precise targeting, States are utilizing weapons designed for engaging conventional military adversaries to reduce unintentional harm to non-combatants and adhere to the principle of distinction.[95]

To be in accordance with the principle of distinction, every effort must be made by States to prevent lethal harm to bystanders.[96] Although the number of civilians killed by drones is not insignificant, it is claimed that recent research reveals that targeted killings by drones have violated the principle of distinction significantly less than other forms of attacks intended against terrorists.[97] Because during the targeted killing operation, operators can utilize the "pattern of life" method to track and target individuals with data gathered from surveillance cameras.[98] This is why targeted killing operations, rather than any other drone strikes, are the ones that play a significant role in the issue of differentiation.[99]

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91 Although there may be a slight decrease in the number of casualties in specific attacks, there has been a notable overall rise in the frequency of strikes. This could be attributed to the potential drawbacks of using drones, which should be considered alongside their benefits. see further ibid.

92 Unfortunately, the practice does not seem to be in accordance with theory, where in some instances, there are even more civilian deaths than the intended number of targets. see Azmat Khan, 'Hidden Pentagon Records Reveal Patterns of Failure in Deadly Airstrikes' *The New York Times* (18 December 2021) <https://www.nytimes.com/interactive/2021/12/18/us/airstrikes-pentagon-records-civilian-deaths.html> accessed 16 July 2023.

93 Article 85 of Protocol I to the Geneva Convention.

94 Sehrawat (n 87) 187.

95 Ryan J Vogel, 'Drone Warfare and the Law of Armed Conflict' [2010] Denver Journal of International Law & Policy 116–124.

96 Buchanan and Keohane (n 20) 19.

97 ibid.

98 Sehrawat (n 87) 188.

99 ibid.

In AP-I, Article 51(4) stresses the significance of differentiation by forbidding indiscriminate attacks. According to this article, indiscriminate attacks come in three types: those that don't have a specific military target[100], those that use weapons or methods that can't be aimed at a particular military objective[101], and those that use weapons or methods whose effects can't be controlled in accordance with the Protocol[102]. In any of these scenarios, the attacks may cause harm to both military targets and non-combatants or civilian objects without distinction. In theory, targeted killing by drones appears as a solution to this article. It may be helpful to evaluate these three categories in relation to the subject of targeted killing.

First, upon pure theoretical examination, it appears that targeted killing is not an indiscriminate attack and does not violate Article 51 or the principle of distinction. This is because targeted killing is aimed at a specific military target, which is the core of the method. Here, the act of intentional and premeditated killing of a specific person is being considered, but there is a possibility of making a mistaken choice. If the target is a civilian and killed during the operation, it would be a breach of the principle of distinction. Suppose the individual in question is a combatant but not the intended target, and the wrong person is killed in a targeted killing operation. In that case, it may be deemed unsuccessful, but it does not violate the principle of distinction since combatants can be targeted. Still, assuming that there is collateral damage, and the no-intended-wrongly-killed target is nothing but a regular combatant, which is not a high-value target as anticipated, then there is a great chance that every fundamental humanitarian principle is violated. In any scenario, targeted killing can be viewed as a viable solution for addressing the problem of not having a clear military objective. This is because there is a process involved in planning, selecting, and identifying the target. Of course, if a State chooses a target that cannot be targeted and then executes it, this is a direct breach of the principle of distinction. However, suppose the theory of targeted killing is followed. In that case, it appears to be a method that allows a State to carefully organize and choose its military targets, lowering the chance of attacking individuals who should not be targeted.

Second, since targeted killings are operated by drones in this context, and they use conventional weapons during the operation, it cannot be said that it is a means or method that cannot be directed at a specific military object. It is not a method that causes unclear collateral damage (which, in practice, it does pretty often but not because of the method itself, because of States not adhering to the principle of proportionality), and drones are not equipped with prohibited weapons such as laser blinding weapons or chemical weapons. But

100 Article 51(4)(a) of AP-I.
101 Article 51(4)(b) of AP-I.
102 Article 51(4)(c) of AP-I.

it must be emphasized that the concept of targeted killing is not limited to a particular method or weapon. This means that, in every case and occasion, whether the targeted killing operation is carried out with a legitimate weapon and method should be examined case by case.

The last component, which can be called "effect control", is related more to the principle of proportionality. Targeted killing operations by drones are highly significant due to the fact that drones are unmanned aerial vehicles that are operated remotely. If the drone operator loses control or if the drone malfunctions, such as being unable to accurately identify faces or dropping a missile in an unintended location, it could become an uncontrollable method. A new weapon deployed in a drone, whose effect is unknown and utilized in targeted killing, would also contradict the concept of effect control. This brings us to the weapons that have an indiscriminate nature.

The AP-I prohibits using weapons that can indiscriminately harm both military targets and civilians or civilian objects.[103] Therefore, how to use new weapons without causing harm to non-combatants plays a crucial role in adhering to the principle of distinction. Using drones equipped with precision-guided weapons has changed how states engage in armed conflicts, allowing for more precise targeting and avoiding the need to bomb places where civilians may be at risk. These drones are equipped with cutting-edge imaging technologies that enable operators to view intricate details, including individual faces, from remote locations.[104] As a result, they are capable of differentiating more effectively between civilians and combatants, making them a valuable tool in military operations.

Although drones can differentiate between targets accurately, not all drone operations adhere to the principle of distinction. Targeting unidentified individuals based on conduct[105], characteristics, or connections with others, known as signature strikes[106], is considered against established targeting rules and violates the principle of distinction.[107] This indicates that drone attacks do not de facto help States adhere to IHL principles; the method is also essential. This is where targeted killing plays a significant role since it suggests a solution for indiscriminate attacks, as evaluated above.

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103 See Article 35 of AP-I on the basic rules and Article 36 of AP-I on the new weapons.

104 Sehrawat (n 87) 177.

105 Qureshi (n 12) 102–103.

106 see 'A/HRC/44/38: Use of Armed Drones for Targeted Killings - Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions' (n 1) 6; see further Mark Klamberg, 'International Law in the Age of Asymmetrical Warfare, Virtual Cockpits and Autonomous Robots' in Jonas Ebbesson and others (eds), *International Law and Changing Perceptions of Security* (Brill | Nijhoff 2014) 164–165 <https://brill.com/view/book/edcoll/9789004274587/B9789004274587-s011.xml> accessed 12 March 2023.

107 Wagner (n 10) para 17; see also Akerson (n 21) 197.

It is said that they can differentiate because of their sensors and technology, but what if they malfunction or cannot identify the target? In cases where the high-tech cameras on a drone do not accurately identify whether a specific person is a valid target, according to the ICRC Interpretative Guidance on Direct Participation in Hostilities, individuals are assumed to be civilians by default in this scenario.[108] When there is uncertainty about whether a particular civilian action can be considered direct involvement in hostilities, it should be assumed that the default principle of protecting civilians applies, especially when there is uncertainty about someone's affiliation with an organized armed group.[109] In our case, the operation should be canceled if the target identification cannot be concluded during the targeted killing operation. Because this shortcoming would affect both the principle of distinction since it may be unclear whether the target is legitimate, and also the principle of proportionality because the assessment of the balance between the possible collateral damage and the military advantage cannot be done due to the unknown identity of the target, which will be examined below.

2. The Principle of Proportionality

General MacArthur chose a ground attack over an airstrike to avoid civilian casualties in Manila during World War II, but despite his efforts, over 100,000 civilians still lost their lives due to the conflict, while around 17,000 soldiers also perished.[110] As seen, failure to adhere to the principle of proportionality can lead to significant casualties, highlighting its importance.[111] The principle of proportionality dictates that military attacks should not result in excessive civilian deaths or property damage[112] beyond what is required to achieve the anticipated military objective.[113] The aim of this principle is to minimize unintentional casualties during armed conflicts. It is founded on the notion that there are limits to the methods and tools that can be employed to attack the enemy,[114] which means that the parties involved in an armed conflict don't have complete freedom in deciding their warfare methods or weapons, and it is prohibited to employ weapons and methods of warfare designed to inflict

108 ICRC Guidance on DPH, 75–76. see further O'Connell (n 21) 287–288.

109 ibid.

110 William J. Fenrick, 'The Rule of Proportionality and Protocol in Conventional Warfare' (1982) 98 Mil L Rev 91

111 The violation of this principle will also be a grave breach, as it is in the principle of distinction. Article 85(3)(b) of the AP-I. see also on this matter Akerson (n 21) 188.

112 Also, in the *Nuclear Weapons Advisory Opinion*, the International Court of Justice (ICJ) not only considered the harm caused to civilians but also took into account environmental factors when assessing proportionality. *Nuclear Weapons Advisory Opinion,* para. 30.

113 Article 51(5)(b) of Protocol I.

114 Sehrawat (n 87) 178.

unnecessary harm or suffering.[115] Thus, in order to comply with the principle of proportionality, States are required to refrain from conducting attacks that would result in excessive civilian casualties. But the balance between military benefits and civilian casualties is delicate and difficult to assess. Therefore, it is necessary to examine these two elements and evaluate their connection with drone-based targeted killing operations.

In this principle, the focus is on the unintended damage caused to innocent bystanders, which is casualties, instead of considering the harm caused to targeted individuals.[116] The killing of fifty civilians in response to the death of one combatant is a textbook example of a clear violation of the principle of proportionality in IHL.[117] But the nature of the victims, such as children, elderly individuals, or those in a residential setting, has an impact even in cases with fewer unintended casualties, which indicates that proportionality encompasses more than just numerical factors.[118] Not just the victims, the target's identity also plays a role in assessing proportionality. For instance, the same collateral damage[119] may be assessed as proportionate in a case where the target has a high value militarily and disproportionate in a case where the target has a low value.[120] Therefore, the proportionality of collateral damage in targeted killing also depends on the military significance of the target, with a greater acceptance of collateral damage for high-value targets than low-value targets, determined by factors like rank and current tactical position.[121]

When evaluating the expected military benefit, Andresen suggests taking into account three factors: the importance of the target, the probability of success, and the rarity of the opportunity.[122] An attacker should consider these three variables during the planning stage of a drone-based targeted killing operation.[123] The importance of the target is evident since the specific person is selected beforehand. With the advantages of drones mentioned earlier, assessing the probability of success before or during the operation and the rarity of opportunity is easier. With that in mind, these operations may offer

115 Article 35 of the AP-I.

116 See Articles 45, 44, and 51 of the AP-I for a list of the various categories of people who are legitimate targets under international humanitarian law.

117 O'Connell (n 21) 288.

118 ibid.

119 The term "incidental" in Article 51(5)(b) of Protocol I pertains to unintended harm inflicted on non-military targets, which is called "collateral damage". Sehrawat (n 87) 178; see also Akerson (n 21) 186.

120 Akerson (n 21) 197–199.

121 Vogel (n 95) 127.

122 Joshua Andresen, 'Challenging the Perplexity over Jus in Bello Proportionality' 7 European Journal of Legal Studies 31–32.

123 ibid.

minimal civilian casualties. Assessing proportionality will always be a sensitive matter that requires good faith and a case-by-case approach, as a single set of objective criteria is unlikely to lead to satisfactory conclusions consistently.[124] However, without any objective criteria to rely on, this assessment will always be subjective and delicate in nature.[125]

The proportionality principle determines the legitimacy of attacks that primarily affect civilians rather than combatants and is not required if a target is solely military and does not involve civilians.[126] If attacking authorized targets is believed to result in collateral damage, the predicted military advantage must be sufficient to warrant the risk.[127] However, considering the principle of proportionality, it is not required if there is no chance of collateral damage occurring.[128] Suppose a military base is geographically far from any nearby civilian communities; in this case, the attacking party would not have to worry about the proportionality of their attack, as it would only affect legitimate targets.[129] But in any case, during a drone operation, the probability of the existence of civilians should be constantly checked to avoid causing any unintended casualties. Controlling and minimizing collateral damage to civilians and their property is emphasized by the principle of proportionality, despite the acknowledgment of potential civilian casualties and unintentional harm.[130] Using drones can minimize collateral damage, and offer commanders improved accuracy when deciding when to take action. This entails considering various factors, including the target's legitimacy, the attack's timing, or the type of weapon employed.[131] Therefore, the focus is on more than what can be targeted but rather on the methods used to attack legitimate targets.[132]

Imagine that an attacker is unable to foresee the potential harm that a drone strike might cause. In that case, it should be halted or postponed until there is a reasonable level of certainty.[133] If the attacker adequately planned and carried out an attack on a legitimate target, the attacker would not be held accountable, even if the attack caused excessive harm for an unknown reason.[134]

124 Melzer (n 45) 323; Vogel (n 95) 127; Akerson (n 21) 185.
125 Drake (n 3) 643–644.
126 Sehrawat (n 87) 189.
127 see further on military advantage Akerson (n 21) 193.
128 Yunus Gül, 'Drone Attacks and the Principle of Proportionality in the Law of Armed Conflict' (2021) 0 Annales de la Faculté de Droit d'Istanbul 119, 130.
129 ibid.
130 Sehrawat (n 87) 188–189.
131 ibid 189.
132 Françoise J. Hampson, 'The Principle of Proportionality in the Law of Armed Conflict' in S Perrigo and J Whitman (eds), The Geneva Conventions Under Assault (Pluto Press 2010) 46. as cited in Gül (n 128) 128.
133 See Article 57(2)(b) of the AP-I.
134 Gül (n 128) 137.

However, it is essential to clarify that collateral damage should not be interpreted as a legal mechanism that justifies the intentional killing of civilians considered enemies.[135] Thus, a State cannot ignore the proportionality principle when conducting a targeted killing operation to kill a legitimate target.

Even if the target is of high value, the situation must be evaluated regardless of the value of the target, and the necessary balance between the possible collateral damage and the anticipated military benefit should be upheld during the entire process of the targeted killing operation. But a new concept in operational practice, the principle of combatant immunity, prioritizes the lives of soldiers over foreign civilians in modern warfare, as discussed in Gregoire Chamayou's book on the philosophical implications of drones.[136] This scenario occurs particularly in cases involving drone-based targeted killing operations since they are being operated remotely. Regardless of the situation, parties should prioritize the equal value of enemy civilians' lives as they do for their own civilians and military personnel, due to their inherent human dignity.[137]

Targeted killing in Israel's practice results in an average of six unintended casualties for every two intended targets.[138] While this proportion may be deemed acceptable in exceptional situations, it could lead to an imbalance in a long-term military strategy focusing solely on eliminating key enemy figures without effectively resolving the conflict.[139] This issue is also of concern to UN agencies investigating drone strikes' proportionality and human rights implications. The UN Special Rapporteur on Counter-Terrorism and Human Rights analyzed 37 drone strikes causing harm to civilians, emphasizing the legal obligation of states to publicly explain the circumstances and justify lethal force use while holding individuals accountable for their actions.[140]

Targeted killings are not inherently disproportionate, but they should be carried out to advance military efforts against the opposing party and ultimately end the conflict. Strategies that minimize conflict intensity but result in significant civilian casualties contradict the fundamental principle of proportionality in armed conflicts.[141]

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135 Andresen (n 122) 34.

136 see Grégoire Chamayou, *A Theory of the Drone* (The New Press 2015) 127; as cited in Ezio Di Nucci and Filippo Santoni de Sio (eds), *Drones and Responsibility: Legal, Philosophical, and Sociotechnical Perspectives on Remotely Controlled Weapons* (1st edn, Routledge 2016) 50–51 <https://www.taylorfrancis.com/books/9781317147794> accessed 22 February 2023.

137 Andresen (n 122) 34.

138 Melzer (n 45) 323–324.

139 ibid.

140 UN Doc. A/HRC/25/59, para. 36. Report of the Special Rapporteur on the promotion and protection of human rights and fundamental freedoms while countering terrorism, Ben Emmerson.

141 Melzer (n 45) 324.

3. The Principle of Precautions

The US operation in Afghanistan in 2010 resulted in civilian casualties due to inaccurate and incomplete reports by the Predator crew located in Nevada, who neglected the visibility of civilians and children to the ground commander.[142] The incident resulted in a missile strike from a nearby attack helicopter, causing the deaths of Afghan civilians due to the crew's failure to acknowledge or pass on intelligence reports.[143] This example highlights the importance of care in adhering to IHL principles, which brings us to the principle of precautions. It is necessary to examine the rules of the principle of precautions and evaluate the compliance of targeted killings with this principle within the context of this study.

The principle of precautions can be traced back to Article 27 of the Hague Convention IV.[144] After that, several documents have included the prohibition of launching attacks against civilians and the obligation to minimize harm to them.[145] The initial binding regulation of the principle of precautions can be found in the AP-I.[146] According to Article 57(1), *"In the conduct of military operations, constant care shall be taken to spare the civilian population, civilians and civilian objects."* Drone-based targeted killings have become a preferred option for States to take the necessary precautions to eliminate a specific, legitimate target while minimizing civilian casualties. As seen in Article 57(1), States must exercise constant care to protect civilians and civilian objects during military operations. The term "constant care" means there are no exceptions to seeking to protect the civilian population, civilians, and objects.[147] Hence, it is essential for all military members involved in the planning, ordering, or execution of the targeted killing operation to consistently prioritize the well-being of civilians and strive to minimize any negative impact on them.[148]

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142 Dexter Filkins, 'Operators of Drones Are Faulted in Afghan Deaths' *The New York Times* (29 May 2010) <https://www.nytimes.com/2010/05/30/world/asia/30drone.html> accessed 16 July 2023; as cited in Drake (n 3) 658.

143 Filkins (n 142); as cited in Drake (n 3) 658.

144 Convention (IV) respecting the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land. The Hague, 18 October 1907.

145 as cited in Yunus Gül, 'The Application of the Principle of Precautions to Cyber Operations' [2023] SSRN Electronic Journal 8.

146 ibid It requires both attacking and defending parties to take precautions to protect civilians and civilian objects during armed conflicts.

147 Program On Hpcr At Harvard University, *HPCR Manual on International Law Applicable to Air and Missile Warfare: Prepared for Publication by Program on HPCR at Harvard University* (Cambridge University Press 2013) 141–142 <http://ebooks.cambridge.org/ref/id/CBO9781139525275> accessed 6 August 2023.

148 Drake (n 3) 644; Sehrawat (n 87) 191.

According to Article 57(2)(a) of the AP-I, parties to armed conflicts are required to take "feasible" measures to reduce the impact of an attack on civilians and civilian objects. They are practical and achievable measures that take into account the circumstances of an attack, including factors that may impact the success of military operations.[149] This means that parties involved in a conflict are not required to take flawless precautions; they must take realistically feasible precautions given the prevailing circumstances.[150] Therefore, the feasibility determination should be based on the specific context. In each scenario, there are distinct elements that require careful consideration, and States should take appropriate measures by considering the situation's specific characteristics.[151]

The feasibility of precautionary measures in practice depends on factors like intelligence availability, control over the targeted area, weapon choice, urgency of the operation, and potential security risks for the military forces or civilians.[152] When comparing a State with air superiority, satellite surveillance, and advanced weaponry to a low-tech force with limited intelligence and basic weapons, the former is expected to do more; however, it's important to remember that the concept of "feasibility" cannot be used to justify breaking the fundamental principles of IHL.[153] States are still under the responsibility of planning or deciding on an attack and must exert their utmost effort to select means and methods of attack that will prevent or at least decrease harm to civilians and damage to civilian objects.

The purpose of this is to prohibit the targeting of non-military objectives due to misinformation and the deliberate targeting of military objectives to gain a slight military advantage at the expense of causing significant harm to civilians and civilian objects. If it becomes clear that the objective is not military or if the attack is likely to cause excessive harm to civilians or civilian objects, it should be canceled or suspended.[154] This rule is significantly easier to adhere to in our context. During drone-based targeted killings, the drone surveillance mechanisms allow new inputs to be detected, such as unexpected civilians near the target. This information is immediately available to the operator, who can assess the situation accordingly. Even if there is no initial indication that civilians would be harmed during an operation, circumstances may change during the operation, resulting in the operation being canceled or suspended.

149 Gül (n 145) 13.
150 ibid.
151 see generally on the elements required consideration Akerson (n 21).
152 Melzer (n 45) 320–321.
153 ibid.
154 Article 57(2)(b) of the AP-I. The first provision applies during the planning phase, while the second provision applies during the execution phase.

As seen, drone technology can address precautionary dilemmas by providing time for planning and prevention, including precautionary measures in strategy development, and facilitating targeted killings.[155] Extensive surveillance may be performed for varying durations before a drone attack, ranging from hours to days or weeks, representing reasonable safety measures that can reduce collateral damage even though they cannot guarantee a complete avoidance of civilian casualties.[156] This is why targeted killing operations necessitate careful planning and organization, relying heavily on intelligence and strict adherence to established procedures, leaving little room for improvisation.[157] Even minor incidents can result in failure, incorrect targeting, or unintended harm. The *"heat of battle*" is not a valid excuse for neglecting precautionary measures in an operation's planning and decision-making stages; therefore, it is crucial to interpret the obligation to take all possible precautions very strictly and literally when it comes to targeted killing operations.[158]

As per Article 57(2)(c) of the AP-I, there is a requirement to provide effective warning of attacks that could impact the civilian population, unless it is not possible due to the circumstances.[159] Therefore, it is recommended that commanders notify the enemy before launching an attack.[160] This ensures the safety of non-combatants, particularly elderly people and children, who can be evacuated from the area before the bombardment begins. However, not informing the enemy in this manner might not violate IHL because surprise can be essential in some cases.[161] When conducting targeted killings, the element of surprise is crucial. This is because if the target is alerted to the attack, they will surely flee. As such, it is essential for States to evaluate the situation in targeted killing operations carefully, thoroughly plan the operation in advance, and continually monitor any nearby civilians during the operation. This indicates that taking precautionary measures is highly crucial to targeted killing operations.

Accordingly, targeting decisions for pre-selected individuals are usually not made during immediate combat situations. Instead, these individuals are often monitored for a period of days or weeks before the operation of targeted killing

155 Sehrawat (n 87) 191.
156 ibid 191–192.
157 Melzer (n 45) 322.
158 ibid; Melzer (n 46) 366.
159 Article 57(2)(c) of the AP-I.
160 It also should be emphasized that drones are not able to propose surrender before employing lethal force. Lewis (n 22) 300.
161 The origin of this rule can be traced back to the Lieber Code, which stated that commanders should, when possible, notify the enemy of their intention to bombard a place. Instructions for the Government of Armies of the United States in the Field, 24 April 1863, prepared by Professor Francis Lieber, University of Columbia ('Lieber Code') Article 19.

is executed.[162] Drones can improve the information-gathering abilities of commanders during targeted killing operations since they have the capability to remain in the air for extended periods and are equipped with advanced sensors.[163] But these operations have both advantages and disadvantages.[164] On the one hand, it allows for better precautionary measures. On the other hand, it disconnects the operator from the adversary, making targeting easier and increasing the likelihood of abuse. Furthermore, operators may need help processing large amounts of data, especially when the data appears contradictory. This challenge becomes even more complex when a single group of operators supervises multiple drones.[165]

According to the least danger rule in Article 57(3) of the AP-I, if multiple military objectives could provide a similar military advantage, the objective chosen should be the one that poses the least risk to civilian lives and objects.[166] Thus, if multiple options can provide a similar advantage, the one that poses the most negligible threat to civilians and their belongings should be selected for attack. This rule can be applied if a commander has multiple options, hence, this principle is commonly referred to as "the lesser of two evils" in international law.[167] In this sense, targeted killing operations may be considered the lesser of two evils most of the time. Keeping in mind that the targets are primarily high-value, specific people, using drones with the method of targeted killing that have surveillance and reconnaissance systems and therefore gather intelligence before and during the operation makes the operation suitable to make the evil less harmful. However, the States engaged in a targeted killing operation must still make every effort to safeguard civilians and civilian objects.[168]

To prevent harm to civilians during targeted killing operations on legitimate targets, it is crucial to take proactive measures rather than simply avoiding the intention to harm them. This includes ensuring that civilians are away from the target and avoiding conducting the targeted killing operation in densely populated areas. These operations must adhere to specific guidelines, such as restricting them to certain hours to minimize civilian casualties and launching them from particular angles.[169] Also, it is essential that every individual who takes part in the targeted killing operations have clear ethical guidelines.

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162 Melzer (n 45) 322.
163 Vogel (n 95) 123.
164 Wagner (n 10) para 16.
165 Ibid.
166 According to the least danger rule in Article 57(3) of the AP-I.
167 see further Gül (n 145) 34–35.
168 See Article 58 of the AP-I.
169 Sehrawat (n 87) 191.

Determining the compliance of targeted killing with IHL may allow for some margin of error as long as the evaluation was made in good faith by those planning, deciding, and executing the operation based on the conditions at the time.[170] The standard of precaution should not be excessively burdensome for authorities but should instead be based on what can reasonably be achieved in the given circumstances.[171] Nevertheless, in IHL, the prevailing criterion is consistently based on reasonableness.[172] States must exercise caution and make every effort to prevent and reduce harm to civilians and civilian objects when planning and carrying out targeted killing operations. Those responsible for targeted killings must ensure that the individuals targeted are legitimate military targets, that IHL permits attacks against them, and take all possible precautions to minimize harm to civilians and avoid excessive harm. In addition, during a targeted killing operation, those in charge must make every effort to stop or pause the operation if it becomes clear that the person being targeted is not a valid military target or the attack is likely to cause excessive harm to others. Hence, targeted killings should be halted or stopped if a person is wrongly identified as a legitimate military target or the harm caused will be significant.[173] Nevertheless, targeted killing by drones is prohibited when other combat techniques with similar chances of success but less collateral damage are viable options.

According to Philip Alston, the former UN Special Rapporteur on extrajudicial, summary, or arbitrary executions, there has been a tendency to broaden the scope of permissible targets and conditions where the IHL applies, as highlighted in the UN's 2010 report.[174] Furthermore, it is stated in the report that the involved States frequently neglect to clarify the legal basis for their policies, reveal the measures in place to ensure the legality and accuracy of targeted killings, and establish mechanisms for holding individuals accountable for any violations.[175] The lack of transparency is also concerning, as they have not revealed the identities of those killed, the reasons behind the killings, or the resulting consequences.[176]

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170 Melzer (n 45) 321–322.

171 ibid 316.

172 Michael Schmitt, 'Autonomous Weapon Systems and International Humanitarian Law: A Reply to the Critics' (2013) 4 Harvard National Security Journal 1, 21.

173 Melzer (n 45) 320–321.

174 UN Doc. A/HRC/14/24/Add.6, Report of the Special Rapporteur on extrajudicial, summary or arbitrary executions, Philip Alston, paras 1-3.

175 ibid, para 93.

176 ibid; as cited in Di Nucci and de Sio (n 136) 48.

C. Auto-Calibrating Lenses: The Issue of Autonomy in Targeted Killings by Drones

"A sword is never a killer; it is a tool in the killer's hands."[177]

Seneca

In 1988, the United States warship USS Vincennes engaged in an incident where it fired upon an Iranian Airlines plane in the Persian Gulf, resulting in the tragic loss of lives of 290 passengers, including 66 children.[178] The attack was initiated after Aegis, a computer program, identified the aircraft as an F-14 belonging to the Iranian Air Force. The military personnel on board complied with the advice without questioning or investigating.[179] As humans become increasingly reliant on machines, there is growing concern over the use of autonomous weapons. These weapons have the potential to drastically change how countries view warfare and have raised questions about their compliance with IHL. This chapter will evaluate the potential compatibility of autonomous drones used for targeted killings with the principles of IHL and, hence, state responsibility.

1. The Issue of Autonomy in Drones

According to one of the most frequently used definitions, an autonomous weapon system (AWS) is "*A weapon system that, once activated, can select and engage targets without further intervention by an operator.*"[180] When examining the definitions by many others, it appears that the fundamental aspect of autonomous weapons, or autonomous drones in our context, is the ability to independently detect, select, and engage with a specific individual or object without any form of human intervention.[181] After a human operator

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177 Letters to Lucilius, 1st c., as cited in Schmitt (n 172) 1 which also refers to earlier version of; Michael C Thomsett and Jean Freestone Thomsett, *War and Conflict Quotations: A Worldwide Dictionary of Pronouncements from Military Leaders, Politicians, Philosophers, Writers and Others* (McFarland 2015).

178 Chantal Grut, 'The Challenge of Autonomous Lethal Robotics to International Humanitarian Law' (2013) 18 Journal of Conflict and Security Law 5, 14–15.

179 ibid.

180 Department of Defense, United States of America, DoD Directive 3000.09, "Autonomy in Weapon Systems", January 25 2023, 21.

181 'Views of the ICRC on Autonomous Weapon Systems' <https://www.icrc.org/en/document/views-icrc-autonomous-weapon-system> accessed 11 August 2023; Bonnie Docherty, 'Losing Humanity' [2012] Human Rights Watch <https://www.hrw.org/report/2012/11/19/losing-humanity/case-against-killer-robots> accessed 11 July 2023; see further Marco Sassòli, 'Autonomous Weapons and International Humanitarian Law: Advantages, Open Technical Questions and Legal Issues to Be Clarified' (2014) 90 International law studies 308, 308–309; Robert Sparrow, 'Robots and Respect: Assessing the Case Against Autonomous Weapon Systems' (2016) 30 Ethics & International Affairs 93, 94–95; Schmitt (n 172) 4.

launches or turns on the weapon system for the first time, it is the weapon system itself that aims at the target by using its sensors, computer code, software, and weapons, which a person would typically do.[182] Therefore, AWS contributes to a significant detachment of humans from the battlefield, and it is clear that it will completely change how States engage in armed conflicts.[183] The integration of autonomy in military operations has been referred to as the third significant transformation in military strategy, following the advancements of gunpowder and nuclear weapons.[184] It is certainly true that robots are increasingly taking over roles that were once occupied by humans on the battlefield.

The classification of various types of AWS is based on the extent of machine autonomy and the level of human supervision or oversight.[185] The primary distinction between automatic and autonomous weapons is the degree to which they can be predicted.[186] The ability of AWS to comply with the principles of IHL hinges on this distinction.[187] The above-mentioned definition of autonomy will be used in this study, while the notion of automation will be out of the scope.

The international community has expressed concern for over a decade regarding the development of autonomous systems that can be remotely controlled or have increased autonomy in targeting or killing humans.[188] However, their potential to conquer the battlefield with their advantages pushed States to develop these types of weapons. AWS possesses benefits such as extended range, prolonged operation duration, enhanced accuracy, quicker response, and invulnerability.[189] Autonomous weapons can use force

182 Neil Davison, 'A Legal Perspective: Autonomous Weapon Systems under International Humanitarian Law' in United Nations, *UNODA Occasional Papers No. 30, November 2017* (UN 2018) 6 <https://www.un-ilibrary.org/content/books/9789213628942c005> accessed 16 February 2023.

183 Jeffrey S Thurnher, 'Examining Autonomous Weapon Systems from a Law of Armed Conflict Perspective' in Hitoshi Nasu and Robert McLaughlin (eds), *New Technologies and the Law of Armed Conflict* (TMC Asser Press 2014) 225 <https://doi.org/10.1007/978-90-6704-933-7_13> accessed 22 February 2023; Grut (n 178) 5.

184 Magdalena Pacholska, 'Military Artificial Intelligence and the Principle of Distinction: A State Responsibility Perspective' (2023) 56 Israel Law Review 3, 4.

185 Dr Berenice Boutin, 'Legal Questions Related to the Use of Autonomous Weapon Systems' 2.

186 James Foy, 'Autonomous Weapons Systems: Taking the Human out of International Humanitarian Law' (2014) 23 Dalhousie Journal of Legal Studies 47, 49.

187 ibid.

188 Chengeta (n 55) 1.

189 see further Kenneth Anderson and Matthew C Waxman, 'Debating Autonomous Weapon Systems, Their Ethics, and Their Regulation Under International Law' (28 February 2017) 1100–1103 <https://papers.ssrn.com/abstract=2978359> accessed 22 February 2023; see further Kelly Cass, 'Autonomous Weapons and Accountability: Seeking Solutions in the Law of War Law of War' (2014) 48 Loyola of Los Angeles Law Review 1017, 1027–1030; Foy (n 186) 52–53.

with precision and personal focus, potentially canceling attacks based on eyeball scans or unique biometric signals.[190] It is argued that the advancement of AWS will lead to more humane outcomes, and decrease casualties among military personnel during armed conflicts, while reducing the probability of collateral damage.[191] Moreover, AWS may have a higher capacity to adhere to IHL principles because of their exceptional abilities, potentially reducing unfortunate errors during military operations.[192] This requires an examination of an autonomous drone's targeted killing operation related to the relative principles of IHL. But the same reasons may lead the thinkers to different outcomes. For instance, while proponents of AWS contend that the absence of human emotions, such as fear and anger, reduces the likelihood of AWS engaging in war crimes, opponents argue that the absence of human empathy in robots increases the probability of them acting without regard for human life.[193] Some people criticize AWS because they believe that a robot may face challenges distinguishing between an armed combatant and a teenager carrying a toy gun.[194] This is why nonprofit organization Human Rights Watch and other critics have argued that AWS may face difficulties in maintaining consistent adherence to the principles of distinction and proportionality.[195] On the other hand, according to Schmitt, it can be argued that prohibiting AWS would place civilians and civilian property at greater risk of incidental harm, and AWS can achieve military objectives with less collateral damage than human-controlled systems.[196] This is because autonomous systems could be armed with non-lethal weapons, have a more precise sensor suite, and make better decisions in dangerous situations.[197]

Like any other weapon, an autonomous drone's legality depends on its unique characteristics and its capacity to use in all circumstances in accordance with IHL principles.[198] IHL places limitations on the use of weapons, including autonomous ones, in specific situations.[199] These limitations guarantee that weapons are used specifically against soldiers and military targets, do not entail excessive harm to non-combatants or civilian property, and safeguard

190 Michael A Newton, 'Back to the Future: Reflections on the Advent of Autonomous Weapons System International Regulation of Emerging Military Technologies' (2015) 47 Case Western Reserve Journal of International Law 5, 18.
191 Rogers (n 2) 1259–1261.
192 ibid.
193 Docherty (n 181) 37–38.
194 see futher ibid 31–32.
195 ibid 3.
196 Schmitt (n 172) 25.
197 ibid.
198 Davison (n 182) 9.
199 Schmitt (n 172) 35.

humanitarian values when conducting operations during armed conflicts.[200] It is important to review the legality of targeted killings by drones since there are currently no fully autonomous drones capable of carrying out such actions.

According to Article 36 of the AP-I [201], States are obligated to conduct legality reviews of newly developed weapons. This is essential to ensuring that a state's armed forces can engage in hostilities while still upholding their international obligations.[202] Article 36 requires clarification, and there is a lack of state practice, making it unclear how the obligation applies to AWS.[203] Before utilizing new weapons, States should check to see if they are subject to any treaties that prohibit their use or existence. Additionally, it is crucial to determine whether they comply with the IHL's tenets and violate customary international law.[204] Although there is no agreement on banning or controlling the utilization of autonomous drones, or AWS in general, States have to abide by the principles of IHL when carrying out actions during armed conflicts.[205]

Modern international law generally forbids the use of weapons due to their indiscriminate nature and the potential to cause excessive harm and unnecessary suffering.[206] Since it is still not clear whether an autonomous drone can discriminate against lawful targets, its ban is recommended by some legal experts.[207] An immediate and comprehensive ban on AWS is the easiest way to address the concerns. However, technical developments are inevitable due to market and political forces aiming to exploit their benefits.[208] This is why establishing a legal regime is desired. Firstly, a multilateral convention, for example, would be effective in regulating the use of autonomous drones in armed conflicts.[209] Secondly, a general regulation on AWS would also apply to autonomous drones. But it may be too soon for States to reach a final consensus at this stage. Still, a potential solution could be a framework convention that

200 ibid.

201 see further for a comprehensive study related to Aritcle 36 and AWS Klaudia Klonowska, 'Article 36: Review of AI Decision-Support Systems and Other Emerging Technologies of Warfare' (17 March 2021) <https://papers.ssrn.com/abstract=3823881> accessed 20 March 2023.

202 Davison (n 182) 9.

203 Grut (n 178) 10.

204 Cass (n 189) 26.

205 This will be examined in this Chapter.

206 Yannick Zerbe, 'Autonomous Weapons Systems and International Law: Aspects of International Humanitarian Law, Individual Accountability and State Responsibility' (2019) 29 Swiss Review of International and European Law 581, 584–585.

207 Docherty (n 181) 46.

208 Gregory P Noone and Diana C Noone, 'The Debate over Autonomous Weapons Systems International Regulation of Emerging Military Technologies' (2015) 47 Case Western Reserve Journal of International Law 25, 12.

209 Foy (n 186) 70.

involves all stakeholders and allows for the creation of a multilateral convention over time to appropriately regulate autonomous drones.[210]

Effective procurement testing and certification mechanisms are essential to ensure legality; these mechanisms might help verify compliance with Article 36 and other relevant regulations.[211] In the context of autonomous drones, it is possible to create interpretative guidance that provides further explanation of the obligations. In this context, it is necessary to have non-legal technical standards, verification tools, and certification mechanisms to effectively implement international law and regulation.[212] Drones are becoming increasingly prevalent in both international and non-international armed conflicts. As a result, this study foresees that autonomous weapons systems will first be extensively tested on drones. This highlights the urgent need for regulations on autonomous drones, even if States only agree on a non-binding agreement.

2. The Effects of Autonomy in Targeted Killings Regarding State Responsibility

Human Rights Watch highlights concerns over responsibility regarding the actions carried out by AWS.[213] The inquiry poses a highly rational query: "*In the event that the act of killing is carried out by a fully autonomous weapon, the question that arises is: who should be held accountable?*"[214] Scholars emphasize individual responsibility for IHL violations from AWS, with commanding officers and manufacturers being the primary focus. Despite the examination of the responsibility of different actors regarding the responsibility gap for autonomous drones, State responsibility remains underexamined.[215] As main purchasers and users, States have an obligation to ensure compliance and compensate victims when AWS breaches IHL.[216]

The State responsibility generated from AWS also took place in UN Documents. In the Report of the 2022 session of the Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Systems, it is stated that "*every internationally wrongful act of a State, including those potentially involving weapons systems based on emerging technologies in the area of LAWS entails international responsibility of that State, in accordance with international law. In addition, States must comply with international*

210 ibid.
211 Boutin (n 185) 6.
212 ibid 10.
213 Schmitt (n 172) 33.
214 Docherty (n 181) 42; as cited in Schmitt (n 172) 33.
215 Crootof (n 65) 1365; see as an example Marcus Schulzke, 'Autonomous Weapons and Distributed Responsibility' (2013) 26 Philosophy & Technology 203.
216 see Article 91 of the AP-I, see further Cass (n 189) 37–38.

humanitarian law…"[217]

The possible use of AWS raises concerns about legal responsibility in situations where violations of IHL occur. The ambiguity of responsibility arises due to the autonomous nature of weapon systems, or, in other words, the potential ability of autonomous drones to act completely independently.[218] State responsibility encompasses various forms of responsibility, including corporate responsibility during the design[219] and sale of AWS and individual and command responsibility when the weapon is deployed in battle or law enforcement scenarios.[220] Moreover, States can be held accountable for employing untested or insufficiently reviewed systems prior to their implementation.[221] This implies that prior to the use of autonomous drones, a comprehensive review is needed. When holding an international law subject legally responsible for the actions of autonomous drones, State responsibility is the fundamental for assessing other forms of international responsibility.[222] The theory of State responsibility is firmly established in international law, hence, it is more pragmatic to hold States responsbile for the violations of IHL caused by their AWS,[223] in order not to have any *brutum fulmen*. It can be said that this is also an inevitable result of being the primary subject of international law.

The deployment of autonomous drones and other autonomous unmanned systems has the potential to affect State responsibility by employing nonattributable methods, hence posing challenges.[224] The issue of responsibility attribution is important because it is a fundamental requirement for holding someone accountable for the deaths of civilians during armed conflict.[225] In the autonomous drones' case, the method of attribution becomes important since they act on their own. It is suggested that the use of autonomous drones in warfare is considered unethical[226] due to the difficulty in assigning responsibility for their actions, and this increases the risk of potential casualties.[227]

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217 UN Doc CCW/GGE.1/2022/CRP.1/Rev.1, Report of the 2022 session of the Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Systems (29 July 2022), para 19. as cited in Pacholska (n 184) 6.

218 Davison (n 182) 16.

219 see Tim McFarland and Tim McCormack, 'Mind the Gap: Can Developers of Autonomous Weapons Systems Be Liable for War Crimes?' (2014) 90 Mind the Gap.

220 Chengeta (n 55) 5.

221 Davison (n 182) 16.

222 Chengeta (n 55) 5.

223 Zerbe (n 206) 583.

224 Chengeta (n 55) 50.

225 Robert Sparrow, 'Killer Robots' (2007) 24 Journal of Applied Philosophy 62, 67.

226 see further Robert Sparrow, 'Building a Better WarBot: Ethical Issues in the Design of Unmanned Systems for Military Applications' (2009) 15 Science and Engineering Ethics 169.

227 Sparrow, 'Killer Robots' (n 225) 75.

According to the ARSIWA, a State can be held responsible for its actions if it violates its obligations.[228] Since individuals carry out a State's actions under international law, attribution rules are used to determine which types of actions by subjects can be attributed to the state. In our context, the main issue is whether a State can be held responsible in accordance with the attribution rules in ARSIWA for the actions of a drone, which has complete autonomy.[229]

As Pacholska suggests, AWS can be evaluated as an agent of States. [230] The definition of "agent" in the ICJ's *Reparations for Injuries* case refers to a human agent[231] in mind, but nothing in it would prevent its application to non-human persons or objects, such as autonomous drones. Accordingly, "organs or agents" could be interpreted as a reference to "organs" in Article 4 of ARSIWA, allowing for the attribution of wrongdoing induced by autonomous drones.[232] Despite some forms of responsibility being overlooked, it is important to attribute all types of responsibility to the State. Thus, it is necessary to interpret the Convention in this way to properly evaluate State responsibility. This study suggests that such an interpretation is required to uphold the IHL's object and purpose.[233] As it is clear now that autonomous drones' acts can be attributed to States, the second element of State responsibility should be examined, namely the breach of an international obligation. In our current situation, similar to the previous chapter, we will be examining compliance with the core obligation of adhering to the fundamental principles of IHL.

3. Autonomous Drones and IHL Principles

As mentioned, the utilization of autonomous drones, or AWS in general, is not subject to regulation in treaties; nonetheless, their deployment must adhere to the principles and guidelines outlined within the framework of IHL. After all, the responsibility for developing, deploying, and utilizing weapons rests with the State, and States must comply with IHL.[234] Analyzing autonomous drones' compliance with IHL relies on their technical performance, predictability, and reliability, which are assessed during their development. Various operational parameters are determined during the activation stage, including task assignment, target type, environment, mobility, and time frame. [235] These parameters are essential for ensuring that any weapon system complies with IHL regulations.

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228 See Arts 1-2 of ARSIWA.
229 Boutin (n 185) 7–8.
230 Pacholska (n 184) 20–21.
231 ICJ, Reparation for Injuries Suffered in the Service of the United Nations, Advisory Opinion [1949] ICJ Rep 174, 177. as cited in ibid 20.
232 ibid 20–21.
233 see 'Vienna Convention on the Law of Treaties (1969)' Article 31.
234 Davison (n 182) 7.
235 ibid 13.

Compliance with IHL depends on the predictability of weapon systems in their intended circumstances.[236] Ensuring a solid level of confidence in the technical capabilities, surroundings, and interactions of autonomous drones is essential to prevent possible breaches of IHL.[237] But beyond these technical issues, the compatibility of autonomous drones with the basic principles of IHL should be examined based on targeted killing operations.

Applying existing legal frameworks to autonomous drones is challenging, particularly in ensuring that military forces adhere to the fundamental principles of distinction and proportionality, although these challenges might diminish as technology improves.[238] The shift towards autonomy on the battlefield depends on whether technology can deliver sophisticated autonomous systems that comply with IHL in armed conflicts.[239] It is important to assess whether autonomous drones can adhere to the fundamental principles of IHL, as they are likely to be deployed on future battlefields.

a. A Weapon or a Toy Stick?: Autonomy and Distinction

Identifying targets correctly on a battlefield is a difficult task. Research has shown that around 70% of civilian casualties caused by US forces occurred due to incorrect identification.[240] Autonomous drones' ability to differentiate between legitimate and non-legitimate military targets remains debated, especially in asymmetric conflicts.[241] Regardless of the advancements in facial recognition technology, it would be ineffective in armed conflicts if an autonomous drone could not differentiate whether a target was legitimate.[242] The issue of upholding the principle of distinction is especially difficult due to the challenge of designing a machine that can accurately differentiate between combatants and non-combatants. Some scholars argue that this task is particularly complex because insurgents often disguise themselves as civilians.[243] And when an autonomous drone cannot accurately determine whether a person or object is a legitimate target, it is required to consider them as civilians,[244] as mentioned earlier.

236 ibid 15.
237 ibid.
238 Jack M Beard, 'Autonomous Weapons and Human Responsibilities' (2013) 45 Georgetown Journal of International Law 617, 48.
239 Thurnher (n 183) 226–227.
240 Benjamin Kastan, 'Autonomous Weapons Systems: A Coming Legal "Singularity"?' (2013) 2013 University of Illinois Journal of Law, Technology & Policy 45, 60.
241 see further Docherty (n 181) 30.
242 Cass (n 189) 20.
243 see Beard (n 238) 58.
244 Schmitt (n 172) 19.

The principle of distinction relies on human judgment, as algorithmic intelligence lacks the ability to determine contextual information or intentions.[245] Also, the definition of lawful targets is problematic due to the dynamic lines between civilians and combatants or civilians and military objects. It is stated that autonomous drones might identify suspected targets or persons of interest but cannot satisfactorily define the legally protected group of civilians by predetermined criteria.[246] Autonomous drones may face challenges in adhering to IHL in urban environments and densely populated areas, where it can be difficult to identify those involved in armed conflicts. Also, autonomous drones may lack the necessary skills to recognize emotions and identify vulnerable individuals.[247] Thus, the issue is not the insufficiency of technology sensors but the challenge of converting IHL into a computer-readable format.[248] It still needs to be clarified whether an autonomous drone can identify legitimate targets beyond their specific characteristics. But if converting IHL into a computer-readable format becomes successful, autonomous drones can easily comply with the principle of distinction. Because having and assessing all the data and instances related to IHL and the principle of distinction is impossible for a human, an autonomous weapon may be in a better position to evaluate the situation for the best humane outcome.

To effectively distinguish between combatants and noncombatants, it is insufficient to rely solely on the ability to identify whether an individual or object is in possession of a weapon.[249] An autonomous drone must be able to differentiate between non-combatants and combatants carrying AK-47s and walking sticks, but this is not enough.[250] Also, it is possible for civilians to have weapons without participating in hostilities. Therefore, it is not clear whether an autonomous drone can identify a hors de combat, a surrenderer, or a child with a toy gun. Despite so many possible obstacles to the potential compliance of autonomous drones with IHL, a targeted killing operation might be relatively more straightforward. Assuming autonomous drones have a targeted killing list in a database, they can conduct the operation without human intervention. And since the target is specific, there would not be any problems identifying whether the target is legitimate. Because all the autonomous drone needs to do is confirm that the intended target matches the person in the database. Of course, the database of the list of targets is prepared by humans, and it should

245 Klonowska (n 201) 18.
246 ibid.
247 Denise Garcia, 'Killer Robots: Why the US Should Lead the Ban' (2015) 6 Global Policy 57, 59.
248 Sassòli (n 181) 327.
249 Sparrow, 'Robots and Respect' (n 181) 98.
250 Kastan (n 240) 60.

encompass only legitimate targets. Otherwise, the outcome will be a violation of IHL altogether.

Here the main problem lies with other people's identities around the target. If an autonomous drone does not possess the knowledge of how many of its targets were legitimate targets, this targeted killing operation should be considered an indiscriminate attack, hence, violating both the principle of distinction and the principle of proportionality. The level of certainty regarding autonomous drones' ability to accurately distinguish remains uncertain. As seen, programming robots to make complex judgments related to IHL poses significant challenges.[251] That is why it is debated that autonomous drones must be programmed with acceptable levels of doubt into the systems, as failure to do so may result in an indiscriminate attack.[252]

Using drones for targeted killing has been proposed as a strategy to decrease civilian casualties.[253] It is argued that an autonomous drone equipped with precise weaponry may better discriminate between valid and invalid targets compared to human soldiers using conventional weapons.[254] Currently, no autonomous drone is able to assess situations and distinguish between valid targets, irrespective of their initial appearance. Furthermore, it seems impossible to convert the rules of IHL into a software system, as they consist of many ambiguous, undefined terms and regulations that only humans can interpret. Introducing a regulation for converting IHL into artificial intelligence could be a valuable solution for addressing this problem.

b. Psychology of a Robot: Autonomy and Proportionality

An attack targeting a lawful target must adhere to the principle of proportionality.[255] This principle, which is a complex and often misunderstood aspect of IHL[256], prohibits attacks that may cause excessive civilian loss, injury, or damage.[257] Proportionality judgment involves estimating civilian casualties and anticipating military advantage. These determinations require case-by-case analysis due to their contextual nature.[258] Assessing military advantage in modern battlespaces is more challenging for autonomous drones, as proportionality tests require more than quantitative data balancing, despite their potential ability to assess civilian harm in target areas.[259] It has been suggested

251 Sparrow, 'Robots and Respect' (n 181) 98.
252 Schmitt (n 172) 18.
253 Zerbe (n 206) 586.
254 ibid.
255 See Articles 51(5)(b) and 57(2)(iii) of the AP-I.
256 Akerson (n 21) 175.
257 Schmitt (n 172) 18.
258 ibid 19–20.
259 ibid.

that autonomous drones may actually be able to use force more proportionately than human soldiers due to the fact that computerized weapons can accurately calculate the effects of a blast and any potential collateral damage.[260] On the contrary, according to Human Rights Watch, autonomous weapons cannot reflect the psychological processes necessary for proportionality assessment.[261] Whether these claims are true is yet to be seen, as there is no sufficient empirical data regarding autonomous drone attacks.

In order to determine the likelihood of harm, autonomous drones must be able to identify and count civilian and potential military targets. This entails monitoring unarmed individuals, including children, and preventing attacks on military targets that may cause substantial civilian casualties.[262] Determining acceptable civilian casualties in an attack depends on factors such as military advantage, alternative methods, consequences of not attacking, and weapons used. While assessing excessive destruction, considers target characteristics, intended benefit, and less harmful methods.[263] Understanding these factors requires deep knowledge of global affairs, including human behavior and politics.[264] Therefore, the principle of proportionality requires interpretation ability and insight, rather than pure data and information. It is still unclear whether an autonomous drone can accurately evaluate these factors.

As it is seen, assessing collateral damage and military advantage involves considering various factors. However, accurately predicting outcomes is difficult due to the intricate programming and unforeseen code interactions involved in the deployment of autonomous drones in open and unstructured environments.[265] Integrating ground principles, values, and control requirements into autonomous drones is certainly rewarding, but quantifying context-based principles like proportionality is more difficult than it seems at first.[266] In theory, autonomous drones' algorithms can be programmed with collateral damage thresholds for specific targets, which can be adjusted by human operators. But this will be challenging since determining the appropriate threshold is subjective and requires judgment from military commanders.[267] Applying the proportionality principle to avoid excessive civilian casualties involves

260 Armin Krishnan, *Killer Robots: Legality and Ethicality of Autonomous Weapons* (Ashgate 2010) 92.

261 Docherty (n 181) 33; as cited in Schmitt (n 172) 20.

262 Sparrow, 'Robots and Respect' (n 181) 98.

263 ibid 99.

264 ibid.

265 Foy (n 186) 61.

266 Berenice Boutin and Taylor Woodcock, 'Aspects of Realizing (Meaningful) Human Control: A Legal Perspective' (11 May 2022) 17 <https://papers.ssrn.com/abstract=4109202> accessed 20 March 2023.

267 Schmitt (n 172) 20–21.

subjective and complex decisions that are difficult to resolve using formulas, algorithms, or artificial intelligence systems.[268] This suggests that autonomous drones might struggle with assessing the proportionality of the attack, as they cannot accurately evaluate the anticipated military advantage without constant updates on military operations and plans. A solution might be the agreement of the States on clear criteria and formulas for assessing proportionality and its influencing parameters.[269] However, reducing it to its basic components could potentially lead to a regression in safeguarding civilians and IHL rules in general.

As previously discussed regarding the principle of distinction, the primary challenge lies in transferring crucial information to autonomous weapons software. Additionally, the issue with the principle of proportionality in this context is the extensive evaluation that is required. It is doubtful that autonomous drones, as well as other autonomous weapons, have the ability to turn data or information into knowledge or insight. It is unlikely that the rules of IHL can be translated into computer language, making it difficult to assess whether the principle of proportionality has been followed. This means that an autonomous drone lacking proportional calculation could potentially violate IHL, resulting in an increased risk of civilian casualties.[270] The principle of proportionality, which concerns collateral damage, applies to the use of autonomous drones in targeted killing operations just as it does to any other method. Therefore, there is no significant discussion specifically related to targeted killing, and the issues discussed in the previous chapter regarding the principle of proportionality are also applicable here. Since targeted killing operations are about the value of the target, the proportionality principle plays an even more significant role than any other method. Because not just the bystanders' identity but also the identity of the target plays an important role when balancing the two elements of the proportionality principle. This is why targeted killing operations are one of the worst-case scenarios to occur for an autonomous drone since they require an even more delicate assessment unless autonomous drones solve all the problems we discussed above.

In sum, defining the principle of proportionality in computer-based terms is difficult due to the lack of a specific formula. Precisely determining the boundaries that must be respected is another difficult aspect. Including the prohibition in software coding presents difficulties as it is unclear how an autonomous drone can accurately distinguish between civilian, military, and

268 Beard (n 238) 49.

269 Sassòli (n 181) 331–332.

270 Daniel N Hammond, 'Autonomous Weapons and the Problem of State Accountability Comments' (2014) 15 Chicago Journal of International Law 652, 674.

dual-use items and assess the situation within the targeted killing operation.[271] Considering the current level of technological developments, it is uncertain whether an autonomous drone can effectively make these determinations.[272]

c. Anticipating the Future: Autonomy and Precautions

To ensure that a target is a legitimate military objective, all available sensors must be used to enhance target identification accuracy. When operating in a military context, it is advisable not to rely solely on autonomous drones. Instead, it is recommended to use other unmanned aerial systems to locate enemy forces before deploying an autonomous drone. This approach helps to minimize the risk of mistakenly identifying civilians as combatants.[273] Therefore, autonomous drones can obtain all the information from all devices and evaluate them to operate better. This would be particularly useful for targeted killing operations since it requires intensive planning.

Using an autonomous weapon may not be feasible in high-risk areas, e.g., urban areas.[274] This is due to technical or operational factors and the lack of enhanced identification capabilities.[275] The decision to avoid using these systems could be made to prevent potential civilian casualties or to prioritize military objectives.[276] Autonomous drones offer an advantage as precautions evolve through experience, allowing belligerents to learn from past failures and anticipate future incidents.[277] This indicates that there should be a comprehensive testing process before actually deploying an autonomous drone in armed conflicts, therefore, they can develop over time until reaching perfection.

CONCLUSION

"To date, attacks and targeted killings using drones have not been the object of robust international debate and review. The Security Council is missing in action; the international community, willingly or not, stands largely silent. That is not acceptable."[278]

This study shows that the concept of targeted killing is not inherently incompatible with IHL principles, namely the principle of distinction, the

271 Grut (n 178) 13.
272 ibid.
273 Schmitt (n 172) 23.
274 Vogel (n 95) 124.
275 Schmitt (n 172) 23–24.
276 ibid.
277 Sassòli (n 181) 336.
278 'A/HRC/44/38: Use of Armed Drones for Targeted Killings - Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions' (n 1) 20 para 82.

principle of proportionality, and the principle of precautions. The features of the concept of targeted killing that other drone attack methods do not typically have can make the former compatible with IHL principles. Drones' advanced sensors, advanced visual technology, and the feature of pre-selecting the legitimate target help uphold the principle of distinction. Before targeted killing operations are conducted, there is a planning and scheduling process, which helps to select the place and the time. This process, in accordance with the principle of proportionality, helps to strike a better balance between the possible collateral damage and the military advantage expected by conducting the operation. Since it is a premeditated operation, it also helps adhere to the principle of precautions.

The drones are efficient, but it often leads to excessive civilian casualties. The international community is not fully aware of the methods of drone strikes in practice. While a signature strike will likely result in excessive civilian casualties, a targeted killing operation may not. However, the extent of public disclosure of targeted killings carried out by drones is constrained by the inherent secrecy surrounding these operations, which encompasses the inquiry into civilian casualties. Although targeted killing is generally viewed negatively in the international community due to its high civilian casualties, it is not inherently incompatible with IHL. On the contrary, it has some benefits to offer to States in order to adhere to IHL principles.

Moreover, in a more specific context, autonomous drones have alarming implications from the perspective of IHL. The features of autonomous drones appear incompatible with IHL principles and established international obligations. The primary constraint of autonomous drones in terms of their compatibility with IHL principles is their inability to convert raw data into informed decisions or insights, which is necessary for maintaining balance. As a result, the fundamental principles of IHL, namely the principle of distinction and the principle of proportionality, may not be maintained through autonomous drone operations. Additionally, the question of how to attribute the acts of autonomous drones to the State regarding responsibility has been discussed, leading to the suggestion that these autonomous drones should be considered agents of the State. Lastly, it should be noted that this study focused on one element of State responsibility: breach of an international obligation from the perspective of IHL principles. With technological development and States' interaction regarding drones and targeted killing operations, the other element, attribution, will also be problematic and require examination. Thus, this subject matter has potential for future academic studies.

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