

The Adequacy of International Humanitarian Law in Regulating the Challenges Posed by Drone Warfare

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DEDICATION

To my late father, Peet Steyn, now and always.

All of this is for you, and because of you.

This dissertation is based on, and a continuation of, the mini-dissertation submitted in partial fulfilment of my LLB degree in 2017.

The information used and presented in this thesis is correct and up to date until November 20 when research for this dissertation was concluded. Any later political, social and/or legal developments have not been considered.

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ABSTRACT

IHL is widely accepted as being the law applicable to instances of confirmed armed conflict. While this body of law is responsible for governing the use of modern means of warfare, it is often criticised for lagging one war behind reality. IHL consists of a number of fundamental principles which states must consider before conducting a strike in the milieu of armed conflicts. These principles include military necessity, humanity, honour, distinction, precaution and proportionality.

Armed drones, with due consideration of their unique capabilities in the context of armed conflicts, are generally considered to be a legitimate means of warfare. Nevertheless, armed drones are often used in ways which one might regard as contrary to the fundamental principles of IHL. When one considers the current challenges posed to IHL by the use of armed drones in warfare, it is questionable whether or not IHL is adequate in regulating these challenges. In the absence of adequate rules capable of wholly and effectively governing the use of drones in warfare, it is then determinable whether a legal framework should be developed in order to address the nuanced issues posed by armed drone use. Consequently, the elements of such a possible legal framework are to be determined.

Proceeding from the premise that IHL is responsible for regulating the use of drones in the context of armed conflicts, and realising that the issues posed by armed drones as used in warfare are of such a challenging nature that they might necessitate the development of IHL, the study makes a number of findings. These include that the fundamental principles of IHL, and in particular the principles of precaution, distinction, and proportionality are of particular relevance to drone warfare inasmuch as one is presented with numerous challenges upon the application of these principles to the use of drones in warfare. In particular, it is further determined that where one regards the challenges relating to the lack of transparency, the need for accountability, the constant proliferation of armed drones and the problematic nature presented by the development of autonomous drones, it is evident that IHL falls short of adequately addressing these challenges.

At a general level, this study finds that there is a need for a common position as to the use of armed drones as used in the context of armed conflicts. With due regard to the international movement toward such a position, and in view of an analysis of the most salient challenges posed by the use of armed drones today, one is confronted with certain elements which are not only pertinent to the discussion surrounding the use of armed drones, but which make a useful point of departure in determining the issues to be included in a draft legal framework concerning the use of armed drones in warfare.

Keywords:

Armed drones, armed conflicts, warfare, International Humanitarian Law, fundamental principles, military necessity, humanity, honour, distinction, proportionality, precaution, adequacy, challenges, transparency, accountability, drone proliferation.

OPSOMMING

Internasionale Humanitêre Reg (hierna verwys as IHR) word algemeen beskou as die regsreëls wat militêre konflikte reguleer. Die regsliggaam verantwoordelik vir die toepassing hiervan word soms gekritiseer omdat die reëls daarvan dikwels slegs aangepas word na 'n oorlog verstryk het. IHR bestaan uit 'n aantal fundamentele beginsels wat voor militêre ingryping oorweeg moet word, naamlik militêre noodsaaklikheid, menslikheid, eer, onderskeid, voorsorg en proporsionaliteit.

Die aanwending van bewapende hommeltuie, met hul unieke militêre vermoëns, word algemeen beskou as 'n wettige wyse van oorlogvoering. Nieteenstaande, word hommeltuie dikwels in militêre konflikte aangewend op wyses wat teenstrydig geag kan word met die grondbeginsels van IHR. Dit kan met reg bevraagteken word of IHR voldoende is om die uitdagings wat met hommeltuig oorlogsvoering gepaard gaan, effektief te reguleer. By 'n gebrek aan sodanige regulering, is dit gepas om te probeer vasstel of 'n wetlike raamwerk ontwikkel moet word om die genuanseerde probleme wat deur die gebruik van bewapende hommeltuie tydens militêre konflikte veroorsaak word, aan te spreek. Gevolglik moet die elemente van so 'n moontlike wetlike raamwerk bepaal word.

Op grond van die veronderstelling dat IHR verantwoordelik is vir die regulering van die gebruik van hommeltuie binne die konteks van militêre konflikte, en dat die probleme wat veroorsaak word deur die gebruik van bewapende hommeltuie tydens oorlogvoering van so 'n uitdagende aard is, dat dit heel moontlik die ontwikkeling van IHR vereis, maak die studie 'n aantal bevindinge. Hierdie bevindinge sluit in dat die fundamentele beginsels van IHR, en veral die beginsels van voorsorg, onderskeid en proporsionaliteit van besondere belang is tydens hommeltuig-oorlogvoering; vernameam die toepassing van hierdie beginsels.

In besonder word daar bevind dat die IHL gebrekkig is om uitdagings aangaande deursigtigheid tydens hommeltuig-oorlogsvoering, die behoefte aan aanspreeklikheid, die konstante vermeerdering en verspreiding van bewapende hommeltuie en die problematiek rondom outonadiese hommeltuie aan te spreek. In die algemeen bevind hierdie studie dat daar 'n behoefte bestaan aan 'n gemeenskaplike standpunt

aangaande die gebruik van bewapende hommeltuie binne die konteks van militêre konflikte.

Met inagneming van die internasionale beweging na 'n gemeenskaplike standpunt, en in die lig van 'n ontleding van die mees prominente uitdagings wat die gebruik van bewapende hommeltuie bied, word 'n mens gekonfronteer met sekere beginsels wat van toepassing is nie net by die bespreking van bewapende hommeltuie nie, maar wat ook gebruik kan word as vertrekpunt in die bepaling van sake wat ingesluit moet word by die opstel van 'n konsep wetgewende raamwerk rakende die aanwending van hommeltuie in oorlogsvoering.

Sleutelwoorde:

Gewapende hommeltuie, gewapende konflikte, oorlog, Internasionale Humanitêre Reg, fundamentele beginsels, militêre noodsaaklikheid, menslikheid, eer, onderskeid, voorsorg, proporsionaliteit, toereikendheid, uitdagings, deursigtigheid, aanspreeklikheid, hommeltuig verspreiding.

LIST OF ABBREVIATIONS

AP I	Additional Protocol I
AP II	Additional Protocol II
AWS	Autonomous Weapon System or Autonomous Weapon Systems
BLR	Beijing Law Review
BUSLR	Bond University Law Review
DAL J LEG STUD	Dalhousie Journal of Legal Studies
Denv J Intl L & Pol	Denver Journal of International Law and Policy
DOD	Department of Defence
EC	European Council
EJIL	European Journal of International Law
EJIR	European Journal of International Relations
EP	European Parliament
EU	European Union
HCJ	High Court of Justice
ICJ	International Court of Justice
ICLA	Institute for International and Comparative Law in Africa
ICRC	International Committee of the Red Cross
ICTY	International Criminal Tribunal for the Former Yugoslavia
IHL	International Humanitarian Law

IL	International Law
INTL AFF	International Affairs
Int'l L & Pol'y	International Law and Policy
INTL L STUD	International Legal Studies
IRRC	International Review of the Red Cross
JCSL	Journal of Conflict and Security Law
JICJ	Journal of International Criminal Justice
JLIA	Journal of Law and International Affairs
JLIS	Journal of Law Information and Science
JSM	Joint Service Manual
LOAC	Law of Armed Conflict
MJLST	Minnesota Journal of Law Science & Technology
MR	Military Review
NDL REV	North Dakota Law Review
ORIL	Oregon Review of International law
PCIJ	Permanent Court of International Justice
RULAC	Rule of Law in Armed Conflict
SZIER	Swiss Review of International & European Law
TILJ	Texas International Law Journal
TLCP	Transnational Law and Contemporary Problems
UAS	Unmanned Aircraft System

UAV	Unmanned Aerial Vehicle
UK	United Kingdom
UN	United Nations
UNODA	United Nations Office for Disarmament Affairs
U Pa J Intl L	University of Pennsylvania Journal of International Law
US	United States
WW I	World War I
WW II	World War II
YIHL	Yearbook of International Humanitarian Law

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Chapter 1 Introduction

1.1 Background and Problem Statement

The shift in reliance from utilising conventional ground forces to attack combatants during armed conflicts, to the use of armed drones, can be regarded as one of the most significant ways in which warfare has transformed.¹ Currently, it is estimated that 90 states are in possession of military drones, 24 of which possess armed drones, whereas the use of armed drones has been observed in at least 13 countries.² Nonetheless, the use of armed drones is a terrifying reality to millions of civilians caught in the cross-fires of armed conflicts.³ Although it is widely accepted that military drones are legitimate means of warfare, armed drones are nevertheless often used in ways which could be considered as being conflicting to the fundamental principles of the law of war,⁴ and it has been reported that since 2004 there have been approximately 4737 drone strikes launched by the US alone, with a resultant 10667 deaths – of which an estimated 1551 were children and civilians.⁵

An Unmanned Aerial Vehicle (UAV), which is frequently referred to as a "drone", an extensively used means of warfare, is defined in military terms as an aircraft which does not have a human operator or controller and which has the built-in capacities

¹ Breau "Civilian Casualties and Drone Attacks: Issues in International Humanitarian Law" 115.

² Zwijnenburg and Postma *Unmanned Ambitions: Security implications of growing proliferation in emerging military drone markets* 4.

³ For instance, according to a report by Amnesty International titled *"Will I Be Next?" US Drone Strikes in Pakistan* 18-21, in the afternoon of 24 October 2012 the minor grandchildren of Mamana Bibi witnessed the instant horrific killing of their grandmother via drone strike while they were tending crops in Ghundi Kala village in Pakistan. Mamana, aged 68, was harvesting okra with her grandchildren to cook for her family that night, when she was struck by two hellfire missiles from a US drone aircraft, and a subsequent airstrike nearly killed some of the children in the perimeter. After the explosion, wherein several of the children were seriously injured by shrapnel, they ventured off to where their grandmother had been only minutes before – but found only her shoes. Neither Mamana, nor her family, were involved in any terrorist activities and Pakistani Intelligence forces informed Amnesty International that the attack may have been due to the fact that a Taliban fighter had been in Mamana's proximity, as it was determined that the fighter made use of a satellite phone, a mere ten minutes before the strike, on a road close to Mamana's location; see Amnesty International *"Will I Be Next?" US Drone Strikes in Pakistan* 18-21; Greenhouse 2013
<https://www.newyorker.com/news/news-desk/the-drone-strike-victims-coming-to-congress>.

⁴ These principles, such as proportionality, distinction and the issue concerning the illegitimate use of drones, will be discussed in more detail below.

⁵ The Bureau of Investigative Journalism 2018
<https://www.thebureauinvestigates.com/projects/drone-war>.

to fly with or without human remote control.⁶ This is made possible due to the armed drone being programmed with a system consisting of certain mechanisms such as the essential network, gear and personnel to run an unmanned aircraft vehicle.⁷ These elements comprise of that which is called the Unmanned Aircraft System.⁸ Drones provide unique capabilities which facilitate processes such as surveillance, intelligence gathering, reconnaissance missions and target acquisitions, and consequently enable militaries to improve their situational awareness.⁹ Currently, the military drone market is dominated by countries such as the US, China and Israel but as the proliferation of high-tech military drones increases, some other states are gradually speeding up the development and enhancement of this technology, and countries such as South Africa, Iran, Pakistan, Ukraine, and Turkey have made noteworthy strides in this regard.¹⁰

That drones have become a significant development in armed conflict situations is beyond doubt, and the innovation of this means of warfare is essential for militaries and states to be able to compete with perceived contemporary threats, such as terrorism.¹¹ Arguably, drones not only have distinct advantages over manned

⁶ US Department of Defence 2010 www.dtic.mil/doctrine/dod_dictionary/.

⁷ Wagner 2011 *JLIS* 4-5.

⁸ US Department of Defence 2010 www.dtic.mil/doctrine/dod_dictionary/. We can draw a distinction between semi-autonomous and autonomous drones; "autonomy" in context is comprehended as an unmanned system which enforces an attack founded on a code that allows for an independent decision-making process. This process includes the identification of a target and the decision to strike (and if so, which weapon to use), without any human intervention; see Wagner 2011 *JLIS* 4-5.

⁹ Zwijnenburg and Postma *Unmanned Ambitions: Security implications of growing proliferation in emerging military drone markets* 4.

¹⁰ For instance, whilst South Africa has displayed interest in 2017 towards obtaining the Black Hornet mini military drone system from a Norwegian manufacturer called Prox Dynamics, local manufacturers, such as Denel Dynamics and Paramount Advanced Technologies, have developed drones fit for military application (called the Seeker and Vulture respectively) and the South African government is developing a new defence industry strategy, which could allow for an increase in both funding and international engagement in this regard; see Zwijnenburg and Postma *Unmanned Ambitions: Security implications of growing proliferation in emerging military drone markets* 4, 25; DefenceWeb 2017 http://www.defenceweb.co.za/index.php?option=com_content&view=article&id=49650; Defence Web 2017 http://www.defenceweb.co.za/index.php?option=com_content&view=article&id=48550:defence-industry-strategy-document-identifies-two-military-uav-suppliers&catid=7:Industry.

¹¹ Sehrawat 2017 *JLIA* 174.

aircraft, but they are also able to handle what human beings are unable to.¹² As can be gleaned from the persistent use of drones in warfare, there are various contexts within which drones are especially significant: within armed conflict situations, drones contribute to the safety of remote drone pilots, and the surveillance efficiency of drones in observing (and subsequently attacking) moving targets such as terrorist or rebel forces has been commended for its potential in greatly improving the situational awareness of military officers.¹³ Further contexts worthy of mentioning are the utilisation of drones in lethal operations outside the milieu of armed conflicts,¹⁴ and in peacekeeping operations, where drones enable conflict monitors to sharpen their situational cognisance.¹⁵

However, the impact of the use of drones as a means of warfare is a subject to be regulated by international humanitarian law (hereafter IHL).¹⁶ As a unique set of laws which allows for the extenuation of the consequences of armed conflicts, IHL directs itself toward restricting the means and the methods of armed conflicts.¹⁷ Hence, it is often referred to as either the "law of armed conflict" (hereafter LOAC) or the "law of war".¹⁸ Modern IHL consists of a body of customary rules and several

¹² Unlike humans, drones don't experience g-force, tedium, boredom, exhaustion, or tremendous pressure which renders their use highly beneficial. Sehwat 2017 *JLIA* 174.

¹³ Drones are often integrated with wide area surveillance systems like Gorgon Stare, and therefore, they are more often than not capable of replicating the role of traditional aircraft; McDonald *Drones and the European Union: Prospects for a Common Future* 6.

¹⁴ For example, in circumstances where states deem it necessary to employ force to disrupt terrorist schemes, and act out of self-defence in doing so; McDonald *Drones and the European Union: Prospects for a Common Future* 6.

¹⁵ The present use of drones by UN peacekeepers in the Democratic Republic of the Congo empowers them to track unpredictable militant forces in otherwise impenetrable terrains such as forests; McDonald *Drones and the European Union: Prospects for a Common Future* 6-7.

¹⁶ IHL distinguished between the *jus ad bellum* – which is the right to conduct war, and the *jus in bello* – a set of legal rules governing the waging of war as well as the treatment of combatants and non-combatants during armed conflicts. The *jus in bello* was formerly called the law of war, but today it embodies IHL; see Dugard *International Law: A South African Perspective* 519. IHL is discussed in more detail below.

¹⁷ International Committee of the Red Cross 2004 <https://www.icrc.org/en/document/what-international-humanitarian-law>; this body of law is furthermore in pursuit of the moderation of the conduct of armed conflicts, and seeks to mitigate the suffering caused by it; see McCoubrey *International Humanitarian Law* 1; White *Advanced Introduction to International Conflict and Security Law* 79.

¹⁸ International Committee of the Red Cross 2004 <https://www.icrc.org/en/document/what-international-humanitarian-law>; White *Advanced Introduction to International Conflict and Security Law* 79.

treaties.¹⁹ The most noteworthy of these treaties were developed in The Hague in 1899 and 1907 respectively.²⁰ Later agreements were developed in Geneva, both in 1949 and 1977, as to the protection of individuals from the effects of armed conflicts.²¹

The protective principles inherent to IHL relates to all entities in an international armed conflict (namely, combatants and non-combatants), regardless of the rationale or legality of the conflict.²² The instant an armed combat situation comes into existence, IHL and the fundamental principles thereof become operational.²³ Consequently, where drones are utilised as a weapon of warfare within an armed conflict situation, the use thereof must adhere to the fundamental principles of IHL.

Considering that IHL is structured to regulate the means of warfare, evolving military technology such as drones often proves problematic to this body of law.²⁴ The current international regulatory standard concerning armed conflict and the means thereof is principally governed by legal instruments such as *Additional Protocol I* and *II*²⁵ (hereafter *AP I* and *AP II*) to the *Geneva Conventions* of 1949 which were

¹⁹ Dugard *International Law: A South African Perspective* 520.

²⁰ Sassoli *et al How does Law Protect in War* 99; Dugard *International Law: A South African Perspective* 520.

²¹ The *Geneva Conventions* of 1949 are comprised of the *Geneva Convention I for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field* (1949); the *Geneva Convention II for the Amelioration of the Wounded, Sick and Shipwrecked Members of Armed Forces at Sea* (1949); the *Geneva Convention III relative to the Treatment of Prisoners of War* (1949); and the *Geneva Convention IV relative to the Protection of Civilian Persons in Time of War* (1949); in 1977 protocols additional to the *Geneva Conventions* were adopted, namely: *Additional Protocol I Relating to the Protection of Victims of International Armed Conflicts* (1977); and *Additional Protocol II Relating to the Protection of Victims of Non-International Armed Conflicts* (1977); see Sassoli *et al How does Law Protect in War* 99.

²² These principles impose limitations on the conduct of the combatants involved in the war, and provide the framework wherein military commanders are required to make decisions; Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 5; Dugard *International Law: A South African Perspective* 519.

²³ It is held by the ICTY that no declaration of war is necessary: a situation will be deemed as an armed conflict the moment it reaches a certain brink; further, the case of *Prosecutor v Tradić* 1995 IT-94-1 (ICTY) holds that: "An armed conflict exists whenever there is a resort to armed force between States or protracted armed violence between governmental authorities and organised armed groups or between such groups within a State." See Crowe and Weston-Scheuber 2013 *Principles of International Humanitarian Law* 10-11.

²⁴ IHL is often criticised for lagging behind technology in warfare; McLaughlin and Nasu *New Technologies in the Law of Armed Conflict* 1-2.

²⁵ (1977); ICRC 2007 <https://www.icrc.org/en/doc/resources/documents/legal-fact-sheet/protocols-1977-factsheet-080607.htm>.

implemented nearly 40 years ago. The principles articulated therein are expected to regulate contemporary means of warfare – including technological advancements such as drones, which are likely not to have been predicted by the creators of these instruments.²⁶

As a regulatory construct, IHL is primarily governed by certain fundamental principles: military necessity, humanity, honour, precaution, distinction and proportionality.²⁷ The principle of military necessity denotes attaining a military advantage by way of achieving some military objective;²⁸ whereas the principle of humanity holds that where a military objective has been reached, any subsequent infliction of injury or harm is unnecessary; the principle of honour, or chivalry, establishes mutual respect between adversaries during battle; furthermore, the principle of precaution entails that no attack may be launched where such an attack lacks careful preparation in view of sparing both civilians and civilian objects from the adverse effects of the attack.²⁹

In relation to drone warfare, adherence to the principles of military necessity, humanity, honour and precaution is readily attainable: drones have advanced technical capabilities and employ a broad spectrum of surveillance techniques paired with precision-guided Hellfire³⁰ missiles and are generally considered to be discriminate means of warfare.³¹ Hence, armed drones are capable of targeting military objectives with ease, and they enable militants to take all feasible precautions before launching an attack.³² Nonetheless, drones are often used in ways which might impinge on the aforementioned principles. Consequently, a

²⁶ Saxon 2012 <http://dronecenter.bard.edu/multimedia-portals/laws-of-war/>.

²⁷ Lowe *International Law* 283.

²⁸ Dugard *International Law: A South African Perspective* 528.

²⁹ *The Joint Service Manual of the Law of Armed Conflict* (hereafter the *JSM*) para 2.4.

³⁰ The hellfire missile is the main air-to-ground precision guided weapon used in drones by approximately 17 nations, including the US. Variants of this missile include the "Longbow Hellfire" which has a fire-and-forget capability to engage objects during bad weather, in both night and day, and in the presence of battlefield obstacles. "Hellfire II" directs itself at a laser dot that could be shone from other aircrafts, the drone itself or from land-based observers. Hence, the missile can be employed in an assortment of modes, such as air-to-ground, autonomous, indirect or direct, rapid, single-shot or ripple fire; see GlobalSecurity.org 2017 <http://www.globalsecurity.org/military/systems/munitions/agm-114k.htm>.

³¹ Sehrawat 2017 *JLIA* 185.

³² Sehrawat 2017 *JLIA* 185.

military commander must give due consideration to each fundamental principle of IHL – even in instances where compliance seems readily attainable – in order to ensure effective adherence to IHL.

Furthermore, although drones are legitimate weapons, like any other weapon, they are susceptible to indiscriminate use. For that reason, the ways in which drones are used causes complex problems particularly in the face of the principles of distinction³³ and proportionality.³⁴ The principle of distinction necessitates of the individuals involved in an armed conflict to distinguish at all times between non-combatants and combatants, as well as between military objectives and civilian objects, and further demands that all missions be directed only against military objectives. The principle of proportionality entails that not even military objectives may be targeted where such an attack is likely to have, as a result thereof, civilian casualties disproportionate in comparison to the direct or concrete military advantage which the attack is anticipated to yield.³⁵ The former two principles create substantial duties for a commander organising a strike, since he/she must establish a balance between the possible non-combatant deaths and damage to non-combatant possessions, against the real and direct military advantage envisaged from the attack.³⁶

By its nature, the use of remotely piloted unmanned aircraft becomes problematic where it is expected to comply with principles requiring intricate decision-making, such as drawing a distinction between fighters and civilians.³⁷ This is especially true

³³ A 48 of AP I (1977); see Dugard *International Humanitarian Law: A South African Perspective* 528.

³⁴ Proportionality requires that if a proposed strike is anticipated to cause civilian death or harm that which is disproportionate or excessive, in contrast to the direct or actual military advantage expected to be attained, then military objectives may not be attacked; Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 55; Dugard *International Law: A South African Perspective* 528.

³⁵ Dugard *International Law: A South African Perspective* 528; Fleck *The Handbook of International Humanitarian Law* 528; see further a 52(2) of AP I which holds that "Attacks shall be limited strictly to military objectives. In so far as objects are concerned, military objectives are limited to those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the times offers a definite military advantage."

³⁶ Dugard *International Law: A South African Perspective* 528; Fleck *The Handbook of International Humanitarian Law* 126-130.

³⁷ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 23.

in nuanced military situations where combatants may be disguised as civilians.³⁸ A breach in the principle of distinction could potentially yield horrific results, and the matter may further be complicated by instances where civilians assume the role of belligerents and subsequently revert to their civilian status.³⁹ Although article 50 of *AP I* describes a "civilian" as a person who is not a member of an armed force, article 31(3) states that civilians may lose their "civilian status" and protection should they directly partake in hostilities.⁴⁰ In addition, the principle of proportionality further requires determining whether an attack is disproportionate in relation to the derived military advantage.⁴¹

Hence, succeeding in performing legitimate armed objectives with due regard to both the principles of distinction and proportionality could be regarded as an inconceivably problematic task when conducted via drones,⁴² where minimal or no human decision-making is involved.⁴³ Accordingly, exploring the challenges faced by states in terms of the above principles is an integral part of assessing the adequacy of IHL in regulating instances of armed combat, such as drone warfare, especially since the ICJ in its *Legality of the Threat or Use of Nuclear Weapons* (1996) advisory opinion considered IHL and made a ruling which stated that the principles of proportionality, distinction and the Martens Clause⁴⁴ can be considered as the

³⁸ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 23; Furthermore, where drones are operated from a ceiling of 1.5 to 3 kilometres it becomes increasingly difficult determine with certainty that an attack is launched against a combatant and not a civilian; University of Huddersfield 2017 <https://www.hud.ac.uk/news/2017/august/academicarguesforchangesinthelawsgoverningmoderndronewarfare/>.

³⁹ Dugard *International Law: A South African Perspective* 528;

⁴⁰ It should be noted, however, that there is no direct or clear definition of the phrase "direct participation in hostilities" and each instance must be adjudicated on its own merits – such as in the case of *Public Committee against Torture in Israel v Government of Israel* 769/02 HCJ para 40 where it was held that one cannot escape examining each and every case, especially in terms of "grey cases" where the customary international law is not clear on the position thereof; see Dugard *International Law: A South African Perspective* 528.

⁴¹ As per a 51(5)(b) of *AP I*; see also Kanner 2016 *BUSLR* 15.

⁴² "In the case of UAVs this means that the underlying software would have to be able to determine whether a particular target is civilian or military in nature." Wagner *JLIS* 2011 6.

⁴³ Wagner *JLIS* 2011 6.

⁴⁴ The Martens Clause first appeared in the preamble to the *Hague Convention II for the Laws and Customs of War on Land* (1899), and holds that "Until a more complete code of the laws of war has been issued, the High Contracting Parties deem it expedient to declare that, in cases not included in the Regulations adopted by them, the inhabitants and the belligerents remain under the protection and the rule of the law of nations, as they result from the usages established

"cardinal principles contained in the texts constituting the fabric of humanitarian law".⁴⁵

Moreover, another challenge posed by the use of drones in warfare is the potential illegitimate employment thereof, such as the United States' harshly criticised targeted killing, or signature strikes, programme.⁴⁶ Under this programme drone strikes are permitted towards a gathering of individuals who portray certain definitive characteristics (or signatures) usually associated with terrorist activity, but whose identities are unknown.⁴⁷ The aforementioned strikes bear a high likelihood of violating the IHL principle of distinction,⁴⁸ because such signature strikes are not always based on sufficient evidence to satisfy the needs of this principle.⁴⁹

In light of the above, several other significant challenges can be observed.⁵⁰ Firstly, it is necessary to establish whether IHL could be capable of regulating concerns regarding transparency in drone warfare: not only is there a shortage regarding information on states' drone targeting practices and policies, but data regarding drone strike operations, casualties and injuries are often unattainable.⁵¹ Secondly, concerns as to accountability present themselves as another challenging facet of drone warfare, especially where it concerns the question who to hold accountable for a drone strike as well as the resultant potential civilian casualties thereof, and the

among civilized peoples, from the laws of humanity and the dictates of public conscience." See Breau "Civilian Casualties and Drone Attacks: Issues in International Humanitarian Law" 123.

⁴⁵ Breau "Civilian Casualties and Drone Attacks: Issues in International Humanitarian Law" 123.

⁴⁶ On the matter of the US targeted killing programme, see as a whole Chesney 2011 *Yearbook of International Humanitarian Law*.

⁴⁷ Heller 2013 *JICJ* 90.

⁴⁸ A 48 of *AP I* of 1977.

⁴⁹ Heller 2013 *JICJ* 90.

⁵⁰ The UN Special Rapporteur on extrajudicial, summary or arbitrary executions stated that: "Legal and political accountability are dependent on public access to the relevant information. The first step towards securing human rights in this context is transparency about the use of drones... The various components of transparency require that the criteria for targeting and the authority that approves killings be known and that drone operations be placed in institutions that are able to disclose to the public the methods and findings of their intelligence, criteria used in selection of targets and precautions incorporated in such criteria...Drone victims, just as any other human rights victims, and society at large have a right to have access to information relating to allegations of human rights violations and their investigation." See UN *Report of the Special Rapporteur on extrajudicial, summary or arbitrary executions A/68/382* para 96-100; UNODA *Study on Armed Unmanned Aerial Vehicles* 54-55.

⁵¹ Vavrichek *The Future of Drone Strikes: A Framework for Analysing Policy Options* 43-45.

procedure to redress mistakes made.⁵² Lastly, the race towards the development of fully autonomous drones is particularly challenging to the capacity of IHL to regulate the use of this type of technology in warfare.⁵³

In addition to the above issues, the phenomenal impact that drones have on armed conflict situations is pressuring the international community to move towards drafting regulations for the use of drones in warfare.⁵⁴ This study therefore analyses several concerns faced by IHL which challenge the capability of the fundamental principles of this body of law to regulate contemporary means of warfare, such as drones.

1.2 Research Question

What are the specific challenges posed to IHL by the use of drones in armed conflicts, and how could these challenges be addressed in any potential regulatory framework?

1.3 Objectives

In view of the above discussion, the primary objective of this investigation is to analyse the specific challenges posed by the use of drones in armed conflicts and establish how such challenges could be addressed in any future regulatory framework.

Additional objectives include:

⁵² Di Salvo 2016 <https://medium.com/human-development-project/the-human-cost-of-drone-killings-the-struggle-for-accountability-7249395d5546>. In conjunction with the former two issues, the proliferation of dangerous drone technology is another major cause for concern, since currently more than 30 states are in possession of, or developing, armed drone systems; CNAS 2017 <http://drones.cnas.org/reports/drone-proliferation/>.

⁵³ It envisions removing human control from the integral functioning of the weapon – leaving the decision to strike, and the extent of the strike up to the determination of the autonomous system of the drone; see Petman *Autonomous Weapons Systems and International Humanitarian Law: "Out of the Loop"?* 15; US DOD *Unmanned Systems Integrated Roadmap FY 2011-2036* 46; Human Rights Watch *Mind the Gap: The Lack of Accountability for Killer Robots* 1.

⁵⁴ UNODA 2015 <https://www.un.org/disarmament/update/discussing-drones-at-the-un-headquarters-2/>; UNODA 2015 *Study on Armed Unmanned Aerial Vehicles* 5-12.

- To set out the historical development of IHL in order both to contextualise the need for IHL and to demonstrate the need for it to be continuously adapted to remain relevant and adequate in addressing contemporary armed conflict issues.⁵⁵
- To identify and discuss the fundamental principles of IHL as the set of standards against which the use of drones in warfare must be measured.⁵⁶
- To analyse the nature of drones and their use in warfare as an avenue to illustrating the technical nature of this particular means of combat.⁵⁷
- Based on the appraisal of IHL and the unique nature of drone warfare, to identifying the challenges posed by the use of drones in armed conflict situations, in order to determine the extent to which the IHL principles may be deemed adequate in regulating the comprehensive employment of drones in armed conflict situations.⁵⁸
- To offer concluding remarks as to the adequacy of IHL in regulating the intricate issue at hand, as well as to offer some recommendations towards drafting a possible legal framework for the use of drones in armed combat and identifying the specific issues that might have to be considered in the proposed framework.⁵⁹

1.4 Hypothesis and Assumptions

This dissertation is premised on the following hypothesis –

- Due to the contemporary nature of armed conflicts incorporating the use of semi-autonomous – and autonomous drones, several challenges are posed for IHL. IHL has a crucial role to play in the regulation of the use of drones in armed

⁵⁵ Chapter 2.

⁵⁶ Chapter 2.

⁵⁷ Chapter 3.

⁵⁸ Chapter 4.

⁵⁹ Chapter 5.

conflicts, but it is desirable that this body of law be developed to remain adequate in fulfilling its role in regulating the consequences of armed conflict.

This dissertation will investigate the specific challenges posed by the use of drones in armed conflicts and how such challenges could be addressed in any future regulatory framework within the context of international armed conflicts.

In view of the above, this dissertation is based on the following assumptions:

- Although drones are a legal means of warfare, their use could be abused in a way that is contrary to the fundamental principles of IHL.
- The fundamental principles of IHL were envisaged to regulate the means of warfare as it was practised at the time.⁶⁰ Due to the rapid development of military technology and the advancement of the means of warfare, IHL is now faced with several complex challenges.
- Drones are a frequently used and ever-growing facet of modern warfare due to the minimal human interaction required to operate them and the vast military advantage derived from their employment.⁶¹
- The development of autonomous weapons systems, and the integration thereof in drone technology, is unavoidable. The law is meant to regulate human and social activities. The use of autonomous weapons systems is a human activity - and in view of the intricate challenges it poses, it bolsters the view that the relevant law in this regard must be developed.
- The law is not static; consequently, IHL should develop alongside technological advancements made in the milieu of armed conflict.
- An assessment of whether IHL principles are adequate to regulate current and future drone warfare could contribute to the answer of whether regulations in this regard should be developed.

⁶⁰ Saxon 2012 <http://dronecenter.bard.edu/multimedia-portals/laws-of-war/>.

⁶¹ Sehwat 2017 *JLIA* 174.

1.5 Scope and Limitations of the study

The following caveats apply to this study –

- The discussion in this dissertation is limited to the use of drones in armed conflict situations, and the study will not discuss issues such as the extraterritorial application of force via drone warfare, or the arguments around the legality of drones as weapons.
- The study specifically directs itself towards investigating the adequacy of IHL to regulate certain challenges posed by drone warfare. In order to limit the scope of this study, focus will be placed on only some of the main challenges identified, namely: the capability of drone warfare to comply with IHL principles; transparency and accountability regarding the use of drones and within the ambit of drone attacks; drone proliferation; the challenging nature of autonomous weapons systems as they relate to the integration thereof in armed drones; and the illegitimate use of drones in circumstances of armed conflict.

1.6 Research Methods

The research methodology utilised in this dissertation will be desktop based. The study will be conducted by means of a broad literature review of the applicable IHL materials, including treaties, textbooks, international legal sources and some case law. However, due to the novel nature of drones and the topic to be discussed, this study will in part rely on sources available only on the internet.

1.7 Framework

Chapter 1: Introduction

Chapter one introduces and contextualises the study, determines the assumptions, hypotheses, objectives and caveats of the study, and sets out the framework of the ensuing discussion.

Chapter 2: International Humanitarian Law: Historical Development and Fundamental Principles

This chapter discusses IHL, including the history, development and underlying principles thereof.

Chapter 3: Drone Warfare

In order to demonstrate the intricacies around drones and how they could be a challenge to IHL, this chapter focuses on establishing and defining current drone technology and its capabilities; investigating the most prominently used drones with an additional focus on drones in development; identifying the countries involved in drone proliferation; discussing current and future autonomy in drone warfare; and ascertaining the current movement towards the regulation of drone warfare.

Chapter 4: Assessment of the Adequacy of IHL in Regulating the Challenges Posed by Drone Warfare

The penultimate chapter analyses the challenges posed by the use of drones in warfare in order to ascertain the adequacy of IHL in regulating the aforementioned challenges.

Chapter 5: Conclusion and Recommendations

With a view on the specific challenges identified, this chapter scrutinises the adequacy of IHL as a legal construct. It furthermore provides recommendations as to specific aspects of drone warfare to be regulated, and offers final comments in this regard.

Chapter 2 IHL: Historical Development and Fundamental Principles

2.1 Introduction

IHL is understood as being that part of international law which governs the conduct of armed conflicts.⁶² In broader terms, the IHL applicable in armed conflicts may be defined as international rules institutionalised by customs and treaties which are directly formulated to resolve humanitarian issues that may arise from either international or national armed struggles.⁶³ Concordantly, the principles underpinning IHL arise from the need to set limits on the conduct of armed conflicts.⁶⁴ The most noteworthy treaties that IHL consists of are The *Hague Conventions*⁶⁵ of 1899 and 1907, and the *Geneva Conventions*⁶⁶ of 1949, as well as the *Additional Protocols* of 1977. Essentially, the rules of warfare that predate the *Geneva Conventions* (1949) were founded on a military paradigm, as it prescribed the permissible methods and means of armed conflict as well as the duties of combatants towards those that were wounded, sick or imprisoned.⁶⁷

IHL as it is largely known today can be traced from the *Geneva Conventions* (1949). The central principle of this novel body of law was humanity, which was supported by the concept of "protected persons". Later on, in the 1970's, it was deemed

⁶² Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 1.

⁶³ Peace Operations Training Institute 2012
http://cdn.peaceopstraining.org/course_promos/international_humanitarian_law/international_humanitarian_law_english.pdf.

⁶⁴ Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 1.

⁶⁵ These *Conventions* were adopted by the Peace Conferences at that time, and regulates the conduct of armed conflicts on sea, on land and in the air (via the utilisation of balloons). Several texts that were drafted in 1899 were subsequently revised in 1907; see Dinstein *The Conduct of Hostilities under the Law of International Armed Conflict*. IHL will be discussed below.

⁶⁶ The *Geneva Conventions* of 1949 are comprised of the *Geneva Convention I for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field* (1949); the *Geneva Convention II for the Amelioration of the Wounded, Sick and Shipwrecked Members of Armed Forces at Sea* (1949); the *Geneva Convention III relative to the Treatment of Prisoners of War* (1949); and the *Geneva Convention IV relative to the Protection of Civilian Persons in Time of War* (1949). The *Geneva Conventions* of 1949 were subsequently supplemented by: *Additional Protocol I Relating to the Protection of Victims of International Armed Conflicts* (1977); and *Additional Protocol II Relating to the Protection of Victims of Non-International Armed Conflicts* (1977); see Sassoli *et al How does Law Protect in War* 99.

⁶⁷ Kolb *Advanced Introduction to International Humanitarian Law* 12.

necessary to further develop the *Geneva Conventions* (1949) and thus, the two *AP's to the Geneva Conventions* (1977) were adopted.⁶⁸ Because the rules concerning the methods and means of armed combat had been left largely unreformed since 1907, it was deemed pertinent to develop principles that would extend to the protection of civilians.⁶⁹ As a result, doctrines such as the principles of distinction and proportionality were developed to extend protection to civilians during wartime.⁷⁰

Technology has an immense impact on the capabilities of states to wage war.⁷¹ The rapid development and proliferation of the means and methods of warfare over the last thirty years (attributed to the major advancements made in science and technology) have in certain instances proven somewhat problematic towards the fundamental principles of IHL,⁷² and some authors have questioned the capacity of IHL to address these challenges.⁷³ For instance, Nasu and McLaughlin⁷⁴ have held that the changing conditions of warfare (especially in relation to new technologies such as robotic and decision-making technologies) have undoubtedly tested the scope and currency of IHL in a "constant, radical, aggressive and exhaustive manner". According to Boutruche⁷⁵ the challenges faced by IHL and its fundamental principles also extend to the question of whether technological progress is creating substantial obligations for armed conflict between rivals who possess advanced technology in their arsenals. The author further holds that challenges posed to legal regulation by technology, as with other developing areas regulated by IHL, exert pressure on the current norms as to the methods of armed conflict.⁷⁶ This could

⁶⁸ Kolb *Advanced Introduction to International Humanitarian Law* 15.

⁶⁹ Kolb *Advanced Introduction to International Humanitarian Law* 15.

⁷⁰ A 48 of AP I; also see Kolb *Advanced Introduction to International Humanitarian Law* 16.

⁷¹ Boothby, however, holds that it is a rather difficult task to determine whether it is technology which challenges the law, or whether it is the law that challenges the utilisation of novel technological advances made in armed conflicts; see Boothby "The Legal Challenges of New Technology: An Overview" 22.

⁷² See for instance ICRC 2007 *IRRC* 721; Boutruche "Current Challenges in the Legal Regulation of the Methods of Warfare" 22-29; Liivoja 2015 *IRRC* 1158; Boothby "The Legal Challenges of New Technology: An Overview" 21-27.

⁷³ According to the ICRC, although IHL aims to limit the behaviour in armed combat situations, there will always be persons, states and non-state armed groups who will not be dissuaded, regardless of the penalty, from violating these laws; see ICRC 2007 *IRRC* 721.

⁷⁴ Nasu and McLaughlin *New Technologies and the Law of Armed Conflict* 5.

⁷⁵ Boutruche "Current Challenges in the Legal Regulation of the Methods of Warfare" 24.

⁷⁶ Boutruche "Current Challenges in the Legal Regulation of the Methods of Warfare" 24.

potentially lead to new or conflicting understandings of the principles of IHL, or to questioning whether or not there is a need for new law to be implemented in this regard.⁷⁷

Drones are a prime example of advancements made in technology which present various challenges to IHL and its founding principles.⁷⁸ Lewis⁷⁹ holds that the military utilisation of drones in armed combat situations can be described as one of the greater legally controversial problems confronting IHL in the twenty-first century, and that the legality of drones has been examined for an assortment of reasons, but regardless of these criticisms, it is evident that the use of drones in both surveillance and combat is increasing.⁸⁰

Mandel⁸¹ has noted that studying how issues, relating to technology and law were addressed in the past and especially how they were on occasion mishandled provides meaningful lessons about how to respond to future and contemporary law and technological issues as they come to light.⁸² Liivoja⁸³ also states that the aforementioned holds true for military technology, the law, and war as well. The author holds that a "history-conscious" analysis of IHL and the relationship between technology and the law in a military context may provide one with some important insights as to the adequacy of IHL and the development of future regulation.⁸⁴

In preparation for establishing the adequacy of IHL and the fundamental principles thereof in regulating the challenges posed by drone warfare, this chapter aims to sketch the background and history of this body of law. The chapter places a strong emphasis on the development of IHL in response to advances made in novel technologies relating to armed conflict, to illustrate the importance of IHL as a constantly developing body of law, which is also constantly faced by the challenge of having to regularly adapt to the perpetual advancements made in armed combat.

⁷⁷ Boutruche "Current Challenges in the Legal Regulation of the Methods of Warfare" 24.

⁷⁸ Sehrawat 2017 *JLIA* 166.

⁷⁹ Lewis 2012 *TILJ* 294.

⁸⁰ Lewis 2012 *TILJ* 294; see also Sehrawat 2017 *JLIA* 166.

⁸¹ Mandel 2007 *MJLST* 552.

⁸² Liivoja 2015 *IRRC* 1172; Mandel 2007 *MJLST* 552.

⁸³ Liivoja 2015 *IRRC* 1172.

⁸⁴ Liivoja 2015 *IRRC* 1157.

2.2 Background

2.2.1 Defining Armed Conflict

Since the application of IHL has to do chiefly with armed conflict, it is consequently necessary to first define and discuss what is meant by the term "armed conflict".⁸⁵ According to the ICRC, IHL distinguishes between two types of armed-conflict, namely international armed conflicts (between two or more states), and non-international armed conflicts (such as between non-governmental armed groups and governmental militaries, or between such opposing groups only).⁸⁶ In terms of the law, no other type of armed conflict exists, although one type of armed conflict could evolve into another, depending on the circumstances.⁸⁷

Common article 2 of the *Geneva Convention*⁸⁸ which applies to international armed conflicts, states that –

In addition to the provisions which shall be implemented in peacetime, the present Convention shall apply to all cases of declared war or of any other armed conflict which may arise between two or more of the High Contracting Parties, even if the state of war is not recognized by one of them. The Convention shall also apply to all cases of partial or total occupation of the territory of a High Contracting Party, even if the said occupation meets with no armed resistance.

Accordingly, it may be held that international armed conflicts are those where High Contracting Parties are in opposition. As a result, an international armed conflict exists (regardless of the intensity thereof, or the motivating forces behind it) when one or more states resorts to armed combat against another state.⁸⁹ Furthermore, *AP I* extends the definition of international armed conflict to include situations where

⁸⁵ For further discussions, see Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 16-23; the *JSM* 29-35; Greenwood "Scope of Application of Humanitarian Law" 46-56; White *Advanced Introduction to International Conflict and Security Law* 95-98; Sassoli *et al How does Law Protect in War?* 2nd ed 108-114.

⁸⁶ ICRC 2008 <https://www.icrc.org/eng/assets/files/other/opinion-paper-armed-conflict.pdf>. See also RULAC 2017 <http://www.rulac.org/classification#collapse2accord> for reasons as to the classification of armed conflicts.

⁸⁷ ICRC 2008 <https://www.icrc.org/eng/assets/files/other/opinion-paper-armed-conflict.pdf>.

⁸⁸ (1949).

⁸⁹ ICRC 2008 <https://www.icrc.org/eng/assets/files/other/opinion-paper-armed-conflict.pdf>.

peoples are struggling against alien occupation, colonial domination or even racist governments in view of exercising their right to self-determination.⁹⁰

There are two main legal sources which determine the existence of a non-international armed conflict under IHL. In the first instance, Common Article 3 to the *Geneva Convention*⁹¹ applies to armed conflicts that are not of an international character, and which take place within the territory of one of the states ("High Contracting Parties").⁹² The situation must reach a certain level or threshold of confrontation before it may be considered a non-international armed conflict, and therefore it must be distinguished from less serious internal disturbances such as riots.⁹³

Secondly, article 1 to *AP II* provides a more restrictive definition of non-international armed conflicts. It applies to armed conflict situations which occur within the territory of a state between its own armed forces and rebel armed forces (or other armed groups) who, with authoritative command, exercise such control over a section of its territory as to enable them to perform sustained and intensive military operations.⁹⁴ This definition supplements and develops Common Article 3 without adapting the existing conditions of its application, and consequently the above restrictive definition is relevant to the application of *AP II* only and does not extend to the law relating to non-international armed conflicts in general.⁹⁵

As will be discussed below, it is essential for there to be a status of armed conflict in order for IHL to be applicable, and consequently it is necessary to comprehend the situations in which an armed conflict truly exists. With the above in mind, the ICRC

⁹⁰ A 1 of *AP I*. See also RULAC 2017 <http://www.rulac.org/classification/international-armed-conflict#collapse1accord>.

⁹¹ (1949).

⁹² Since the four *Geneva Conventions* have been universally ratified, the requirement that the conflict must occur within the territory of one of the states has lost its practical importance – any armed struggle between armed groups or governmental armed forces or between those groups will essentially be taking place on the territory of one of the member states to the convention; see ICRC 2008 <https://www.icrc.org/eng/assets/files/other/opinion-paper-armed-conflict.pdf>.

⁹³ The lower threshold exemplified in A 1(2) of *AP II* also applies to Common Article 3; ICRC 2008 <https://www.icrc.org/eng/assets/files/other/opinion-paper-armed-conflict.pdf>. See also RULAC 2017 <http://www.rulac.org/classification/non-international-armed-conflicts>.

⁹⁴ A 1 of *AP II*.

⁹⁵ ICRC 2008 <https://www.icrc.org/eng/assets/files/other/opinion-paper-armed-conflict.pdf>.

proposed the following definitions which reflect the current legal position as to armed conflicts: an international armed conflict will exist whenever "there is resort to armed force between two or more states"; whereas non-international armed conflicts are deemed as being protracted armed conflicts that are occurring between governmental forces and the forces of one or several armed groups, or amongst those groups arising on the territory of a state.⁹⁶ Furthermore, the confrontations must attain a minimum level of intensity, and the parties involved therein must indicate a certain minimum level of organisation.⁹⁷

Robert Roth, the director of the Geneva Academy,⁹⁸ states that the classification of a situation of armed conflict under IL is an objective legal inquiry, and that the decision is not left to the UN Security Council, any national government or international body.⁹⁹ Furthermore, in conjunction with the Geneva Academy's Rule of Law in Armed Conflict (hereafter RULAC) online portal, *The War Report*¹⁰⁰ can be considered as the sole independent universal classification of armed violence under IL. It therefore is of immense value as it has far-reaching implications regarding, for instance, the commission of war crimes, the work of the ICRC and the law applicable in such situations.¹⁰¹ According to *The War Report*, there were 55 situations of armed conflict in 2017 as per the definitions under IHL and international criminal law, which occurred in at least 29 territories and states.¹⁰² As in previous years, the majority thereof were of a non-international nature¹⁰³ with at least six new armed conflict situations in 2017 as against 2016.¹⁰⁴

⁹⁶ ICRC 2008 <https://www.icrc.org/eng/assets/files/other/opinion-paper-armed-conflict.pdf>.

⁹⁷ ICRC 2008 <https://www.icrc.org/eng/assets/files/other/opinion-paper-armed-conflict.pdf>.

⁹⁸ Geneva Academy 2017 <https://www.geneva-academy.ch/>.

⁹⁹ RULAC 2017 <http://www.rulac.org/news/the-war-report-armed-conflicts-in-2017>.

¹⁰⁰ Geneva Academy 2017 <https://www.geneva-academy.ch/our-projects/our-projects/armed-conflict/detail/30-the-war-report>.

¹⁰¹ RULAC 2017 <http://www.rulac.org/news/the-war-report-armed-conflicts-in-2017>.

¹⁰² For the full list, see RULAC 2017 <http://www.rulac.org/news/the-war-report-armed-conflicts-in-2017>.

¹⁰³ 38 of the 55 armed conflicts were non-international; see RULAC 2017

<http://www.rulac.org/news/the-war-report-armed-conflicts-in-2017>.

¹⁰⁴ RULAC 2017 <http://www.rulac.org/news/the-war-report-armed-conflicts-in-2017>.

2.2.2 Status of Armed Conflict as a Prerequisite for the Applicability of IHL

The moment an armed conflict comes into existence, IHL becomes operational.¹⁰⁵

Common Article 2 of the *Geneva Conventions* of 1949 states that –

The conventions will only apply to all cases of declared war or of any other armed conflict which may arise between two or more of the High Contracting Parties, even if the state of war is not recognised by either of them.

Hence, an important development in the law is that most of the rules of war now extend even to those international armed conflicts where the parties of such a conflict do not consider it as constituting a "war", whereas older treaties applied solely during a "war".¹⁰⁶ Consequently, IHL is today deemed to apply to any armed conflict, whether the parties to that conflict recognise that they are at war, or not.¹⁰⁷

It is not essential for there to be a declaration of war in order for there to be a status of armed conflict, since IHL will become applicable whenever hostilities reach a certain brink.¹⁰⁸ The case of *Prosecutor v Tadic*¹⁰⁹ is an important source regarding the definition of an armed conflict, because it held that in order for IHL to be violated, there must first be an armed conflict, and the court continued by holding that an armed conflict will exist whenever states choose to resort to armed force, or where longstanding armed combat exists between organised armed groups and government authorities, or amongst such groups within a state.¹¹⁰

The above position was confirmed in *Prosecutor v Kunarac*.¹¹¹ This is an important issue to be kept in mind during the discussion below regarding the principles underpinning IHL.

¹⁰⁵ Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 10-11.

¹⁰⁶ Fleck *The Handbook of International Humanitarian Law* 11.

¹⁰⁷ Fleck *The Handbook of International Humanitarian Law* 11.

¹⁰⁸ Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 10-11.

¹⁰⁹ 1995 T-94-1-AR72 (ICTY).

¹¹⁰ *Prosecutor v Tadic* 1995 T-94-1-AR72 (ICTY) para 70; ICRC 2018 <https://casebook.icrc.org/case-study/icty-prosecutor-v-tadic>.

¹¹¹ 2002 IT-96-23 (ICTY); see also Crowe & Weston-Scheuber *Principles of International Humanitarian Law* 10-11.

2.2.3 "The Law of War"

IHL was previously known as the "Law of War" but was later renamed when the emphasis was placed on the humanitarian aspects of this body of law after 1949, when the four *Geneva Conventions*¹¹² were formed.¹¹³ The term "international humanitarian law", may be regarded as a relatively novel term;¹¹⁴ for instance, it does not explicitly appear in the text of the *Geneva Conventions*.¹¹⁵ Further, since 1949 onwards the expression "armed conflict" has replaced the use of the term "war".¹¹⁶ For this reason, the former term is used in this study.

Essentially, IHL is both a reaffirmation and development of the laws of war (the *ius in bello*). Although IHL largely includes the content of what was known as the law of war, certain aspects of those laws are not included, since the primary purpose is not regarded as being humanitarian (such as, the law of neutrality which mainly regulates the relationship between the states and belligerents that are not involved in the conflict).¹¹⁷

The *United States (US) Department of Defence's Law of War Manual*¹¹⁸ provides a definition of the former "law of war", as follows:¹¹⁹ -

For the purposes of this manual, the law of war is that part of international law that regulates the resort to armed force; the conduct of hostilities and the protection of

¹¹² (1949).

¹¹³ Kolb *Advanced Introduction to International Humanitarian Law* 12. According to Liivoja, the progression of the law of war is regarded as placing evermore elaborate constraints on the conduct of warfare, derivative from considerations of "humanity". This author believes that this argument is faulty for several reasons, one of which being that developments since 1860 have been a codification of "pre-existing military customs and a compilation of principles articulated by publicists" – but that it's problematic to see how a compilation or codification that resulted in a legal system guided by the ideal of humanity could have been possible where the previous law lacked humanitarian sentiment in its entirety. See Liivoja 2015 *IRRC* 1165-1166.

¹¹⁴ Liivoja states that "international humanitarian law" as a term seems to be a product of the 1970's; see Liivoja 2015 *IRRC* 1166. For a discussion of the origin of the notion of IHL, see Wilson 2017 *INT AFF* 563-579.

¹¹⁵ (1949); Fleck *The Handbook of International Humanitarian Law* 11. IHL is frequently referred to as the LOAC, but for consistency's sake the term IHL will be used throughout this text; see also the *JSM* para 1.2.

¹¹⁶ Pictet *Commentary of the First Geneva Convention for the Amelioration of the Condition of the wounded and Sick in Armed Forces in the Field* 32.

¹¹⁷ Fleck *The Handbook of International Humanitarian Law* 11.

¹¹⁸ 2015.

¹¹⁹ The DOD *Law of War Manual* of 2015 para 1.3.

war victims in both international and non-international armed conflict; belligerent occupation; and the relationships between belligerent, neutral, and non-belligerent States.

It is difficult to see how a codification or a compilation, resulting in a law guided by the ideal of humanity, could have been possible if the earlier law had been completely devoid of humanitarian sentiments.

Alexander¹²⁰ holds that generally lawyers tend to state that the term "international humanitarian law" was applied to the *Geneva* part of the *ius in bello* only, because it has a humanitarian focus, whereas the *Hague* law dealt primarily with the methods of warfare, but that this distinction may be regarded as very artificial.¹²¹ It is argued that both parts of the law are founded on humanitarian concerns and as a consequence, they overlap. In fact, Bassiouni¹²² states that "they are so intertwined and so overlapping that they can be said to be two sides of the same coin".¹²³ Concordantly, Greenwood¹²⁴ states that regardless of the nature of the rule – be it conventional, customary, Geneva or Hague – IHL can be used to refer to all of the laws of IL that concern armed combat.¹²⁵

As a result, it is possible to conclude that although IHL developed as a product of the law of war, it is focused on and concerned with the aspect of humanitarianism in armed conflicts rather than on providing a set of rules that regulates all aspects of war. Its purpose is to protect people from a state of absolute warfare and carnage that goes beyond the defeat of a state.¹²⁶ During hostilities, it is evident that a pertinent goal may be to eventually attain a peaceful conclusion. Although absolute warfare might bring an end to a conflict, it will not necessarily ensure that peacetime will ensue.¹²⁷ Therefore, it is essential that humanitarianism is introduced into armed

¹²⁰ Alexander 2015 *EJIL* 111.

¹²¹ In Bassiouni 1998 *TLCP* 200, the author classifies these bodies of law differently: *Geneva* law is described as conventional law, whereas *Hague* law is termed as customary law. Alexander 2015 *EJIL* 111; see also McCoubrey *International Humanitarian Law: Modern Developments in the Limitation of Warfare* 2.

¹²² Bassiouni 1998 *TLCP* 199-200.

¹²³ Alexander 2015 *EJIL* 111.

¹²⁴ Greenwood "Historical Development and Legal Basis" 11.

¹²⁵ Greenwood "Historical Development and Legal Basis" 11; Bassiouni 1998 *TLCP* 200.

¹²⁶ Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 3.

¹²⁷ Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 3.

conflict situations, because it ensures that certain moral limits prevail and that the effects of hostilities are moderated.¹²⁸ Such humanitarianism may be achieved by adherence to the tenets of IHL, since it requires that basic human values be respected during wartime. This may be thought to be the main difference between the law of war and IHL.

2.2.4 The Purpose of IHL

The purposes of IHL as a body of law is to ensure that armed conflicts are subjected to the rule of law (hereafter ROL), by limiting the destructive effects thereof, and also to mitigate human suffering.¹²⁹

Accordingly, the *JSM* of the UK holds that –

The main purpose of the law of armed conflict is to protect combatants and non-combatants from unnecessary suffering and to safeguard the fundamental human rights of persons who are not, or are no longer, taking part in the conflict (such as prisoners of war, the wounded, sick, and shipwrecked) and of civilians.¹³⁰

These rules are furthermore aimed at protecting individuals and properties that are or may be affected by the conflict by way of limiting the contributors to the battle's abilities to decide on their means and methods of combat.¹³¹ As can be gleaned from the above, IHL consists of all the rules of international law that purport to regulate the treatment of individuals (regardless of whether they are civilian, military, active or wounded) in international armed conflicts.¹³² IHL applies to all the parties

¹²⁸ Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 3.

¹²⁹ Thurer 2007 *SZIER* 1.

¹³⁰ The *JSM* para 1.8.

¹³¹ Peace Operations Training Institute 2012
http://cdn.peaceopstraining.org/course_promos/international_humanitarian_law/international_humanitarian_law_english.pdf.

¹³² Fleck *The Handbook of International Humanitarian Law* 11. Clearly, IHL presupposes some form of 'just war'. This impression is bolstered when one considers that from 1949 to the 1970s IHL developed in relation to human rights law, and of resolutions of the UN General Assembly. Although both IHL and International Human Rights Law (hereafter IHRL) are interrelated and pertinent to armed conflict situations, this study focuses on IHL only. For a comprehensive comparative overview of these two bodies of law, see Kolb and Gaggioli *Research Handbook on Human Rights and Humanitarian Law*.

involved in an armed combat situation with equal force, regardless of which party initiated the conflict.¹³³

2.2.5 *The Use of Force under IHL*

This body of law developed at a stage when countries were not barred from going to war and had a right to wage war (when they had *ius ad bellum*).¹³⁴ The use of force is forbidden nowadays by a rule of international law expressed in article 2(4) of the United Nations (hereafter UN) Charter¹³⁵ (*ius contra bellum*)¹³⁶ which states that –

All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations.

IHL is essential, as IL does not prohibit the use of armed force in all instances: force may be legally utilised with UN authorisation¹³⁷ or where humanitarian intervention is required.¹³⁸ Using force is also lawful in situations of both collective and individual self-defence.¹³⁹ An example of legally permissible self-defence can be found in article 5 of the *North Atlantic Treaty*,¹⁴⁰ where member states agree that a strike against one or more of them, either in North America or Europe, will be viewed as an armed attack against them all.¹⁴¹ Lastly, force may be employed to impose the right of persons to self-determination.¹⁴²

However, even if on occasion force may be utilised, IHL prescribes the kind and degree of force to be used.¹⁴³ For instance, IHL determines the limits regarding the manner in which force may be used by prohibiting certain means of warfare (such as the use of poisonous gases) and methods of armed combat (such as indiscriminate

¹³³ Fleck *The Handbook of International Humanitarian Law* 1.

¹³⁴ Sassoli *et al How does Law Protect in War?* 83.

¹³⁵ 1945.

¹³⁶ Sassoli *et al How does Law Protect in War?* 84.

¹³⁷ For a discussion on the military actions authorised by the Security Council, see Greenwood "Historical Development and Legal Basis" 2-5.

¹³⁸ Lowe *International Law* 282. See also Sassoli *et al How does Law Protect in War?* 84.

¹³⁹ Lowe *International Law* 282. See also Sassoli *et al How does Law Protect in War?* 84.

¹⁴⁰ 1949.

¹⁴¹ The *JSM* para 1.5.1.

¹⁴² Lowe *International Law* 282. See also Sassoli *et al How does Law Protect in War?* 84.

¹⁴³ Lowe *International Law* 282.

attacks).¹⁴⁴ There have been cases where a restricted employment of force was reasonable in support of certain principles determined by the Security Council, but lacking its authorisation, in order to prevent immediate humanitarian disaster.¹⁴⁵ The protection of IHL is extended to all belligerents and citizens involved in armed combat, regardless of the legality thereof.¹⁴⁶ Importantly, IHL is not concerned with the legitimacy of a state's resort to the use of force, since that is a matter regulated by the *ius ad bellum*.¹⁴⁷

2.2.6 Reciprocity

Reciprocity could be described as the foundation on which the law that governs the waging of war was built: this concept entails that each party involved in an armed conflict must abide by the rules thereof, with the result that where one party for example mistreats prisoners of war, the other party is allowed to do so as well.¹⁴⁸ Consequently, states tend to treat prisoners of war within the ambit of the third *Geneva Convention*,¹⁴⁹ and because it is in their own self-interest, they elect to uphold the rules pertaining to armed conflicts as a whole.¹⁵⁰

Humanitarian treaties differ from human rights treaties when one considers the issue of reciprocity. Usually human rights treaties necessitate each party to the treaty to provide the same treatment to all persons within its jurisdictional boundaries, in accordance with requirements of the relevant treaty, regardless of whether they are citizens of a state that is not party to such treaty.¹⁵¹ Humanitarian treaties, on the other hand, are binding between the states which are parties to them only, with the important exception that certain treaties impose absolute obligations on the parties

¹⁴⁴ Fleck *The Handbook of International Humanitarian Law* 13.

¹⁴⁵ Such as in the case in Northern Iraq in 1991 and Kosovo in 1999 where the use of force was allowed in the prevailing circumstances; see also The *JSM* para 1.6.

¹⁴⁶ Dugard *International Law: A South African Perspective* 519.

¹⁴⁷ Greenwood "Historical Development and Legal Basis" 13.

¹⁴⁸ White *Advanced Introduction to International Conflict and Security Law* 81.

¹⁴⁹ *Geneva Convention III relative to the Treatment of Prisoners of War* (1949). See White *Advanced Introduction to International Conflict and Security Law* 81.

¹⁵⁰ White *Advanced Introduction to International Conflict and Security Law* 83-84.

¹⁵¹ Greenwood "Historical Development and Legal Basis" 11-12.

to those treaties.¹⁵² Once it is determined that an IHL treaty is binding on both of the states involved in the armed violence, the application of the treaty will no longer depend on reciprocity. A party to an IHL treaty is bound thereto, regardless of whether the other party involved in the armed conflict adheres thereto or not.¹⁵³

2.3 History and Development of IHL

In terms of article 83 of *AP I*¹⁵⁴ during both peacetime and times of armed conflict, the High Contracting Parties agree to disseminate information relating to the knowledge and understanding of IHL.¹⁵⁵ Although states bear the primary obligation to make this body of law known, other organisations such as the International Committee of the Red Cross (hereafter ICRC), in collaboration with the National Red Cross and Red Crescent Societies and their International Federation, have a correlative mandate to assist states in spreading knowledge regarding IHL.¹⁵⁶ Accordingly, they are further encouraged to partake in initiatives in this regard. Hence, the ICRC has produced several manuals to promote the knowledge and understanding of IHL, such as *How Does Law Protect in War?* (Sassoli *et al*). This will accordingly serve as the point of departure for the discussion of the history and development of IHL in this section.

2.3.1 History

The birth of modern IHL can be dated back to the 1859 battle of Solferino¹⁵⁷ where a businessman from Geneva, Henry Dunant, was struck by the disastrous fate of the

¹⁵² For instance, the *Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction* (1997). During the 1991 conflict in Kuwait, a multitude of the coalition states (for example, Canada, Italy and Saudi Arabia) were in fact parties to *AP I* but were not forced to apply the provisions thereof because Iraq was not a party thereto; see Greenwood "Historical Development and Legal Basis" 11-12.

¹⁵³ Greenwood "Historical Development and Legal Basis" 12.

¹⁵⁴ (1977).

¹⁵⁵ ICRC 2018 https://www.icrc.org/eng/assets/files/other/obligation_to_disseminate.pdf.

¹⁵⁶ ICRC 2018 https://www.icrc.org/eng/assets/files/other/obligation_to_disseminate.pdf; ICRC 2010 <https://www.icrc.org/eng/who-we-are/mandate/overview-icrc-mandate-mission.htm>; Sassoli *et al* *How does Law Protect in War?* 5.

¹⁵⁷ A horrific battle in Northern Italy in 1859 between French, Sardinian and Austrian armies; see also Sassoli *et al* *How does Law Protect in War?* 98.

wounded soldiers strewn across the battlefield.¹⁵⁸ Dunant attempted to alleviate the suffering of these individuals. Back in Geneva he published a book commemorating what he witnessed in Solferino.¹⁵⁹ At the same time, he proposed remedies to the situation, which was met with great applause across Europe.¹⁶⁰ Subsequent to the publication of Dunant's book, the ancestor committee¹⁶¹ to the now ICRC was established, and it came together for the first time in February 1863 in Geneva.¹⁶²

After consultations with the military and medicinal experts in 1863, the aforementioned committee urged the Swiss Government to initiate a diplomatic conference.¹⁶³ The conference occurred in 1864 and approved the *Geneva Convention for the Amelioration of the Condition of the Wounded in Armies in the Field*, which stipulated that wounded enemy soldiers must be collected and tended to in the same manner as the members of friendly military forces.¹⁶⁴ In a groundbreaking international treaty open for worldwide approval, states consented to limit their own supremacy to favour the individual.¹⁶⁵ War had surrendered to general, written law and IHL took its first breath.¹⁶⁶

IHL¹⁶⁷ has dramatically evolved since its inception. Its evolution has been marked by three main characteristics, the first of which is the fact that the categories of persons protected by humanitarian law in conflict situations, as well as in situations in which victims¹⁶⁸ are threatened, is in a state of perpetual development.¹⁶⁹

¹⁵⁸ See para 1.2 above. It is important to note that the laws of war which predate modern IHL have a vast and culturally rich historical development (see Greenwood "Historical Development and Legal Basis" 15-20) but this study does not necessitate such a detailed discussion.

¹⁵⁹ The book was entitled "*A Memory of Solferino*" and soon became very well-known across the world. Sassoli *et al How does Law Protect in War?* 98. See also Lowe *International Law* 282; and Greenwood "Historical Development and Legal Basis" 22.

¹⁶⁰ Sassoli *et al How does Law Protect in War?* 98.

¹⁶¹ This committee was called the International Committee for Relief to the Wounded; International Federation of Red Cross and Red Crescent Societies 2018 <http://www.ifrc.org/en/who-we-are/history/>.

¹⁶² ICRC 2017 <https://www.icrc.org/en/history>.

¹⁶³ Sassoli *et al How does Law Protect in War?* 98; ICRC 2017 <https://www.icrc.org/en/history>.

¹⁶⁴ Greenwood "Historical Development and Legal Basis" 22.

¹⁶⁵ Sassoli *et al How does Law Protect in War?* 99.

¹⁶⁶ Sassoli *et al How does Law Protect in War?* 99.

¹⁶⁷ See para 1.1 above.

¹⁶⁸ Detter *The Law of War* 346-368.

¹⁶⁹ Sassoli *et al How does Law Protect in War?* 99.

Secondly, IHL treaties were subjected to regular updates as circumstances demanded: the rules providing protection to wounded victims drafted in 1864 were revised in 1906, 1929, 1949, and 1977.¹⁷⁰ This serves as a main point of criticism of IHL, as it seems constantly to remain "one war behind reality".¹⁷¹

Lastly, two distinct laws have added to the development of IHL up to 1977, namely *Geneva Law* which concerns the protection of the victims of military conflicts, and *Hague Law* which relates to the limitation and proscription of the methods of armed combat.¹⁷² These two bodies of law will be discussed in more detail below.¹⁷³

2.3.2 Development

Where the law is developed in relation to an advancement made in military technology, it may be rightfully argued that such technology had an impact on the relevant law in one way or another.¹⁷⁴ Where law-making in this regard does take place, it may occur during different phases of the technological development – though customarily it occurs reactively, after the technology has been introduced, and very infrequently occurs proactively in anticipation of the technology.¹⁷⁵ Nonetheless, IHL has developed greatly and for the purposes of this study, some of the more substantial developments will be briefly mentioned in a chronological fashion.

Immediately after the establishment of the ICRC in 1863,¹⁷⁶ the *Lieber*¹⁷⁷ Code was drafted: the *Instructions for the Government of Armies of the United States in the Field* (1863).¹⁷⁸ The *Lieber Code* may be described as the origin of what is known as

¹⁷⁰ Sassoli *et al How does Law Protect in War?* 99. See also Detter *The Law of War* 350-353.

¹⁷¹ Liivoja 2015 *IRRC* 1169; Sassoli *et al How does Law Protect in War?* 99; Lowe *International Law* 267.

¹⁷² Sassoli *et al How does Law Protect in War?* 99. See also Dugard *International Law: A South African Perspective* 520-525.

¹⁷³ Para 2.4.

¹⁷⁴ Liivoja 2015 *IRRC* 1169.

¹⁷⁵ Liivoja 2015 *IRRC* 1169.

¹⁷⁶ Sassoli *et al How does Law Protect in War?* 101; Lowe *International Law* 282.

¹⁷⁷ Developed by Francis Lieber and promulgated as General Orders No. 100 by President Lincoln in 1863; see also Yale Law School 2008 http://avalon.law.yale.edu/19th_century/lieber.asp.

¹⁷⁸ Hereafter the *St Petersburg Declaration* (1868); Yale Law School 2008 http://avalon.law.yale.edu/19th_century/lieber.asp. See also Sassoli *et al How does Law Protect in War?* 101.

the *Hague Law* – due to the fact that the major treaties which dealt with this subject were concluded at The Hague.¹⁷⁹ This document was the first attempt to set down a unitary set of rules directing the conduct of armed forces in the battlefield (deemed the laws and customs of war).¹⁸⁰

The first *Geneva Convention*¹⁸¹ took place in 1864. It stipulated not only the legal status of medical personnel, but also stated that the wounded enemy soldiers were to be collected and cared for in a fashion similar to that which one cared for one's own soldiers.¹⁸² In 1868 the *Saint Petersburg Declaration Renouncing the Use, in Time of War, of Certain Explosive Projectiles*¹⁸³ saw the light.¹⁸⁴ This significant development occurred when the Russian government invited military experts to St Petersburg in order to discuss a recently developed series of light explosives which were intended to take only one soldier at a time out of action, but which inflicted far greater suffering on the victim than a normal rifle bullet.¹⁸⁵ As a result, the declaration was adopted and the use of explosives under 400 grams in weight was prohibited.¹⁸⁶ This declaration subsequently served as the basis for additional regulation as to the means and methods of armed conflicts.¹⁸⁷

The *Saint Petersburg Declaration*¹⁸⁸ further held that the only legitimate object which a state might pursue during warfare was to weaken the armed forces of their opponent.¹⁸⁹ Accordingly, a state's target should at all times consist of combatants only. It was held that the aforementioned objective would be exceeded by the employment of weapons which superfluously exacerbated the suffering of disabled men, or alternatively rendered their death unavoidable, and therefore the

¹⁷⁹ Greenwood "Historical Development and Legal Basis" 21.

¹⁸⁰ Greenwood "Historical Development and Legal Basis" 21.

¹⁸¹ *The Geneva Convention for the Amelioration of the Condition of the Wounded in Armies in the Field* (1864).

¹⁸² Greenwood "Historical Development and Legal Basis" 22.

¹⁸³ (1868); ICRC 2017 <https://ihl-databases.icrc.org/ihl/INTRO/130?OpenDocument>.

¹⁸⁴ Sassoli *et al* *How does Law Protect in War?* 101-102.

¹⁸⁵ Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 31.

¹⁸⁶ Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 31.

¹⁸⁷ The commission made the importance of alleviating the suffering endured by civilians very clear; Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 31.

¹⁸⁸ (1868).

¹⁸⁹ Islam 2018 *BLR* 297; *Saint Petersburg Declaration Renouncing the Use, in Time of War, of certain Explosive Projectiles* (1868).

employment of any such weapons would be regarded as contrary to the laws of humanity.¹⁹⁰ As a result, the declaration prohibited certain explosive, fragmenting and incendiary ammunition.¹⁹¹

Russia continued to facilitate international discussion as to the laws pertaining to the conduct of warfare and this paved the way for the holding of the Hague Peace Conference in 1899,¹⁹² which resulted in the drafting of the first *Hague Conventions*.¹⁹³ The *Hague Convention* (1899) represented a very ambitious codification of the customs which governed the conduct of warfare on land at that time. The conference provided clarity as to issues concerning, for instance, the restriction of the use of specific types of weapons and tactics, and the prohibition of the use of other weapons and methods of war including "Dum Dum" bullets (which expand in the body of the target), attacks from hot air balloons, and poisonous weapons. Furthermore, the conference determined rules for the treatment of prisoners of war, neutral parties as well as occupied territory.¹⁹⁴ In 1907, a second Hague Conference was held with the purpose of adjusting and enlarging the *Hague Conventions* which had been adopted in 1899, whilst at the same time including new provisions relating especially to naval warfare (unfortunately this could not be accomplished due to Germany's strong opposition).¹⁹⁵ The conference resulted in the signing of thirteen conventions and one declaration.¹⁹⁶

During World War I (hereafter WW I), it became apparent that some of the *Hague Conventions* were ineffective, and in response to the devastation caused by the war, the international community established the League of Nations subsequent to the Paris Peace Conference in 1919, and the *Treaty of Versailles* (1919), with the goal of

¹⁹⁰ Islam 2018 *BLR* 297.

¹⁹¹ *Saint Petersburg Declaration Renouncing the Use, in Time of War, of certain Explosive Projectiles* (1868).

¹⁹² Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 32.

¹⁹³ Yale Law School 2008 http://avalon.law.yale.edu/20th_century/hague04.asp; see also Sassoli *et al How does Law Protect in War?* 102.

¹⁹⁴ Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 32.

¹⁹⁵ Islam 2018 *BLR* 297.

¹⁹⁶ Including, for instance, *Hague Convention IV respecting the Laws and Customs of War on Land* (1907). For a detailed list of the conventions, see Webster *Hague Conventions (1899,1907)*.

promoting international cooperation and achieving international peace and security.¹⁹⁷

Subsequent to the termination of WW I, and under the auspices of the League of Nations, a conference was held in Geneva, which led to the signing of the *Geneva Protocol for the Prohibition of the Use of Asphyxiating Poisonous or Other Gases, and of Bacteriological Methods of Warfare* (1925).¹⁹⁸ Shortly afterwards, the *Geneva Convention relative to the Treatment of Prisoners of War* (1929) was established, which generally holds that all captives must be treated humanely. After World War II (hereafter WW II) from 1945 to 1948, the establishment of the International Military Tribunals in Nuremberg and Tokyo for the Prosecution and Punishment of the Major War Criminals took place.¹⁹⁹ Shortly thereafter the *Geneva Conventions* (1949) were concluded.²⁰⁰ Of the four conventions, the three which already existed and which were concerned with the wounded, sick and shipwrecked individuals of the armed forces and prisoners of war were reviewed, whereas the fourth convention was novel, and was adopted in response to the atrocities committed during WW II in order to fill the legislative gaps recognised by the international community.²⁰¹ Subsequently, the *Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict* (1954) was instated.²⁰²

In 1977 certain protocols which were additional to the *Geneva Conventions* were drafted: *AP I* related to international armed conflicts, whereas *AP II* applied to national armed conflicts.²⁰³ The *AP's* are widely regarded as an impressive achievement in the history of the development of IHL, comparable only to the *Geneva Conventions* (1949) during which four conventions were adopted consisting of 600 articles, of which nearly 150 were new.²⁰⁴ It is arguable that amongst the

¹⁹⁷ Preamble to *The Covenant of the League of Nations* (1919); see also Islam 2018 *BLR* 298.

¹⁹⁸ ICRC 2017 <https://ihl-databases.icrc.org/ihl/INTRO/195>; Sassoli *et al How does Law Protect in War?* 102.

¹⁹⁹ Sassoli *et al How does Law Protect in War?* 102.

²⁰⁰ Sassoli *et al How does Law Protect in War?* 102.

²⁰¹ Islam 2018 *BLR* 299.

²⁰² Sassoli *et al How does Law Protect in War?* 102.

²⁰³ Sassoli *et al How does Law Protect in War?* 103.

²⁰⁴ Islam 2018 *BLR* 302.

results attained by the *AP's*, the most significant achievement is the protection afforded to civilians against the threat of hostilities.²⁰⁵

Subsequent developments that are of great importance to IHL are, amongst others, the *UN Convention on the Prohibitions or Restrictions of the Use of Certain Conventional Weapons*²⁰⁶ (1980), and the *Paris Convention as to the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction* (1993).²⁰⁷ Furthermore, a *Protocol on Blinding Laser Weapons* (1995) was adopted,²⁰⁸ followed by the new *Protocol II on Anti-Personnel Land Mines* (1996).²⁰⁹ Thereafter, the *Ottawa Convention*²¹⁰ was created, which banned the use of anti-personnel land mines in its entirety.²¹¹ Finally, the coming into force of the *Rome Statute of the International Criminal Court* (1998) occurred, which established the International Criminal Court (hereafter ICC).²¹²

As seen from the above, it is arguable that IHL developed in accordance with the progression of warfare and the advancement of new weapons and methods of war. Subsequently, it stands to reason that innovative technologies in warfare should accordingly give rise to new and appropriate regulation thereof in order to properly give effect to IHL. As will be shown, this should be the case with drone warfare.

2.4 Fundamental Sources and Principles of IHL

The principles regarding armed conflict stem predominantly from two sources: the fourth *Hague Convention* (1907)²¹³ which applies to both the methods and means of armed conflict, and the first two *AP's* to the *Geneva Conventions*.²¹⁴ This section will

²⁰⁵ Islam 2018 *BLR* 302.

²⁰⁶ United Nations Office for Disarmament Affairs (hereafter UNODA) 2017 <https://www.un.org/disarmament/geneva/ccw/>.

²⁰⁷ ICRC 2017 <https://ihl-databases.icrc.org/ihl/INTRO/553?OpenDocument>; see also Sassoli *et al* *How does Law Protect in War?* 103.

²⁰⁸ *Protocol IV on Blinding Laser Weapons* (1995).

²⁰⁹ Sassoli *et al* *How does Law Protect in War?* 104.

²¹⁰ *Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction* (1997).

²¹¹ Sassoli *et al* *How does Law Protect in War?* 104.

²¹² Sassoli *et al* *How does Law Protect in War?* 2nd ed Vol 1 129.

²¹³ *Hague Convention IV Concerning the Laws and Customs of War on Land* (1907).

²¹⁴ Jenks *N.D.L Rev.* 2009 665.

briefly focus on both sources of the principles of IHL before equally briefly setting out the principles thereof.

2.4.1 Fundamental Sources of the Principles of IHL

As already mentioned, there are predominantly two sources in this regard and these are discussed below.

2.4.1.1 Law of The Hague

This body of law prescribes the rights and obligations of combatants during the execution of their military actions, and also restricts decisions on the means of causing harm.²¹⁵ Although revised in 1907, this law was founded on the *Hague Conventions* of 1899. The most significant of these is deemed to be the *Hague Convention IV Concerning the Laws and Customs of War on Land* (1907), which includes *Hague Regulations* annexed thereto.²¹⁶ These regulations contain information regarding the conduct of conflicts; the prohibition of arms "calculated to cause unnecessary suffering"; the laws governing military occupation, etc.²¹⁷ The *Hague Regulations* are a part of customary law.²¹⁸

2.4.1.2 Law of Geneva

This source of law envisages protecting combatants who are no longer in battle, as well as civilian individuals who are not engaged in the hostilities.²¹⁹ The law of Geneva is founded on the standard of humanity, as it states that persons who no longer form part of the military conflict must be treated humanely, and it provides for the safeguarding of the captives of war as well as for the wounded and sick.²²⁰ It is derived mostly from the *Geneva Conventions* (1929), but is also rooted in the *Hague Regulations* of 1907. The first *Geneva Conventions* were replaced by four

²¹⁵ Dugard *International Humanitarian Law: A South African Perspective* 520.

²¹⁶ The *Hague Regulations* can be found in Roberts and Guelff *Documents on the Law of War* 59-139.

²¹⁷ Dugard *International Humanitarian Law: A South African Perspective* 520.

²¹⁸ Dugard *International Humanitarian Law: A South African Perspective* 521.

²¹⁹ Dugard *International Humanitarian Law: A South African Perspective* 524.

²²⁰ Dugard *International Humanitarian Law: A South African Perspective* 524.

others in 1949²²¹ and were later supplemented with two *AP's*.²²² Although many of the rules contained in the aforementioned protocols form part of customary IL, and nearly all states are party to the *Geneva Conventions* (1949), several states are not a party to the *AP's*.²²³

2.4.2 Fundamental Principles of IHL

IHL consists of an array of various fundamental principles,²²⁴ which are often referred to as "law of war principles".²²⁵ These principles are: military necessity, humanity, honour, precaution, distinction and proportionality.²²⁶

Certain common principles of law that are general to the main legal systems of the world are regarded as recognised parts of international law, and these "law of war" principles are deemed to resort in this category.²²⁷ These principles furthermore form the basis of the rules of war, and the interpretation thereof may vary.²²⁸ An important issue to keep in mind at this point is that all the various principles are "interdependent and reinforcing parts of a coherent system".²²⁹

²²¹ Namely, *Geneva Convention I for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field* (1949); the *Geneva Convention II for the Amelioration of the Wounded, Sick and Shipwrecked Members of Armed Forces at Sea* (1949); the *Geneva Convention III relative to the Treatment of Prisoners of War* (1949); and the *Geneva Convention IV relative to the Protection of Civilian Persons in Time of War* (1949).

²²² *AP I Relating to the Protection of Victims of International Armed Conflicts* (1977); and *AP II Relating to the Protection of Victims of Non-International Armed Conflicts* (1977).

²²³ Such as the United States, Sri Lanka, Israel, India, Indonesia, Iran, Pakistan, Turkey, Malaysia, Morocco; see Dugard *International Humanitarian Law: A South African Perspective* 525.

²²⁴ Namely, military necessity, humanity, honour, distinction, and proportionality.

²²⁵ The Department of Defence *Law of War Manual* (hereafter the *Manual*) of 2015 50. The *JSM* para 2.1 conversely identifies these principles as those underlying the law of armed conflict, in contrast to the principles of the law of war, as described in the US Manual.

²²⁶ Kolb *Advanced Introduction to International Humanitarian Law* 78-92.

²²⁷ A 38(1)(c) of the *Statute of the International Court of Justice* (1946) provides that "the general principles of law recognized by civilized nations" are a source of applicable law for the court.

²²⁸ The *Manual* 50.

²²⁹ The *Manual* 50

2.4.2.1 Military Necessity

There are a number of international documents that speak to the meaning of military necessity. For instance, the *Lieber Code*²³⁰ (1863) describes military necessity as -Those measures which are indispensable for securing the ends of the war, and which are lawful according to the modern law and usages of war The principle of military necessity is also noted in the preamble to the *St Petersburg Declaration* (1868), which states that the only valid object states should attempt to accomplish in war should be to weaken the military of their opponents. Accordingly, disabling the maximum number of men will suffice in meeting this purpose.²³¹

Further, the *JSM* holds that military necessity has four general elements,²³² namely:

- a) The force used can be and is being controlled;
- b) Since military necessity permits the use of force only if it is 'not otherwise prohibited by the law of armed conflict', necessity cannot excuse a departure from that law;
- c) The use of force in ways which are not otherwise prohibited is legitimate if it is necessary to achieve, as quickly as possible, the complete or partial submission of the enemy;
- d) Conversely, the use of force which is not necessary is unlawful, since it involves wanton killing or destruction.

It follows that military necessity connotes obtaining a military advantage.²³³ In order to obtain a military advantage, a military objective must be the purpose of every action pertaining to military necessity.²³⁴ Military necessity, however, does not permit a military commander from straying from compliance with IHL rules, with the

²³⁰ A 14.

²³¹ *United States v List* 1980 8 34 (WCR).

²³² The *JSM* para 2.2.1.

²³³ Dugard *International Humanitarian Law: A South African Perspective* 528.

²³⁴ A 52(2) of *AP I* (1977) states that "Attacks shall be limited strictly to military objectives. In so far as objects are concerned, military objectives are limited to those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the times offers a definite military advantage." See also Dugard *International Humanitarian Law: A South African Perspective* 528.

limited exception of situations where some flexibility in terms of the rules of IHL is required.²³⁵

Consequently, on the one hand, the principle acts as a limit to the amount of violence allowed,²³⁶ and has a dual effect on the LOAC: it firstly holds that any act of violence which is unnecessary from a military point of view is prohibited and secondly, it means that if there are options available to achieve a military goal, but some of the choices may cause damage and destruction to civilians and civilian objects to a greater extent than other options might, the determining factor should be the less destructive means.²³⁷ Thus this central function of military necessity acts as an additional level of restraint. It proscribes acts which are not otherwise illegitimate, in the event that they are not necessary for the attainment of legitimate goals.²³⁸

On the other hand, the principle of military necessity could potentially act as an "exemption from respect for the rules of IHL"²³⁹ and therefore it widens the range of permissible violence.²⁴⁰ One may argue that it is unreasonable to expect of IHL to provide prohibitions for every situation which may occur on the battlefield because there are circumstances which cannot be exhaustively accounted for beforehand. For instance, although the destruction of civilian property is prohibited during armed conflicts, the prohibition cannot be absolute since some flexibility must be permitted where the damage to such property becomes necessary from the armed forces' point of view.²⁴¹

²³⁵ A list of instances where Military Necessity may be observed can be found in Solf and Roach *Index of International Humanitarian Law* 152; see also the *JSM* para 2.3; Kolb *Advanced Introduction to International Humanitarian Law* 84.

²³⁶ Whereas any violence that exceeds the military aim is superfluous and therefore prohibited; Kolb *Advanced Introduction to International Humanitarian Law* 84.

²³⁷ A 57 of *AP I*; Kolb *Advanced Introduction to International Humanitarian Law* 84.

²³⁸ Kolb *Advanced Introduction to International Humanitarian Law* 84.

²³⁹ Kolb *Advanced Introduction to International Humanitarian Law* 84.

²⁴⁰ Kolb *Advanced Introduction to International Humanitarian Law* 84.

²⁴¹ Kolb *Advanced Introduction to International Humanitarian Law* 85.

2.4.2.2 Humanity

This principle in essence proscribes the unnecessary infliction of distress, injury or demolition for the achievement of military objectives.²⁴² Conversely stated, where a military objective has been accomplished, any further infliction of harm is excessive in terms of the principle of humanity.²⁴³ The *Martens Clause* (which appeared in the *St Petersburg Declaration* (1868), in the preface to the *Hague Conventions* (1899) and (1907) as well as in the *Geneva Conventions* (1949))²⁴⁴ underlies the principle of humanity, and provides for the duty to provide humane treatment to those who have been injured in armed conflict or who have been taken as prisoners of war.²⁴⁵ The principle of humanity has various functions in the context of IHL. For example, it inspires an array of other, more detailed laws based on this principle (such as the rules contained in the *Geneva Conventions*). Furthermore, the principle counteracts the notion during armed conflicts that "all which is not prohibited, is allowed" – this is especially true in the context of the *Martens Clause* and the requirement that where an action, measured against the principle of humanity, is considered completely inhumane it will be deemed unlawful.²⁴⁶ Furthermore, this principle requires a combatant to respect persons *hors de combat*²⁴⁷ under its control, and holds that a combatant must protect persons *hors de combat*.²⁴⁸ It also presupposes that belligerents may not adversely distinguish between persons based on factors such as race, nationality, sex, political opinion or religion. This is especially pertinent during the medical treatment of the wounded and the sick, where priority may be

²⁴² The *JSM* para 2.4.

²⁴³ The *JSM* para 2.4.

²⁴⁴ A 63 G I; a 62 G II; a 142 G III and a 158 G IV, respectively. See also Detter *The Law of War* 185; and the *JSM* para 2.4.3.

²⁴⁵ The *Martens Clause* states that "In cases not covered by this Protocol or by other international agreements, civilians and combatants remain under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and from the dictates of public conscience" as per a 1(2) of *AP I* (1977).

²⁴⁶ Kolb *Advanced Introduction to International Humanitarian Law* 78-79.

²⁴⁷ A person *hors de combat* is an individual who no longer partakes in hostilities – whether it is as a result of his own choice or of circumstances. Under customary international law, a person can be placed *hors de combat* in three situations, in both international – and non-international armed conflicts: 1) anyone who is in the power of an adverse party; 2) any person who is defenceless due to being shipwrecked, unconscious, wounded or sick; and 3) any person who clearly displays the intention to surrender; ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule47; a 41(1) and 85(3)(e) of *AP I*; a 4 of *AP II*.

²⁴⁸ Kolb *Advanced Introduction to International Humanitarian Law* 79.

awarded to persons based only on medical circumstances and not, for example, on their nationality.²⁴⁹

2.4.2.3 Honour

The principle of honour,²⁵⁰ which is also referred to as "chivalry" has been described as a value demanding an amount of "fairness in offense and defence"²⁵¹ and furthermore a certain measure of joint respect between two adversaries.²⁵² It is apparent that armed conflict has a radical legal effect, since combatants of states are permitted to execute opponents and wreck property within the laws of IL without fear of prosecution.²⁵³ Consequently, where such a licence to kill is awarded, it seems evident that wars must be closely regulated, and adherence to the fundamental principles of IHL is absolutely necessary in order to prevent the occurrence of atrocities.²⁵⁴ In this regard, the principle of honour has played an immense role in military thinking for millennia, yet it is as applicable to modern warfare as it was to the mounted combatants who dominated the battlefields in the middle ages.²⁵⁵ In fact, Liivoja²⁵⁶ in critique of Dinstein's²⁵⁷ view that the LOAC is entirely based on a subtle equilibrium between the principles of military necessity and humanitarian considerations (which the author describes as "two diametrically opposite impulses"),²⁵⁸ holds that the entire set of rules which comprises the LOAC cannot be adequately elucidated with reference to the principles of military necessity and humanity alone. The author continues by adamantly stating that the LOAC can

²⁴⁹ Kolb *Advanced Introduction to International Humanitarian Law* 79.

²⁵⁰ Honour has been an essential element to the development of IHL laws; the principle was preceded mainly by Warriors' Codes of ethical conduct, as can be seen in Green *The Contemporary Law of Armed Conflict* 20-23. See also the *Manual* 66.

²⁵¹ The *Manual* 65.

²⁵² The *Manual* 65-66.

²⁵³ Lowe *International Law* 283.

²⁵⁴ Lowe *International Law* 283.

²⁵⁵ Liivoja 2012 *ENDC* 108-109; see also generally Keen *Chivalry*; see also generally Robinson *Military Honour and the Conduct of War: From Ancient Greece to Iraq*.

²⁵⁶ Liivoja 2012 *ENDC* 110.

²⁵⁷ Dinstein *The Conduct of Hostilities under the Law of Armed Conflict* 16.

²⁵⁸ Dinstein *The Conduct of Hostilities under the Law of Armed Conflict* 16.

only be understood if one takes into consideration the "most rudimentary considerations of military honour".²⁵⁹

Both of the authors are correct in their reasoning in this regard – but what is clear, is that to fully understand the LOAC or IHL, all of its fundamental principles must be understood as a whole, including the manner in which one principle supports and informs another. Furthermore, it stands to reason that when a specific issue relevant to IHL is to be considered, such as drone warfare, the issue in context must inform one as to which principles should carry more weight during the process of deliberation. Consequently, in this discussion where drones are regarded as a legitimate means of warfare, but are then used in an indiscriminate manner, due consideration must probably be given to the principles of distinction and proportionality rather than to the principles of honour, humanity or military necessity.

2.4.2.4 Precaution

The principle of precaution²⁶⁰ holds that no attack may be launched if it lacks careful preparation in view of sparing the civilian population and civilian objects from the adverse consequences of the attack as much as is feasible (or to the maximum extent feasible).²⁶¹ Hence, this principle is directly linked to the principle of distinction: it underpins distinction by guaranteeing that both in the preparation phase and during the carrying out of a strike, the utmost effort will be made to give effect to the expectations formulated in the ambit – and cardinal tenets of the principle of distinction.²⁶² In international armed conflicts, the duty to take precaution during an attack is set out in article 58(c) of *AP I*, whereas – in terms of

²⁵⁹ Liivoja 2012 *ENDC* 110.

²⁶⁰ This principle is established as a customary norm via state practice and according to the ICRC's database on customary IHL. Rule 15 holds that: "In the conduct of military operations, constant care must be taken to spare the civilian population, civilians and civilian objects. All feasible precautions must be taken to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects" whereas rule 22 further holds that: "The parties to the conflict must take all feasible precautions to protect the civilian population and civilian objects under their control against the effects of attacks"; see ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule15.

²⁶¹ Kolb *Advanced Introduction to International Humanitarian Law* 81; ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule15.

²⁶² Kolb *Advanced Introduction to International Humanitarian Law* 81.

non-international armed conflicts - the obligation to undergo all feasible precautions in this regard was not explicitly included in the final version of *AP II*.²⁶³ However, article 13(1) of *APII* does require that individual civilians as well as the civilian population shall enjoy protection generally against the dangers stemming from military actions.²⁶⁴ Consequently, one may discern from the aforementioned article that it would be difficult to comply with this obligation without taking all feasible precautions against the effects of an attack.²⁶⁵ Practice has indicated that the digging of trenches, the withdrawal of civilians to safer areas, the construction of shelters, the issuing of warnings and information, the direction of traffic, the mobilisation of civil defence bodies and the guarding of civilian property all constitute measures that can be taken to spare the civilian lives and objects.²⁶⁶ Various states have also indicated that military commanders have to make decisions as to the taking of precautions against the consequences or effects of a strike only after they have considered the information from all of the sources available at the time.²⁶⁷

2.4.2.5 Distinction

When the principle of distinction first appeared in the *AP*, it was not an entirely novel concept. In fact, the principle of distinction as it relates to international armed conflicts was first observed in the preamble to the *Saint Petersburg Declaration* (1868) which held that the only lawful military objective which States should endeavour to accomplish during wartime is to weaken the military forces of their opponents. The requirement that a distinction must be made between belligerents and civilians is not explicitly mentioned in the Hague Regulations, but article 25 is based on this principle: it prohibits the attack or bombardment, by any means, of dwellings, buildings, towns, or villages which are not defended. Furthermore, during the diplomatic conferences which led to the adoption of the *AP's*, various states

²⁶³ ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule22; ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule15.

²⁶⁴ A 13(1) of *AP II*; ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule22; ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule15.

²⁶⁵ ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule22.

²⁶⁶ ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule22.

²⁶⁷ ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule22.

remarked on the importance of the adoption of the customary law principle into the text of the *AP*. For instance, Mexico remarked that articles 51 and 52 of *AP I* were so indispensable that they could in no way be subject to any reservations because it would be completely inconsistent with both with the purpose and aim of *AP I*, and would undermine the basis thereof; furthermore, the UK observed that article 51(2) could be considered a "valuable reaffirmation" of the existing customary international law rule.²⁶⁸

As a principle of IHL, distinction flows generally from the proscription against attacks which are indiscriminate and are, amongst other prohibitions, not necessarily directed at a valid military objective.²⁶⁹ As seen from above,²⁷⁰ distinction is defined as per article 48 of *AP I*;²⁷¹ but, distinction can further be identified in article 51(4) of the aforementioned *Protocol*, which places a general prohibition on indiscriminate attacks, where it states that²⁷² –

Indiscriminate attacks are:

- a) Those which are not directed at a specific military objective;
- b) Those which employ a method or means of combat which cannot be directed at a specific military objective; or
- c) Those which employ a method or means of combat the effects of which cannot be limited as required by this Protocol;

And consequently, in each such case, are of a nature to strike military objectives and civilians or civilian objects without distinction.

From this article it can be derived that any attack will be indiscriminate in nature where it lacks a precise military objective or where the method or means thereof will result in an indiscriminate attack and where the attack cannot be limited as prescribed by the *Protocol*.²⁷³ The principle of distinction, in essence, operates by

²⁶⁸ ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule1.

²⁶⁹ Jenks *N.D.L Rev.* 2009 665.

²⁷⁰ Para 1.1.

²⁷¹ This article states that the basic rule is - "In order to ensure respect for and protection of the civilian population and civilian objects, the Parties to the conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations only against military objectives"

²⁷² A 51(4) of *AP I* (1977).

²⁷³ *AP I* (1977).

directing all military conduct towards "military objectives" only, and therefore considerably curtails the scope of actions and destruction.²⁷⁴ The term "military objectives" is defined in article 52(2) of *AP I*, and holds that in so far as objects are concerned, they are limited to those which purely by their nature, purpose, location, or use constitute an effective contribution towards militant action, and upon the partial or total destruction, neutralisation or capture thereof, during the circumstances prevailing at the time, present a definite military advantage. Individuals and the civilian population, as a whole, enjoy protection against military objectives, and no attacks may be lodged against them.²⁷⁵ This protection is afforded in all instances to the aforementioned groups, subject to the condition that they refrain from directly partaking in the conduct of hostilities.²⁷⁶

However, what amounts to directly partaking in hostilities has been the subject of widespread debate.²⁷⁷ In a study conducted by the ICRC,²⁷⁸ the participants in the study were found to have failed to reach a general consensus on the matter and the manner in which the study was conducted was described as highly contentious.²⁷⁹ It confirmed, however, that members of an organised weapon-bearing group cannot be classified as civilians, and subsequently do not enjoy the protection afforded to civilians.²⁸⁰ Non-combatants who happen to be in the locality of such members are afforded protection, however.²⁸¹ In terms of the principle of distinction, the meaning of the term "combatants" is understood generically to be individuals who do not receive the protection against an attack that is generally provided to civilians. This does not, however, imply a right to attain the status of "combatant" or "prisoner of war".²⁸² Furthermore, this rule must be understood in the context of the prohibition against attacking individuals recognised to be *hors de combat*.²⁸³

²⁷⁴ Kolb *Advanced Introduction to International Humanitarian Law* 81.

²⁷⁵ A 51(2) of *AP I* (1977).

²⁷⁶ A 51(3) of *AP I* (1977).

²⁷⁷ Jenks *N.D.L Rev.* 2009 666.

²⁷⁸ Melzer *ICRC* 2009.

²⁷⁹ Jenks *N.D.L Rev.* 2009 666.

²⁸⁰ Jenks *N.D.L Rev.* 2009 666.

²⁸¹ Jenks *N.D.L Rev.* 2009 666.

²⁸² ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule1.

²⁸³ ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule1.

Not all states are parties to the *AP's*. For instance, the US is not a signatory to either *AP I* or *AP II*. Since the international system as yet has no compulsory judicial system or legislature, international custom (often referred to as the common law of the international community) plays an especially integral role in this regard.²⁸⁴ Whilst states provide their express consent to be bound by a rule upon entering into a treaty, states consent to a customary rule by inference from their conduct.²⁸⁵ State practice establishes the principle of distinction as a customary international law norm, and consequently it is also applicable in both international and non-international armed conflicts.²⁸⁶ Therefore, whether or not states are signatories to the *AP's*, they must comply with the principle of distinction due to its customary international law status.

The proscription of directing attacks against civilians is also to be found in article 3(2) of *Protocol II*,²⁸⁷ article 3(7) of *Amended Protocol II*²⁸⁸ and article 2(1) of *Protocol III*²⁸⁹ of the *Convention on Certain Conventional Weapons*²⁹⁰ and subsequently also in the preamble to the *Ottawa Convention*,²⁹¹ which bans the stockpiling, use, transfer and production of anti-personnel landmines.²⁹² Lastly, it is held by the *Rome Statute of the ICC* that to intentionally direct an attack against an individual civilian, or against the civilian population, who are not at that time directly partaking in hostilities, will amount to a war crime in the milieu of international armed conflicts.²⁹³

The immense significance of the principle of distinction can furthermore be observed in case law. For example, in the *Legality of the Threat or Use of Nuclear*

²⁸⁴ Dugard *International Humanitarian Law: A South African Perspective* 26.

²⁸⁵ Dugard *International Humanitarian Law: A South African Perspective* 26.

²⁸⁶ ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule1.

²⁸⁷ (1980).

²⁸⁸ (1996).

²⁸⁹ (1980).

²⁹⁰ (1980).

²⁹¹ (1999).

²⁹² ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule1.

²⁹³ A 8(2)(b)(i) of the *Rome Statute of the International Criminal Court* (1998).

*Weapons*²⁹⁴ case (hereafter the *Nuclear Weapons* case), the court regarded the principle of distinction as one of the "cardinal principles" of IHL, and held that -

...humanitarian law, at a very early stage, prohibited certain types of weapons either because of their indiscriminate effect on combatants and civilians or because of the unnecessary suffering caused to combatants, that is to say, a harm greater than that unavoidable to achieve legitimate military objectives. If an envisaged use of weapons would not meet the requirements of humanitarian law, a threat to engage in such use would also be contrary to that law. It is undoubtedly because a great many rules of humanitarian law applicable in armed conflict are so fundamental to the respect of the human person and "elementary considerations of humanity" as the Court put it in its Judgment of 9 April 1949 in the *Covfu Channel* case (1. C. J. Reports 1949, p. 22), that the Hague and Geneva Conventions have enjoyed a broad accession.²⁹⁵

The court further stated that the fundamental principles of IHL must be observed by all states, regardless of whether or not they have ratified the conventions which contain them, due to the fact that the nature of these principles is such that they do not allow for any transgression.²⁹⁶ What is more, in the case of *Military Prosecutor v Ohmar Mahmud Kassem*²⁹⁷ the court recognised the protection of civilians from direct attacks as a basic rule of IHL.

In terms of non-international armed conflicts, it can be observed from article 13(2) of *AP II* that it is prohibited to make both the civilian population as well as individual civilians the object of an attack. Article 8(2)(e)(i) of the *Rome Statute of the ICC*²⁹⁸ further upholds the principle of distinction in terms of non-international armed conflicts, where it is held that it constitutes a war crime to intentionally aim an attack against civilians who are not directly partaking in the conduct of hostilities.²⁹⁹

2.4.2.6 Proportionality

As seen from the preceding discussion, the principle of distinction states that military objects alone may be targeted during armed conflict.³⁰⁰ It is nonetheless possible for a legitimate attack directed at a military target to cause incidental damage to

²⁹⁴ *Advisory Opinion* 1996 Reports 1996 226 (ICJ).

²⁹⁵ *Nuclear Weapons* case para 78-79.

²⁹⁶ *Nuclear Weapons* case para 79.

²⁹⁷ 1969 42 ILR 470 (Military Court sitting in Ramallah).

²⁹⁸ (1998).

²⁹⁹ ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule1.

³⁰⁰ Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 55.

innocent civilians or to objects.³⁰¹ This situation is regulated by the doctrine of proportionality in IHL, as it proscribes attacks that may cause excessive injury to the lives of civilians or to their property in relation to the military benefit that is derived from the execution of such an attack.³⁰² *AP I*³⁰³ clearly states what the proportionality principle entails, where it prohibits an attack –

Which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.³⁰⁴

According to Henckaerts and Doswald-Beck,³⁰⁵ the rule of proportionality holds customary law status in both international armed conflicts, and national armed conflicts.³⁰⁶ Consequently, as provided by article 57(2) of *AP I*,³⁰⁷ the premeditator of an attack must confirm that the objects of a strike are neither civilian persons, nor civilian objects and must assess the probable effect of an attack and abstain from an attack where it is likely that it will violate the principle of proportionality.³⁰⁸ Furthermore, as per article 85(3)(b),³⁰⁹ when an indiscriminate attack is launched which directly violates the conditions set by the doctrine of proportionality, knowing that such a strike will result in excessive and incidental fatalities or injuries to civilians or civilian objects, it constitutes a grave breach of the proportionality principle.³¹⁰

It is therefore discernible that this doctrine relates closely to the principle of military necessity, in that where an attack causes excessive incidental damage, it can be lawful only if military necessity justifies it.³¹¹ However, proportionality cannot be used to justify an unwarranted attack on civilians or civilian objects, and therefore

³⁰¹ Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 55.

³⁰² Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 55; see also the *JSM* para 2.6 which holds that losses resulting from military actions should not be excessive in relation to the expected military advantage.

³⁰³ (1977).

³⁰⁴ A 51(5)(b) of *AP I* (1977).

³⁰⁵ *Customary International Humanitarian Law* 46.

³⁰⁶ Rule 14 in Henckaerts and Doswald-Beck 2007 *Customary International Humanitarian Law* 46.

³⁰⁷ (1977).

³⁰⁸ A 57(2) of *AP I* (1977). See *Prosecutor v Pavle Strugar* 2004 IT 01 42 A.

³⁰⁹ *AP I* (1977).

³¹⁰ A 85(3)(b) of *AP I* (1977).

³¹¹ Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 56; see also Dill *Applying the Principle of Proportionality in Combat Operations* 2.

both proportionality and military necessity are subjected to the scrutiny of the principle of distinction.³¹²

Military necessity in this regard suggests the relative importance of an objective, rather than maintaining some type of stringent numerical balance: targets of higher military value will validate a greater proportion of incidental harm than targets of lower value.³¹³ Military leaders and highly skilled hostile technical personnel, for example, could be deemed targets of high military value. Nevertheless, there exists no particular objective test that could render precise results in any particular circumstance to determine the value of a target.³¹⁴ Consequently, every instance must be dealt with individually, and the outcome will depend on the situation.³¹⁵

Hence, the function of the principle of proportionality is to facilitate a certain type of balance during targeting operations.³¹⁶ As can be seen from the above, a military objective may in principle always be subjected to an attack. There are, however, circumstances during which an attack aimed at such an objective will yield a limited military advantage only, when compared with the expected loss of civilian life, which appears excessive in relation to the military advantage obtained.³¹⁷ One could reason that in such instances the attack will be prohibited with due regard to the circumstances. Thus, as long as the advantage obtained and the collateral damage caused remains more or less the same, the attack will be allowable. This situation can be altered when circumstances which enable greater precision during the attack are introduced – for example, by using laser-guided precision bombs, by adjusting the timing of a strike to when there are fewer civilians in the vicinity, or by utilising precision armed drone systems, one could probably decrease the number of expected civilian casualties.³¹⁸

³¹² Crowe and Weston-Scheuber *Principles of International Humanitarian Law* 56; see also Dill *Applying the Principle of Proportionality in Conflict Situations* 2.

³¹³ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 25.

³¹⁴ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 25.

³¹⁵ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 25.

³¹⁶ Kolb *Advanced Introduction to International Humanitarian Law* 81.

³¹⁷ Kolb *Advanced Introduction to International Humanitarian Law* 81.

³¹⁸ Kolb *Advanced Introduction to International Humanitarian Law* 81.

During the proceedings of the diplomatic conference which led to the adoption of the *AP's*, France lodged its vote against article 51 of *AP I* because it reasoned that section 5 would, due to its complexity, seriously hinder defensive armed operations against one's opponent, and would consequently prejudice the inherent right as to lawful defence.³¹⁹ Also during the aforementioned conference, various states held the view that the proportionality principle entailed a danger for the protection of civilians; however, they did not indicate any alternative solution to the problem of how to address incidental damage from strikes on legitimate targets.³²⁰ On the other hand, the UK was of the opinion that article 51(5)(b) could be considered a useful codification of a concept which states were rapidly accepting as an integral principle of IL as it relates to armed conflict.³²¹

One could reason that, in view of some courts' decisions, the principle of proportionality goes further than merely preventing incidental harm. In fact, in the *Nuclear Weapons* case, the court explicitly acknowledged the applicability of the principle of proportionality, and accordingly expressed the view that –

...respect for the environment is one of the elements that go to assessing whether an action is in conformity with the principles of necessity and proportionality.³²²

AP II, which applies to non-international armed conflicts, does not explicitly make reference to the proportionality principle during an attack, but it has been argued that proportionality can be considered as being inherent in the principle of humanity, which was expressly stated in the preamble to *AP II*.³²³ As a result, one is able to discern from the above that the proportionality assessment cannot be excluded during the application of *AP II*.

A further essential consideration in terms of the principle of proportionality is the interpretation of the term "military advantage" as it relates, for instance to the wording of article 51(5)(b) of *AP I*: a number of states have expressed the view that

³¹⁹ During ratification, France did not enter a reservation to this provision; ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule14.

³²⁰ ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule14.

³²¹ ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule14.

³²² *Nuclear Weapons* case para 30.

³²³ ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule14.

the term "military advantage" in reality refers to the anticipated advantage derived from the military strike considered as a whole, and not only in isolation, or with reference to particular aspects of the relevant attack.³²⁴ Congruently, article 8(2)(b)(iv) of the *Rome Statute of the ICC*³²⁵ refers to the civilian injuries, damage or casualties being excessive in reference to "the concrete and direct *overall* military advantage anticipated". An interesting contribution in this regard was made by New Zealand and Australia when they ratified *AP I* and made the observation that they interpreted the phrase "concrete and direct military advantage anticipated" as entailing that there is a good-faith expectation that the strike would produce a proportional and relevant contribution to the military objective of the attack in question.³²⁶ The aforementioned two states further held that military advantage involves various considerations which must be taken into account, inclusive of the safety and security of the attacking forces.³²⁷ However, in this regard it has been held that the limits of the principle must not be overlooked, and that even during a general strike the anticipated advantage derived therefrom must be military in kind and must in all instances be both direct and concrete.³²⁸ Consequently, there can be no question of generating conditions favourable to surrendering by way of an attack which causes incidental harm to civilians.³²⁹

In the above discussion it is evident that the principle of proportionality requires from the military commander organising an attack to consider the possible effect thereof on civilians and their property. Once it becomes apparent that the likely harm that will result from the attack on a specific military objective with a particular weapon will be disproportionate in comparison with the military advantage drawn, then either a different weapon must be employed which would lessen the probable

³²⁴ ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule14.

³²⁵ (1998).

³²⁶ Gaudreau *The reservations to the Protocols additional to the Geneva Conventions for the protection of war victims* 16.

³²⁷ Gaudreau *The reservations to the Protocols additional to the Geneva Conventions for the protection of war victims* 16; ICRC 2018 https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule14.

³²⁸ Gaudreau *The reservations to the Protocols additional to the Geneva Conventions for the protection of war victims* 16.

³²⁹ Gaudreau *The reservations to the Protocols additional to the Geneva Conventions for the protection of war victims* 16.

disproportionate harm, or the attack must be abandoned.³³⁰ Arguably, taking reasonable measures in terms of the principle of precaution (such as for instance waiting until there are fewer civilians in the vicinity of the attack) should be an additional consideration in this regard, since taking such a precaution could feasibly decrease the incidental harm caused.

2.5 The Enforcement of IHL

The enforcement of IHL involves various measures aimed at guaranteeing observance of IHL through, amongst, assigning responsibility for grave violations via courts or other means, international monitoring, providing compensation in terms of IHL violations that are of a serious nature to the affected civilians or states, and other such measures.³³¹ The concept of enforcement must be separated from the notion of implementation, which is considerably broader, in that enforcement includes some form or degree of sanctioning for IHL violations; the sanctions could vary between individual criminal liability, public condemnation of breaches or state responsibility.³³² Over the years a variety of methods and mechanisms have been adopted in order to promote compliance with, and enforcement of IHL, such as penal and disciplinary actions, military sanctions, and utilising the assistance of human rights bodies in enforcing international criminal law via tribunals and courts, as well as fact-finding commissions.³³³

Fairly recently there have been developments in relation to transgressors of IHL. For instance, the establishment of the ICC, the ad hoc tribunals for the former Rwanda and Yugoslavia, as well as the Special Court for Sierra Leone have all had the purpose of prosecuting and punishing individuals who violate IHL and of deterring both combatants and politicians from violating it in future.³³⁴ An integral role-player in the enforcement and compliance of IHL is the ICRC, which ensures respect for

³³⁰ Pretorius *Armed Drones: Transparency and Accountability under International Law* 25.

³³¹ Zyberi "The Enforcement of International Humanitarian Law" 2.

³³² Zyberi "The Enforcement of International Humanitarian Law" 2.

³³³ Haider *International legal frameworks for humanitarian action: Topic guide* 49.

³³⁴ Dugard *International Humanitarian Law: A South African Perspective* 533.

IHL by monitoring the actions of combatants, and by visiting and inspecting places of detention.³³⁵

Although both the *Geneva Conventions* (1949) and *AP I*³³⁶ place an obligation on states to respect and ensure respect for the conventions in all circumstances, including to disseminate knowledge of the principles and rules contained therein,³³⁷ the enforcement of IHL remains a major issue.³³⁸ Once a state violates the conventions, it may be held to charge in accordance with the rules of state responsibility.³³⁹

2.6 Conclusion

IHL is cardinal to conflict situations and becomes applicable the moment an armed conflict arises.³⁴⁰ The purpose of IHL is to minimise the destruction caused during armed conflicts, and to ensure that armed conflicts abide with the ROL. This body of law has developed greatly since its inception, and the continuous development thereof is an integral part of ensuring that IHL remains the protective body of law it set out to be.³⁴¹ The fundamental principles of IHL remain of great importance, since they consist of general and basic rules, enabling IHL to remain adaptable and capable of applying to an assortment of types of warfare.³⁴² These principles are interdependent, and form a part of a coherent system of rules regulating armed conflicts. Before a military force is allowed to initiate a strike in an armed conflict, it must ensure that it adheres to the fundamental principles of IHL. However, the development of new military technology often challenges the adequacy of IHL in regulating the use thereof in armed conflicts, especially since IHL is often criticised

³³⁵ Dugard *International Humanitarian Law: A South African Perspective* 533.

³³⁶ A 1.

³³⁷ In this regard, see a 127, 144 of the *Third and Fourth Geneva Conventions* (1949) as well as a 83 of *AP I* and a 19 of *AP II*.

³³⁸ Dugard *International Humanitarian Law: A South African Perspective* 532; ICRC 2007 *IRRC* 745.

³³⁹ A large number of claims have been brought before the ICJ based on IHL violations, for instance in the *Case Concerning Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Bosnia and Herzegovina v Serbia and Montenegro)* 2007 ICJ Reports 43.

³⁴⁰ See para 2.3 above.

³⁴¹ See para 2.2.2 above.

³⁴² See para 2.4.2 above.

for constantly being one war behind reality.³⁴³ Since drone warfare is currently unregulated, the question whether drones are capable of being aptly regulated by IHL through its principles is an integral question in this study. It will be addressed in the succeeding chapters.

³⁴³ Liivoja 2015 *IRRC* 1169; Sassoli *et al How does Law Protect in War?* 99; Lowe *International Law* 267.

Chapter 3 Drone Warfare

3.1 Introduction

Drones have been an important advancement in armed combat situations. This weapon is indispensable for militaries to be able to compete with current threats, such as terrorism.³⁴⁴ According to Stoica,³⁴⁵ drones are representative of a new generation of instruments that were designed to assist mankind to yield better results in areas that would otherwise be hazardous to human beings. Rothenberg³⁴⁶ states that on their own, drones are not revolutionary as a matter of fact, since they serve as platforms upon which different types of technologies are attached (such as missiles, communications systems and targeting devices). The author further holds that what makes drones truly significant does not relate to what they are as much as it relates to the manner in which they are deployed. Drones are capable of being operated remotely from thousands of kilometres away, whilst they analyse and record information and activity from above as it takes place on the ground.³⁴⁷ This data is retrieved worldwide for review and storage, and in conjunction with a multitude of other forms of information, it is then utilised to inform the drone of its target. In armed conflict situations the drone is accordingly instructed to target its opponent with "striking precision".³⁴⁸

Furthermore, according to Markham and Schmitt³⁴⁹ drones form an integral part of performing precision warfare. In order to minimise the harm caused to civilians, drones are armed solely with precision weaponry such as Hellfire missiles. Commanders are provided with a highly effective selection concerning the methods and means of combat the drone is capable of employing. Concordantly, in order to achieve complete precision warfare, the staggering developments made in terms of advancing autonomous³⁵⁰ weapons system capabilities have allowed for states to

³⁴⁴ Sehwat 2017 *JLIA* 174.

³⁴⁵ Stoica 2016 *LESIJ* 111.

³⁴⁶ Rothenberg "Drones and the Emergence of Data-Driven Warfare" 442.

³⁴⁷ Rothenberg "Drones and the Emergence of Data-Driven Warfare" 443.

³⁴⁸ Rothenberg "Drones and the Emergence of Data-Driven Warfare" 443.

³⁴⁹ Markham and Schmitt 2013 *INT'L L STUD* 689.

³⁵⁰ See para 1.2 above.

envision a world in which human beings are completely "out of the loop" of the decision-making of the drone.³⁵¹

In the above one may see that although drones as used in armed combat situations could enhance adherence to IHL, their use and deployment nonetheless creates potential challenges to IHL. Consequently, the question as to whether IHL and its fundamental principles are capable of adequately regulating drone warfare persists. This question becomes particularly important in the context of the development of drones from semi-autonomous to fully autonomous.

With a view to contextualising the challenges which drones could pose to IHL, this chapter seeks to investigate the drone technology currently in existence. Specifically, the chapter briefly describes some of the infamous drones presently utilised, but not exclusively, by the US military, such as the US MQ-1 Predator drone, the subsequent more advanced MQ-9 Reaper Drone, the Global Hawk, and the UK's development of the Taranis drone, as a case study for autonomous drone development. Brief comments will be made regarding various drones currently in use, and the use of drones as a means of warfare will be outlined. Some focus will be placed on countries involved in the international proliferation of combat drones. Lastly, the challenging aspect of the movement towards autonomy will be discussed.

3.2 Current Drone Technology

For a better comprehension of the legal aspects related to drones, it is pertinent to briefly outline the current technology utilised in armed drones. Firstly, a distinction must be made between the different drone-systems used, for a practical understanding of how they function. The first mode of operation is the "human in the loop" (human controlled) system, which allows the drone to function via a remotely controlled human operator.³⁵² These drones are called semi-autonomous. Secondly, there are "human on the loop" systems, which allow for the drone to operate mostly autonomously but to remain under the supervision of a controller

³⁵¹ Markham and Schmitt 2013 *INT'L L STUD* 689.

³⁵² Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 6.

who is able to override any decision to attack.³⁵³ Lastly, there are "human out of the loop" or fully autonomous drones.³⁵⁴ These are the most challenging to our current regulatory system, as this case allows for a robotic artificially intelligent system to search, identify, select and attack targets without any human supervision, in an open and unpredictable environment.³⁵⁵

Armed drones generally consist of an array of complementary, harmonised technologies on one platform and are controlled by a single controller, or a crew, often hundreds to thousands of kilometres away from the field of operation, and may be employed as combatants or combat support vehicles.³⁵⁶ A single drone can contain, amongst other things, live video-feed cameras, infrared cameras, global positioning systems, extremely advanced surveillance systems, radar and thermal imaging systems, and precision munitions such as hellfire missiles.³⁵⁷ Military drones are so advanced they're able to remain in the air for several days at a time, scan enormous cities, and on command zoom in onto an object (even something as small as a cold drink bottle and read it from heights such as eighteen kilometres).³⁵⁸

Sehrawat³⁵⁹ recently provided an up-to-date analysis of current drone technology compiled from various sources and found that surveillance drones are capable of relaying data to satellites which source it to ground forces in order to assist them with formulating strategic attacks. They are armed with highly accurate missiles able to target anything from a human being to a vehicle or a room in a structure.³⁶⁰

³⁵³ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 6.

³⁵⁴ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 6.

³⁵⁵ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 6.

³⁵⁶ Electronic Frontier Foundation 2013 <https://www.eff.org/issues/surveillance-drones>. See also Sehrawat 2017 *JLIA* 172.

³⁵⁷ Sehrawat 2017 *JLIA* 172.

³⁵⁸ Electronic Frontier Foundation 2013 <https://www.eff.org/issues/surveillance-drones>. See also Sehrawat 2017 *JLIA* 173.

³⁵⁹ Sehrawat 2017 *JLIA* 173.

³⁶⁰ Sehrawat 2017 *JLIA* 173. Hellfire missiles are the most renowned missiles utilised in this regard. They are air-to-ground, subsonic missiles guided by laser which have substantial anti-tank capabilities. They can also be used as in-air missiles, against slow-moving planes or helicopters. The hellfire missile is widely famous for its capability of defeating any known tank in existence and by 2016 more than fifteen thousand had been fired. See GlobalSecurity.org 2017 <http://www.globalsecurity.org/military/systems/munitions/agm-114k.htm>.

Drones are also able to spend more time in the air and on the target than any other possible aircraft, due to their fuel efficiency and low profiles.³⁶¹

Furthermore, drones are able to perform various functions other than basic combat functions. A general distinction is drawn, however, between surveillance and reconnaissance drones and those armed with missiles and bombs.³⁶² Military drones carry Wi-Fi crackers and are able to imitate cell phone towers in order to locate a target or to intercept messages or phone calls.³⁶³ Soon drones will be performing facial recognition, monitor any individual's discussions and even recognise behavioural sequences.³⁶⁴ Hence, armed drones are more than capable of adaptation to suit any need which may arise in such situations.

3.3 Different Types of Drones

Some of the most famous drones of our time include –

3.3.1 MQ-1 Predator³⁶⁵

It is fitting to commence this section with the Predator drone, which has been operational for a long time. The MQ-1 Predator can be classified as a system rather than an aircraft due to the fact that it consists of four aircrafts equipped with munitions and sensors, as well as maintenance and operations personnel for 24-hour

³⁶¹ The Reaper drone is able to stay aloft for fourteen hours at a time, flying at a top speed of roughly 482 kilometres per hour; see The National Interest 2015 <http://nationalinterest.org/feature/the-5-most-lethal-drones-all-time-12326>. Zephyr, a British drone is capable of flying for 82 hours at a time; see Drone Wars UK 2012 <https://dronewars.net/aboutdrone/>.

³⁶² Drone Wars UK 2012 <https://dronewars.net/aboutdrone/>.

³⁶³ Sehwat 2017 *JLIA* 173. To further these capabilities, the US Air Force is developing liquid antennae that are aimed at streamlining communications on aircraft, such as the MQ-9 Reaper. Liquid antennas will enable aircrafts to reconfigure to absolutely any frequency or direction you want the antenna to broadcast; see Defensetech 2017 <https://www.defensetech.org/2017/06/13/air-force-research-lab-works-on-liquid-antennas-for-aircraft-adaptability/>.

³⁶⁴ Drone Wars UK 2012 <https://dronewars.net/aboutdrone/>; see also Sehwat 2017 *JLIA* 173. For other capabilities, such as the ability of a single drone to monitor up to 65 of the States' enemies instantaneously, see Electronic Frontier Foundation 2012 <https://www.eff.org/deeplinks/2012/01/drones-are-watching-you>.

³⁶⁵ The peculiar code for the aircraft is derived from the following sequence: "R" is the Department of Defense's designation for reconnaissance vehicles, whilst "M" indicates that it's multi-functioning and "Q" lastly indicates that it is a system capable of being remotely piloted. The "1" indicates that it is the first of a sequence of remotely piloted drone systems.

deployment operations, and a ground control unit with a Predator Primary Satellite Link.³⁶⁶ It was developed following the US Department of Defense's need to provide continuous intelligence, surveillance and reconnaissance information to soldiers and was first named the RQ-1 Predator system.³⁶⁷ After a subsequent adaptation to include armed reconnaissance, it was renamed the MQ-1 Predator in 2002.³⁶⁸

This drone system functions essentially as a medium-altitude, remotely piloted yet long-endurance aircraft, and is primarily directed at interdiction by way of armed reconnaissance against threatening, perishable targets.³⁶⁹ The drone boasts a multi-spectral targeting system, is capable of deploying two laser-guided hellfire missiles, and can be disassembled and loaded into a travel container.³⁷⁰ The Predator is being phased out of operation, however, and as of this year it will no longer be used.³⁷¹ Since it has a weight capacity of only 90kg and reaches a speed of a mere 217 kilometres per hour, it will be replaced by the MQ-9 Reaper drone, the "hunter-killer" drone of the US Army.³⁷²

3.3.2 MQ-9 Reaper

As mentioned above, this drone is replacing the Predator drone because of its obviously superior and enhanced armed reconnaissance-strike capabilities. The Reaper travels at an astonishing speed of 482.803 kilometres per hour, carries four Hellfire missiles, several Paveway³⁷³ bombs, and is equipped with synthetic aperture

³⁶⁶ US Air Force 2015 <http://www.af.mil/About-Us/Fact-Sheets/Display/Article/104469/mq-1b-predator/>.

³⁶⁷ US Air Force 2015 <http://www.af.mil/About-Us/Fact-Sheets/Display/Article/104469/mq-1b-predator/>. See also GlobalSecurity.org 2017 <http://www.globalsecurity.org/military/systems/aircraft/mq-1b.htm>.

³⁶⁸ GlobalSecurity.org 2017 <http://www.globalsecurity.org/military/systems/aircraft/mq-1b.htm>.

³⁶⁹ US Air Force 2015 <http://www.af.mil/About-Us/Fact-Sheets/Display/Article/104469/mq-1b-predator/>. See also GlobalSecurity.org 2017 <http://www.globalsecurity.org/military/systems/aircraft/mq-1b.htm>.

³⁷⁰ US Air Force 2015 <http://www.af.mil/About-Us/Fact-Sheets/Display/Article/104469/mq-1b-predator/>.

³⁷¹ GlobalSecurity.org 2017 <http://www.globalsecurity.org/military/systems/aircraft/mq-1b.htm>. See also The National Interest 2015 <http://nationalinterest.org/feature/the-5-most-lethal-drones-all-time-12326>.

³⁷² The National Interest 2015 <http://nationalinterest.org/feature/the-5-most-lethal-drones-all-time-12326>.

³⁷³ GlobalSecurity.org 2011 <http://www.globalsecurity.org/military/systems/munitions/gbu-24.htm>.

radar to enable Joint Direct Attack Munitions Targeting.³⁷⁴ The Reaper is capable of fourteen hours of continuous airtime.³⁷⁵

This makes it the primary offensive strike drone for the US Air Force, as it provides for the essential capability to execute coordination, strike and reconnaissance against time-sensitive, and often fleeting, objectives.³⁷⁶ They are capable of performing close air support, search and rescue missions, surveillance, reconnaissance, precision strikes, target development and route clearance, etc.³⁷⁷

3.3.3 Global Hawk

This drone is a striking example of an extensively employed surveillance and reconnaissance aircraft. Besides its employment by especially the US Air Force, NASA has also effectively utilised this high-altitude, long-endurance drone.³⁷⁸ It was developed under the Global Hawk Advanced Concept Technology Demonstration Programme in response to the instruction of the Defense Airborne Reconnaissance Office's (hereafter DARO) aim to provide extensive reconnaissance³⁷⁹ ability by means of a drone. Some of the drones developed under this programme are capable of operating at ranges of up to 5556 kilometres from their launching area, can reach altitudes greater than 18,288 kilometres, and have loiter capability over objective

³⁷⁴ Defensetech 2017 <https://www.defensetech.org/2017/05/09/air-force-arms-mq-9-reaper-with-gps-guided-jdam-bomb/>.

³⁷⁵ The National Interest 2015 <http://nationalinterest.org/feature/the-5-most-lethal-drones-all-time-12326>. See also US Air Force 2010 <http://www.af.mil/information/factsheets/factsheet.asp?fsID=6405>.

³⁷⁶ Defensetech 2017 <https://www.defensetech.org/2017/08/11/hunter-killer-reaper-drone-taking-strike-missions-afghanistan/>.

³⁷⁷ Creech Air Force Base 2015 <http://www.creech.af.mil/About-Us/Fact-Sheets/Display/Article/669890/mq-9-reaper-fact-sheet/>.

³⁷⁸ NASA's Armstrong Flight Research Center operates the Northrop Grumman Global Hawk drone for earth science missions as it is capable of autonomous operation. This drone is supplied by the US Air Force; see NASA 2017 <https://www.nasa.gov/centers/armstrong/news/FactSheets/FS-098-DFRC.html>. See further Federation of American Scientists date unknown https://fas.org/irp/program/collect/global_hawk.htm.

³⁷⁹ Extended reconnaissance was defined by the Director of DARO as "the ability to supply responsive and sustained data from anywhere within enemy territory, day or night, regardless of weather, as the needs of the war fighter dictate." See Federation of American Scientists date unknown https://fas.org/irp/program/collect/global_hawk.htm.

areas for twenty-four hours.³⁸⁰ The Global Hawk has both broad-area and spot-area coverage due to its built-in high-resolution sensors. Consequently, this drone is able to track and follow targets persistently, providing high image quality and targeting capacity.³⁸¹

3.3.4 Taranis – the "God of Thunder" Drone

Not much material can be found about this extensive ten year test programme conducted by the BAE weapon systems company under instruction from the UK Ministry of Defense, other than the fact that it was a successful demonstrator programme as to unmanned (fully autonomous) combat aircraft systems.³⁸² The concept aircraft supposedly presents the pinnacle of UK aeronautical design and technology and the information gathered from its test flights will be utilised to develop the first fully autonomous combat drones.³⁸³

3.4 Contemporary Drone Systems and Technology

New technology and advancements in armed conflict situations could challenge IHL and its capability to regulate such new technology.³⁸⁴ Warfare is characterised by the unique nature and perpetual development of its technology.³⁸⁵ This section of this paper seeks to describe the wide variety of drones that are currently in deployment or under development, so as to demonstrate the functionality and potential use of drones during armed conflicts.

³⁸⁰ Federation of American Scientists date unknown
https://fas.org/irp/program/collect/global_hawk.htm.

³⁸¹ Federation of American Scientists date unknown
https://fas.org/irp/program/collect/global_hawk.htm.

³⁸² BAE Systems 2017 <http://www.baesystems.com/en/product/taranis>; see also GlobalSecurity.org 2006 <http://www.globalsecurity.org/military/library/news/2006/12/mil-061207-bae-systems01.htm>.

³⁸³ Although the material on Taranis describes it as an autonomous drone, Taranis was supposedly designed to allow a human-operator to take final, life-threatening decisions. See BAE Systems 2017 <http://www.baesystems.com/en/product/taranis>.

³⁸⁴ Nasu and McLaughlin *New Technologies and the Law of Armed Conflict* 3.

³⁸⁵ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 25.

The first relevant group of contemporary drones to be discussed here are those that are currently in deployment.³⁸⁶ The first drone worthy of mention is the PD-100 Black Hornet, a nano-drone weighing a mere 18 grams, designed to offer infantry units with highly inconspicuous and comfortably portable reconnaissance abilities.³⁸⁷ This children's toy-sized drone assists soldiers to see around corners or over walls to recognise potential dangers.³⁸⁸ The CH-4 Rainbow is China's substantially impressive and affordable version of the Reaper drone, which can easily be utilised by way of its anti-tank capabilities, such as those displayed by the Iraqi Air Force in 2015 when they carried out attacks against the Islamic State.³⁸⁹ Maritime drones, such as the 770kg Knifefish drone, are an increasingly popular development in the drone arena, since this particular drone, as employed by the US Navy, can be used to detect and locate sea-mines.³⁹⁰

The drones in the second set are still under development. Firstly, a drone which the US Navy hopes to deploy by 2020, is the Large Displacement Unmanned Undersea Vehicle, abbreviated as LDUUV.³⁹¹ This drone will operate both independently and with a high level of autonomy, and will be capable of carrying out several missions simultaneously, such as continuously collecting intelligence information and delivering several payloads.³⁹² Probably the most impressive of current developmental drone technologies is the X-41 Common Aero Vehicle (CAV), a drone developed for hypersonic flight, allegedly capable of reaching a speed twenty times

³⁸⁶ For a full review of all drones that are inactive, in deployment or under development, see Michel & Gettinger 2016 <http://dronecenter.bard.edu/publications/drone-revolution-revisited/>.

³⁸⁷ Michel & Gettinger 2016 <http://dronecenter.bard.edu/publications/drone-revolution-revisited/>. This drone has been employed by UK troops in Afghanistan since 2013; see UK Government 2013 <https://www.gov.uk/government/news/miniature-surveillance-helicopters-help-protect-front-line-troops>.

³⁸⁸ UK Government 2013 <https://www.gov.uk/government/news/miniature-surveillance-helicopters-help-protect-front-line-troops>.

³⁸⁹ Michel & Gettinger 2016 <http://dronecenter.bard.edu/publications/drone-revolution-revisited/>. See further US Government Publishing Office 2013 <https://www.uscc.gov/Research/china%E2%80%99s-military-unmanned-aerial-vehicle-industry>.

³⁹⁰ US Naval Institute 2016 <https://news.usni.org/2016/04/07/stackley-rmmv-cusv-knifefish-will-all-play-a-role-in-lcs-minehunting-not-a-competition>.

³⁹¹ US Naval Institute 2017 <https://news.usni.org/2017/04/04/navy-splits-lduuv-into-rapid-acquisition-program-at-peo-lcs-rd-effort-at-onr>.

³⁹² US Naval Institute 2017 <https://news.usni.org/2017/04/04/navy-splits-lduuv-into-rapid-acquisition-program-at-peo-lcs-rd-effort-at-onr>. See further Michel and Gettinger 2016 <http://dronecenter.bard.edu/publications/drone-revolution-revisited/>.

faster than the speed of sound for the sole purpose of delivering weapons to objectives thousands of kilometres from the US and in doing so establishing a combat system capable of striking any target on earth within 60 minutes.³⁹³ A prime example of systems developed independently that may have a great impact on current drone development is the "fuzzy logic AI" called "APLHA" created in 2017 by Psibernetix (a US "artificial intelligence"³⁹⁴ development company).³⁹⁵ This AI is capable of besting expertly skilled pilots in "simulated aerial combat" where two opposing aircrafts attempt to shoot each other down.³⁹⁶ Developments such as this could potentially have an immense impact on the development of fully autonomous drones.

One of the main weaknesses of drones, their air-time capability due to their small size, is now potentially an issue of the past. Luminati Aerospace has developed an aircraft that is able to remain in flight indefinitely.³⁹⁷ Their Substrata solar-powered aircraft is capable of staying aloft in the stratosphere for an indefinite period of time by way of "automated vortex-seeking formation flight".³⁹⁸ The concept of vortex formation flight was developed from observing the manner in which geese fly in formation to conserve energy.³⁹⁹ By employing this innovative technology, the aircraft will not only be able to obtain a double-energy harvest by flying in diamond-formation, but will also be able to carry a larger payload, and better distribution thereof, amongst other things, are also fortunate consequences.⁴⁰⁰ The benefits and potential of perpetual flight-time in terms of armed conflict are evident. This may be regarded as an immense step forward in terms of contemporary drone technology,

³⁹³ DARPA 2016 <https://www.darpa.mil/news-events/2016-06-24>.

³⁹⁴ Hereafter AI.

³⁹⁵ Walker 2017 <https://www.techemergence.com/unmanned-aerial-vehicles-uavs/>.

³⁹⁶ Although this AI has not been integrated into military drones, its development indicates the military potential thereof for especially fully autonomous drones; see Walker 2017 <https://www.techemergence.com/unmanned-aerial-vehicles-uavs/>.

³⁹⁷ Huber 2018 <https://www.ainonline.com/aviation-news/aerospace/2018-08-02/luminati-perpetual-solar-powered-flight-possible>.

³⁹⁸ Huber 2018 <https://www.ainonline.com/aviation-news/aerospace/2018-08-02/luminati-perpetual-solar-powered-flight-possible>.

³⁹⁹ Huber 2018 <https://www.ainonline.com/aviation-news/aerospace/2018-08-02/luminati-perpetual-solar-powered-flight-possible>.

⁴⁰⁰ Huber 2018 <https://www.ainonline.com/aviation-news/aerospace/2018-08-02/luminati-perpetual-solar-powered-flight-possible>.

although currently this technology will be used only to provide internet access to the remaining unconnected parts of the world.⁴⁰¹

From the above information, one may conclude that drones have changed and are continuing to change the nature of warfare. They are becoming an important part of successfully initiating, controlling and defeating the enemy in combat situations. As such, it is questionable why such advanced weaponry, and especially the development and use thereof, have not been subjected to international regulation in recent years.

3.5 Countries Involved in Drone Proliferation

Due to fast-paced technological development and the urgent desire of militaries to stay ahead, further drone proliferation is completely inevitable. Currently, at least one hundred and fifty different drone systems are being used by forty-eight countries.⁴⁰² The New America World of Drones database⁴⁰³ states that these countries fall into three groups: countries that employ drones during combat, countries that own armed drones but haven't used them, and lastly, countries involved in the development of drones.⁴⁰⁴ This distinction reveals the current forerunners in the drone race.

Although the US has over the years been the initiator of drone development and utilisation,⁴⁰⁵ it no longer has the monopoly in this field.⁴⁰⁶ New reports reveal that Israel is the world's biggest drone exporter, and it is estimated that this country is solely responsible for the export of 41% of drones during the ten-year period

⁴⁰¹ Luminati 2018 <http://www.luminati.aero/>.

⁴⁰² Techemergence 2017 <https://www.techemergence.com/unmanned-aerial-vehicles-uavs/>.

⁴⁰³ New America 2017 <https://www.newamerica.org/in-depth/world-of-drones/1-introduction-how-we-became-world-drones/>; Center for the Study of the Drone 2017 <http://dronecenter.bard.edu/the-drone-database/>.

⁴⁰⁴ New America 2017 <https://www.newamerica.org/in-depth/world-of-drones/1-introduction-how-we-became-world-drones/>.

⁴⁰⁵ The US purportedly sells drones to NATO member countries only. It has exported drones to approximately 30 different states; for a full list see New America 2017 <https://www.newamerica.org/in-depth/world-of-drones/1-introduction-how-we-became-world-drones/>. For a complete list of NATO countries, see NATO 2017 <http://www.nato.int/nato-welcome/index.html>.

⁴⁰⁶ CNAS 2017 <http://drones.cnas.org/reports/drone-proliferation/>.

between 2001 and 2011.⁴⁰⁷ Furthermore, due to its exceedingly liberal export policy, China has established itself as a giant on the drone development and export front.⁴⁰⁸ In the year 2015, countries such as Nigeria, Iraq and Pakistan performed drone strikes using aircraft developed or provided by China.⁴⁰⁹ On the other front, some of the top drone acquirers are India and the United Kingdom, with India accounting for approximately 22.5% of drone imports in the 1985-2014 period, and the UK as the most prolific importer of drones in 2010-2014, with 33.9% of drone imports being attributed to it.⁴¹⁰

3.6 Drone Attacks as a Means of Warfare

According to a study performed by the European Parliament,⁴¹¹ drones must comply with all of a certain set of conditions before they can be utilised as a means of warfare. In particular, they must be directed only at legitimate military targets; a drone attack must be planned and executed in such a manner as to circumvent any erroneous striking of or incidental harm to persons and objects who/which are afforded protection under IHL; the attack must be stopped when it is anticipated that excessive incidental harm may ensue or where the target of the attack becomes *hors de combat*; no attack may make use of prohibited means of warfare; and finally no excessive force may be employed in attempting to attain the military objective.

Reports suggest, however, that these conditions are often ignored or violated. A few examples demonstrate this. The US, with participating countries such as Australia, Djibouti, Denmark, Germany, the UK, Netherlands, New Zealand and Saudi Arabia have been reported to have utilised armed drones in their war with Yemen and al-

⁴⁰⁷ This is according to a report on drone proliferation specifically aimed at providing options to the new Donald Trump administration in the US, see CNAS 2017 <http://drones.cnas.org/reports/drone-proliferation/>.

⁴⁰⁸ New America 2017 <https://www.newamerica.org/in-depth/world-of-drones/1-introduction-how-we-became-world-drones/>.

⁴⁰⁹ Saudi Arabia, the United Arab Emirates and Egypt have all reportedly bought drones from China; see New America 2017 <https://www.newamerica.org/in-depth/world-of-drones/1-introduction-how-we-became-world-drones/>.

⁴¹⁰ New America 2017 <https://www.newamerica.org/in-depth/world-of-drones/1-introduction-how-we-became-world-drones/>.

⁴¹¹ See para 1.4 above, Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 34.

Qaeda, resulting in an increased number of civilian deaths.⁴¹² According to a report by Singh, a legal officer at the Open Justice Initiative, the use of these weapons has wreaked havoc amongst civilian lives in Yemen.⁴¹³ This report⁴¹⁴ provides some insight regarding the inconsistent information provided regarding drone strikes in Yemen. It provides reliable evidence of twenty-six civilian casualties and injuries additional to thirteen non-combatants,⁴¹⁵ and at the same time casts light on the alleged surgical precision of US drone strikes in Yemen, as promoted by both the US government and Yemen's President Abdu Rabbu Mansour al-Hadi.⁴¹⁶

The *Bureau of Investigative Journalism*⁴¹⁷ provides data on confirmed and inferred drone attacks in recent years in countries such as Yemen, Somalia, Pakistan and Afghanistan.⁴¹⁸ In Yemen in 2017, there have been 11-13 confirmed drone strikes, with 24-37 people reported as having been killed, 0-8 of whom were civilians.⁴¹⁹ In Afghanistan in 2017 there were 1966 reported US drone strikes, with between 540 and 873 killed, 29 to 38 of whom were civilians, and 22 to 24 of whom were children, with the total number of injuries reported ranging between 107 and 197.⁴²⁰

In the light of the principles outlined above regarding the cumulative conditions to be met in order for drones to be regarded as a valid means of warfare, and taking

⁴¹² Open Society Foundations 2015 <https://www.opensocietyfoundations.org/reports/death-drone>. Transparency regarding drone strikes has become a main concern, and even though data is available regarding them, these figures are almost always based on estimates, and true figures regarding civilian deaths are a rare commodity; see The Bureau of Investigative Journalism 2017 <https://www.thebureauinvestigates.com/stories/2017-01-01/drone-wars-the-full-data>.

⁴¹³ For instance, the report provides the example of a US drone strike on a house containing 19 civilians in January 2013, and a previous strike in September 2012 where 12 civilians, including children and a pregnant woman, were killed; see Open Society Foundations 2015 <https://www.opensocietyfoundations.org/reports/death-drone>.

⁴¹⁴ Open Society Foundations 2015 <https://www.opensocietyfoundations.org/reports/death-drone>.

⁴¹⁵ Nine case studies are outlined in this report, which, in my view, accurately identify civilian deaths, despite the Yemeni president's allegations of a zero margin of error; see Open Society Foundations 2015 <https://www.opensocietyfoundations.org/reports/death-drone>.

⁴¹⁶ Open Society Foundations 2015 <https://www.opensocietyfoundations.org/reports/death-drone>, see full report "Death by Drone".

⁴¹⁷ The Bureau of Investigative Journalism 2017 <https://www.thebureauinvestigates.com/stories/2017-01-01/drone-wars-the-full-data>.

⁴¹⁸ The Bureau of Investigative Journalism 2017 <https://www.thebureauinvestigates.com/stories/2017-01-01/drone-wars-the-full-data>.

⁴¹⁹ The Bureau of Investigative Journalism 2017 <https://www.thebureauinvestigates.com/drone-war/data/get-the-data-a-list-of-us-air-and-drone-strikes-afghanistan-2017>.

⁴²⁰ The Bureau of Investigative Journalism 2017 <https://www.thebureauinvestigates.com/drone-war/data/get-the-data-a-list-of-us-air-and-drone-strikes-afghanistan-2017>.

into account the multitude of civilian deaths during such drone strikes, it is questionable whether states are taking these principles fully into account when initiating armed drone strikes. The lack of transparency regarding drone strikes raises serious concerns in this regard.⁴²¹ Consequently, in 2014 the UN Human Rights Council adopted a resolution sponsored by Pakistan.⁴²² A core element of this resolution was the section on transparency and inquiries, which:⁴²³

calls upon States to ensure transparency in their records on the use of remotely piloted aircraft or armed drones, and to conduct prompt, independent and impartial investigations whenever there are indications of a violation to international law, caused by their use.

One may conclude that in order for military drones to be a viable means of armed combat, transparency regarding their use must be integrated into the regulation thereof.

3.7 Contemporary and Future Autonomy in Drone Warfare

Autonomous weapons systems⁴²⁴ (hereafter AWS) are no longer a matter of science fiction. According to the US Air Force's *Unmanned Systems Integrated Roadmap*⁴²⁵ AWS will be capable of directing themselves towards a target because they don't require external control. If machine learning is utilised, the AWS can create adapted strategies for themselves by which they will determine their own behaviour.⁴²⁶ In effect, an AWS will be able to choose how to conduct itself in order to achieve human-directed objectives. These systems will vary in that different levels of autonomy in each system will govern the extent to which and how often human controllers will need to intervene with the AWS.⁴²⁷ An even further surprising optimisation is the proposed capability of AWS to augment their behaviour towards

⁴²¹ See Just Security 2014 <https://www.justsecurity.org/8712/unhrc-adopts-drones-resolution/>.

⁴²² *Ensuring Use of Remotely Piloted Aircraft or Armed Drones in Counter-terrorism and Military Operations in Accordance with International Law, including International Human Rights and Humanitarian Law* (A/HRC/25/L.32).

⁴²³ Just Security 2014 <https://www.justsecurity.org/8712/unhrc-adopts-drones-resolution/>.

⁴²⁴ As defined above in para 1.3.

⁴²⁵ 2011-2036.

⁴²⁶ US Air Force *Unmanned Systems Integrated Roadmap 2011-2036* 2011.

⁴²⁷ US Air Force *Unmanned Systems Integrated Roadmap 2011-2036* 2011.

their goal during unforeseen or unpredictable circumstances.⁴²⁸ Consequently, one may gather that such a system would be able to find, by itself, the optimal solution in a given situation, a capacity which would mimic human decision-making. Moreover, AWS will be able to determine what information, laws, rules, limitations or data is important during the execution of their decision-making.⁴²⁹

According to a US Air Force report entitled *Technological Horizons: A Vision for Air Force Science & Technology During 2010-2030*,⁴³⁰ the development of AWS is the single greatest theme for US Air Force investments. The *USA UAS Flight Plan 2009-2047* states that:⁴³¹

The final portfolio step leverages a fully autonomous capability, swarming, and Hypersonic technology to put the enemy off balance by being able to almost instantaneously create effects throughout the battle space. Technologies to perform auto air refuelling, automated maintenance, automatic target engagement, hypersonic flight, and swarming would drive changes across the DOTMLPF-P spectrum. The end result would be a revolution in the roles of humans in air warfare.

Interestingly, the aforementioned *Flight Plan* goes on to say that:⁴³²

Assuming legal and policy decisions allow, technological advances in artificial intelligence will enable UAS⁴³³ to make and execute complex decisions required in this phase of autonomy.

One may glean from the above that AWS would be capable of selecting and engaging targets without further human involvement. This has the potential to revolutionise the conduct of drone warfare and could have far-reaching consequences for IHL and the fundamental principles thereof.

3.8 Conclusion

Drones have become an integral aspect of armed combat. They are capable of operating via three main systems, namely "human in the loop", "human on the loop"

⁴²⁸ US Air Force *Unmanned Systems Integrated Roadmap 2011-2036* 2011.

⁴²⁹ US Air Force *Unmanned Systems Integrated Roadmap 2011-2036* 2011.

⁴³⁰ 2010.

⁴³¹ US Air Force *USA UAS Flight Plan 2009-2047* 2009.

⁴³² US Air Force *USA UAS Flight Plan 2009-2047* 2009.

⁴³³ UAS is an acronym commonly used by the US which refers to "Unmanned Aerial Systems".

and "human out of the loop".⁴³⁴ Human out of the loop systems, or autonomous systems, are still under development, but are being fast-tracked onto the battlefield.⁴³⁵ Several different types of drones are currently utilised by militaries all over the world, such as the MQ-9 Reaper⁴³⁶ drone used for armed conflict, or the Global Hawk⁴³⁷ used primarily for reconnaissance. Modern drones have different functions in the battlefield. Thus, there are maritime drones, land-based drones and others.⁴³⁸ Drone proliferation has become a growing cause for concern: as the development and distribution of drones is no longer primarily controlled by the US, drones have become readily available and highly unregulated weapons.

As a means of warfare, drones have been employed in various states such as Yemen and Afghanistan, where countless civilian lives have been taken during covert missions.⁴³⁹ Lastly, autonomous drones are no longer a matter of science fiction. The race for full autonomy is in full swing, and the US has identified the development and improvement of autonomous drones as its most important mission for the coming years.⁴⁴⁰ It goes without saying, then, that the regulation of drones and drone warfare is a necessity that should attract the concern of the world at large.

⁴³⁴ Para 3.1 above.

⁴³⁵ US Army *Robotic and Autonomous Systems Strategy* 1.

⁴³⁶ Para 3.3.2 above.

⁴³⁷ Para 3.3.3 above.

⁴³⁸ Para 3.4 above.

⁴³⁹ Para 3.6 above.

⁴⁴⁰ Para 3.7 above.

Chapter 4 Assessment of the Adequacy of IHL in Regulating the Challenges Posed by Drone Warfare

4.1 Introduction

The above discussion may be taken to suggest that it is not one particular technological system – drones – that is in itself a problem. Rather, the central issue is the challenging and complex manner in which drones are currently being utilised in armed conflicts, as well as the implications thereof.⁴⁴¹ According to Allenby,⁴⁴² much of the public debate regarding drones can be considered "superficial", in that it assumes that the existing norms and laws regulating armed conflicts are both adequate and appropriate. Rothenberg⁴⁴³ holds that in instances where public discussions neglect to engage the unique challenges posed by drone warfare, it distracts attention from debates that must be undertaken urgently. This is especially true since this emerging military technology is experiencing the height of its development and deployment.⁴⁴⁴ In the context of this discussion, it is necessary to address the challenges posed by the use of drones in armed conflicts in order to deliberate on the adequacy of IHL in regulating these issues. To this end, one could attempt to determine whether the law should be developed, and if so, which aspects should be considered during the development thereof.

4.2 Drone Warfare Challenges

The use of armed drones during armed conflicts not only presents certain challenges to the fundamental principles of IHL, but also raises issues such as the lack of transparency and accountability in context, the rapidity of drone proliferation, and the movement towards autonomous drones must be addressed in order to determine whether or not IHL is adequate in regulating the challenging use of drones in armed conflicts.

⁴⁴¹ Allenby "How to Manage Drones: Transformative Technologies, the Evolving Nature of Conflict, and the Inadequacy of Current Systems of Law" 438.

⁴⁴² Allenby "How to Manage Drones: Transformative Technologies, the Evolving Nature of Conflict, and the Inadequacy of Current Systems of Law" 438.

⁴⁴³ Rothenberg "Drones and the Emergence of Data-Driven Warfare" 441.

⁴⁴⁴ Rothenberg "Drones and the Emergence of Data-Driven Warfare" 441.

States which resort to armed battle via drones argue that the entities targeted are legitimate military objects, and they defend their actions by resorting to international legal criteria governing the utilisation of certain means and methods of armed combat.⁴⁴⁵ However, drone warfare is currently not subject to any direct international regulation.⁴⁴⁶ This notwithstanding, such warfare must adhere to the principles of IHL.⁴⁴⁷ Article 85 of *AP I* demands the suppression of any breaches thereto, and further states that any breaches in terms of article 85(3)(a)-(f) will be regarded as grave breaches.

Hence, a breach of one of the fundamental principles of IHL will amount to a grave breach of *AP I*. Furthermore; drones must adhere to article 36,⁴⁴⁸ which provides that:

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

Therefore, this section seeks firstly to discuss the fundamental principles of IHL in the context of the use of drones in armed conflicts. Thereafter, the most pertinent challenges posed by such a use of drones will be discussed.

4.2.1 Drone Warfare Challenges and the Fundamental Principles of IHL

4.2.1.1 Military Necessity

Military necessity,⁴⁴⁹ which connotes obtaining a military advantage, is often the starting point of any discussion relating to the fundamental principles of IHL, as it has been held that all other principles flow from military necessity. In pursuit of a military advantage, a military objective must lie at the heart of every attack during

⁴⁴⁵ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 23.

⁴⁴⁶ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 23.

⁴⁴⁷ Since IHL applies in all combat situations; see para 2.4 above.

⁴⁴⁸ *AP I*.

⁴⁴⁹ See para 2.4.2.1 above.

an armed conflict, as it pertains to the principle of military necessity.⁴⁵⁰ As per the *Nuclear Weapons* case, a state is obliged not to cause any harm or damage which can be considered greater than that which is unavoidable in order to attain a military advantage.⁴⁵¹ Consequently, it is held that drone strikes may be compliant with the principle of military necessity in that they provide a definite military advantage by striking terrorist leaders, for instance, and subsequently neutralising threats of terror.⁴⁵² However, in instances of specifically targeted drone strikes, and where sufficient due consideration is not provided to the principles of precaution, distinction, humanity and proportionality in planning an attack, it is questionable whether true military advantage is obtained.⁴⁵³ This is especially true in cases where the civilian harm or death caused is unnecessary or disproportionate in relation to the true military advantage obtained.⁴⁵⁴

When used within the ambit of specified military objectives, no further specific drone related issues are pertinent to the principle of military necessity, and drones are generally a legitimate means of warfare capable of achieving compliance with the principle of military necessity. However, this does not end the inquiry, as military necessity must also be considered in the light of the other principles.

4.2.1.2 Humanity

The principle of humanity, also commonly referred to as the principle of unnecessary suffering, has at its core the aim of minimising the suffering caused during the conduct of armed conflicts.⁴⁵⁵ Thus, once a military objective has been attained, the subsequent cause of harm or suffering may be regarded as unnecessary.⁴⁵⁶ The use of weapons to cause harm or superfluous injury which is unnecessary in relation to the military advantage gained therefrom is prohibited.⁴⁵⁷ One may therefore glean

⁴⁵⁰ See para 2.4.2.1 above; Dugard *International Humanitarian Law: A South African Perspective* 528.

⁴⁵¹ *Nuclear Weapons* case 78.

⁴⁵² Vogel 2010 *Denv J Intl L & Pol* Y 115.

⁴⁵³ See para 2.4.2.1 above.

⁴⁵⁴ Chengeta *Are U.S Drone Targeted Killings within the Confines of the Law?* 61.

⁴⁵⁵ Blank 2012 *U Pa J Intl L* 682.

⁴⁵⁶ Blank 2012 *U Pa J Intl L* 682.

⁴⁵⁷ Kolb *Advanced Introduction to International Humanitarian Law* 79.

that the goal is to minimise the amount of suffering that cannot be justified by a military purpose.

Drones are regarded as legitimate weapons, and they are capable of being used in ways which do not cause unnecessary harm or suffering.⁴⁵⁸ Armed drones make use of Hellfire missiles, and other similar precision guided munitions, and are therefore similar to weapons carried by piloted aircrafts.⁴⁵⁹ Due to the fact that drones are capable of extensive surveillance and loitering measures, and employ precision-guided ammunition, they are regarded as particularly capable means of combat.⁴⁶⁰ Armed drones can be directed towards legitimate military objectives with relative ease, and their effects can be managed so as to be focused on attaining a specific military objective only.⁴⁶¹

Consequently, they are capable of adhering to the standards set by article 51(4) of *AP I*.⁴⁶² This is especially true in view of the fact that drones bear are able to track and follow a military target out of sight for hours and days before it launches an attack.⁴⁶³ Drone operators are therefore afforded with the capacity to make a decision regarding the time and place of a strike based on advanced surveillance information, and are therefore capable of minimising civilian deaths and damage.⁴⁶⁴

As with other principles, drones do not inherently present problems to the principle of humanity, but it is instead the way in which they are used by military commanders and drone operators that could lead to some challenges. Some authors argue, for instance, that as drone operators are both physically and emotionally removed from the battlefield, the possibility of their causing excessive harm is therefore greater.⁴⁶⁵ This is referred to as the "PlayStation mentality" towards killing targets, and it is held that their emotional distance from the consequences of their

⁴⁵⁸ In fact, drones offer significant strategic advantages to states, especially in view of their precision capabilities and the low risk posed towards the militant operating the drone; Pretorius *Armed Drones: Transparency and Accountability under International Law* 1.

⁴⁵⁹ Blank 2012 *U Pa J Intl L* 686.

⁴⁶⁰ Blank 2012 *U Pa J Intl L* 687.

⁴⁶¹ Blank 2012 *U Pa J Intl L* 687.

⁴⁶² Blank 2012 *U Pa J Intl L* 687.

⁴⁶³ Blank 2012 *U Pa J Intl L* 687.

⁴⁶⁴ Blank 2012 *U Pa J Intl L* 687.

⁴⁶⁵ Chengeta *Are U.S Drone Targeted Killings within the Confines of the Law?* 46.

actions may result in those in control of drones not being truly touched by a consciousness of our common humanity.⁴⁶⁶ In other words, the direct visual emotional human element is removed when the drone is used.

However, the contrary is true. Drone operators have access to a broad spectrum of surveillance and reconnaissance footage, as well as a real-time view of the battlefield, and have a birds-eye view of the destruction a strike could cause. This could be considered a very close and personal view of a strike, especially in comparison to the view pilots of manned aircraft have as they speed past their objectives, and of the subsequent damage caused by their strike, in mere seconds and from an incredible height.⁴⁶⁷ Hence, where drone operators have to peruse surveillance footage from the drone for hours or days at a time before a strike is initiated, and they have a personal view of the strike and the ensuing harm and suffering they have caused, it is arguable that they might have a heightened sense of humanity in this regard.⁴⁶⁸ The fact that the drone operator is far removed from the battlefield is irrelevant, since the fact that drones allow for targeting from a safe distance is similar to the circumstances in which snipers target their enemies, for instance.⁴⁶⁹ Consequently, due to the advanced nature of drone capabilities, drone operators could potentially be capable of making decisions to strike based on advanced contextual information. This ensures at least some respect for the principle of humanity, and in some way helps the drone operators to be conscious of the humanity of their targets.

As can be seen from the above, no significant challenges could be associated with the use of drones in relation to the principle of humanity, save for when the desired goals are not proportionate to the means through which the goals are attained.

⁴⁶⁶ Alston "Use of Force during Armed Conflict" 57; Chengeta *Are U.S Drone Targeted Killings within the Confines of the Law?* 46.

⁴⁶⁷ Abizaid and Brooks *Recommendations and Report of the Task Force on US Drone Policy* 25.

⁴⁶⁸ Moreover, it has been held that drone operators are especially susceptible to post-traumatic stress disorder after a drone strike: they are often required to undergo prolonged surveillance of their targets, seeing them partaking in their daily routines and way of life, before they are required to eliminate them; Abizaid and Brooks *Recommendations and Report of the Task Force on US Drone Policy* 25.

⁴⁶⁹ Abizaid and Brooks *Recommendations and Report of the Task Force on US Drone Policy* 25.

4.2.1.3 Honour

The principle of honour or chivalry, as seen above,⁴⁷⁰ is described as a value which necessitates a certain amount of fairness, both in offense and defence, and entails some level of mutual respect between two opponents in an armed conflict. When one considers the nature of drone warfare, it is evident that drones allow a combatant or armed force to conduct its conflict activities from a safe distance. This includes, for instance, reconnaissance, surveillance, striking, and post-strike surveillance. Hence, the allegation has been made that in cases where a weapon completely eliminates all possibility of any personal risk to the perpetrator, one may by definition then regard it as dishonourable.⁴⁷¹ It has been held that attacking a target via a drone can be considered as one of the least brave or courageous means of warfare. It allows for a large number of targets to be attacked without any risk of personal harm to the attacker, since such a drone operator would in all instances be completely removed from the battlefield.⁴⁷² This suggests the possibility of the development of the "PlayStation mentality" again.⁴⁷³ Thus, drone operators are not truly regarded as warriors in the traditional sense, and the use of drones is criticised as being a less courageous form of combat which nullifies the possibility of there being mutual respect between opponents.⁴⁷⁴

Regardless of whether or not this argument makes sense, it is evident that armed drones have been susceptible to being used in ways that are potentially contrary to the principles of distinction, precaution and proportionality – for instance, in the conduct of targeted strikes.⁴⁷⁵ Therefore, it is conceivable that the accusation of a lack of "honour" as described above is truly applicable in drone warfare.

⁴⁷⁰ See Para 2.4.2.3.

⁴⁷¹ Goldstein 2015 *MR* 73.

⁴⁷² Goldstein 2015 *MR* 73.

⁴⁷³ Goldstein 2015 *MR* 74.

⁴⁷⁴ Goldstein 2015 *MR* 74.

⁴⁷⁵ As discussed in para 4.2.4 below.

4.2.1.4 Precaution

Precaution, as defined above, is generally considered to be one of the most critical components of IHL. This principle is applicable to the immediate circumstances in a military context, rather than to the long-term effect the military strike might cause.⁴⁷⁶ Once a military objective is identified as a proportional target, the principle of precaution, as defined by article 57 of *AP I*, becomes applicable.⁴⁷⁷ From the wording of article 57, specifically the phrase "everything feasible", it is evident that the principle of precaution is linked with the principle of proportionality.⁴⁷⁸ According to the aforementioned wording, one may infer that precaution is the necessary link between military necessity and humanity. It is also linked with the principle of distinction - since a party to an armed conflict must do "everything feasible" in order to verify its objective.⁴⁷⁹

Some scholars have argued that the principle of precaution is impractical in certain circumstances, because by warning civilians the military would compromise its tactics. For instance, during drone strikes, surprise is often a critical component for the mission to be successful.⁴⁸⁰ Furthermore, it is not always possible for military commanders to obtain preoperational data due to factors relating to security and urgency.⁴⁸¹ Nonetheless, it cannot be said that an appropriate amount of precaution has been undertaken unless all feasible information regarding the potential strike has been assembled and considered. This implies that in instances where military commanders might be uncertain as to the exact status of a target, they have a duty to first exhaust all means available in order to verify the status of such a target in order to fulfil the principle of precaution.⁴⁸² In this regard, when one considers the nature of targeted or signature strikes via armed drones, it is evident that the failure to exercise due caution is an enduring criticism against this practice. If an armed drone strike is conducted where the exact status of the target is not verified under

⁴⁷⁶ Rosen 2013 *JCSL* 126.

⁴⁷⁷ Rosen 2013 *JCSL* 126.

⁴⁷⁸ Rosen 2013 *JCSL* 126.

⁴⁷⁹ Rosen 2013 *JCSL* 126.

⁴⁸⁰ Schmitt 2011 *YIHL* 11.

⁴⁸¹ Rosen 2013 *JCSL* 127.

⁴⁸² Rosen 2013 *JCSL* 127.

the principle of precaution, a reasonable inference may be made that the principle of precaution has been violated, in addition to the principle of distinction, which is discussed below.

However, the principle of precaution could potentially become more workable when the proper use of armed drones is involved. The principle of precaution requires that, as far as is feasible, the means and methods that will result in the least amount of harm to civilians and civilian objects must be used in attack – on condition that no military advantage is sacrificed.⁴⁸³ Consequently, the argument is made that due to their unique surveillance and loitering capabilities, drones offer an effective measure of precaution, and could trigger a precautionary duty across all military weapons platforms.⁴⁸⁴ Thus, the use of a drone, rather than another means of combat, would for instance be preferable where it's advanced precision capabilities, or loiter capacity, would allow for a longer window within which to lodge an attack and would result in a minimal amount of collateral damage.⁴⁸⁵

Hence, if a drone is readily available to provide an image of a potential target where the possession of such an image would significantly enhance the verification process required, in view of the principle of precaution, to provide certainty to the attacker that the intended target qualifies as a legitimate military objective, then it would by law be required that the drone be used.⁴⁸⁶ However, the potential benefit of utilising the drone must be clear, not speculative, before the duty to use it arises.⁴⁸⁷

It is evident in the above that the use of armed drones usually presents challenges to the principle of precaution only where certain practices, such as targeted killings, are involved. Furthermore, due to the advanced capabilities of drones, they could potentially create new obligations for military commanders to consider during the planning of an attack. The use of a drone in a strike, where immense precision and

⁴⁸³ Schmitt 2011 *YIHL* 11.

⁴⁸⁴ Rosen 2013 *JCSL* 127-128; Schmitt 2011 *YIHL* 11.

⁴⁸⁵ Rosen 2013 *JCSL* 127-128.

⁴⁸⁶ Schmitt 2011 *YIHL* 11.

⁴⁸⁷ Schmitt 2011 *YIHL* 11.

surveillance or loitering is required, might become compulsory in view of its capacity to provide greater adherence to the principle of precaution.

4.2.1.5 Distinction

Firstly, it must be noted that drones may also offer a viable means of abiding by the principle of distinction. Sehwat⁴⁸⁸ argues that drones are a superior method of doing so than "boots on the ground", that drones enable militaries to timeously analyse combat situations before striking, and that they provide drone operators with the opportunity to use advanced methods⁴⁸⁹ of warfare. Drones provide operators with more time to distinguish between civilians and combatants.⁴⁹⁰ They also have more situational awareness than ground forces, and eliminate the emotional elements that soldiers on the ground face.⁴⁹¹ Therefore, one may deduce that drones are capable of being legitimate under the principle of distinction, but could potentially be used in conflict therewith.

One may derive from the discussion above certain conclusions regarding military attacks conducted by drones. Where drones are utilised for armed conflict, for example, they must be capable of differentiating between the peaceful residents of an area (who must be secured against strikes) and armed forces or organised belligerent groups (who may justifiably be attacked).⁴⁹² This may prove to be a challenging task in practice, especially in circumstances where combatants may intentionally seek to merge with non-combatants.⁴⁹³ Such an intermingling increases the danger of a lawful attack erroneously being launched against non-combatants and causing excessive and unwarranted loss of life.⁴⁹⁴

This relates to the so-called "combatant's privilege", which essentially amounts to a licence to wound or eliminate enemy soldiers and destroy other rival military

⁴⁸⁸ Sehwat 2017 *JLIA* 188.

⁴⁸⁹ Such as the pattern of life method which enables operators to gather evidence and surveillance footage from the drone itself and from other sources before striking; see Sehwat 2017 *JLIA* 188.

⁴⁹⁰ Sehwat 2017 *JLIA* 188.

⁴⁹¹ Sehwat 2017 *JLIA* 188.

⁴⁹² Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 23.

⁴⁹³ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 23.

⁴⁹⁴ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 23.

objectives.⁴⁹⁵ This implies that a combatant cannot be persecuted for wounding or killing an opponent soldier, but will nonetheless be subject to prosecution where a civilian is slayed intentionally.⁴⁹⁶ Thus, when a combatant is in doubt as to the status of a potential target, it must be assumed the person is a civilian.⁴⁹⁷ However, the situation becomes complicated when one considers the possible involvement of "irregular" armed forces, such as in the conflicts in Afghanistan and Iraq, which has complicated the issue of combatant status in IHL. For instance, the US has until fairly recently regarded members of the Taliban and Al-Qaeda as unlawful combatants.⁴⁹⁸ The US now recognises Taliban fighters as combatants, but it is still reasoned that the members of Al-Qaeda, who are generally loosely organised, should not be considered as combatants in terms of the legal definition.⁴⁹⁹

Another challenge in such cases is the difficulty of determining whether civilians are directly participating in military activities as belligerents, thus forfeiting their right to protection, or whether their participation is voluntary (or involuntary) association or support with militant groups due to the surrounding political and cultural state of affairs.⁵⁰⁰ In the latter case, such affiliation may not necessarily amount to the forfeiture of protection, and an attack against such civilians may be regarded as illegitimate.⁵⁰¹ In several situations, false intelligence may also be fed to armed forces by military informants or gangs, which could have devastating consequences.⁵⁰²

What complicates the matter of unlawful combatants even further is the fact that under IHL there is no recognisable right to target these combatants, because they are regarded as civilians.⁵⁰³ Only when civilians directly participate in the conduct of

⁴⁹⁵ Breau "Civilian Casualties and Drone Attacks: Issues in International Humanitarian Law" 118.

⁴⁹⁶ Breau "Civilian Casualties and Drone Attacks: Issues in International Humanitarian Law" 118.

⁴⁹⁷ Breau "Civilian Casualties and Drone Attacks: Issues in International Humanitarian Law" 118.

⁴⁹⁸ Breau "Civilian Casualties and Drone Attacks: Issues in International Humanitarian Law" 118.

⁴⁹⁹ For the definition of a combatant in terms of IHL, see para 2.4.2.5 above; Breau "Civilian Casualties and Drone Attacks: Issues in International Humanitarian Law" 118.

⁵⁰⁰ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 23.

⁵⁰¹ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 23.

⁵⁰² Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 23.

⁵⁰³ Dormann 2003 *IRRC* 72-73.

hostilities may they be targeted.⁵⁰⁴ Thus, the issue of direct participation must first be addressed before a drone strike can be launched.⁵⁰⁵ In the milieu of non-international armed conflicts, it is evident that only individuals who are actively engaged in hostilities or who are members of dissident armed groups may be targeted, but it might be incredibly difficult to identify these targets, since they often refrain from wearing uniforms.⁵⁰⁶ As a consequence, the analysis and subsequent decision required from a drone operator or in future from an autonomous drone is immensely complex.

As a result, a critical problem which must be solved before a drone strike can be initiated is the question of who constitutes a legal target, and who remains immune from a strike. It seems that what determines the outcome is direct participation in hostilities. Melzer holds, for instance, that the notion of direct participation is descriptive of an individual who does not enjoy immunity as a civilian, but to the contrary does not hold a right to the privilege of a combatant, or to prisoner of war status.⁵⁰⁷ The author further argues that individuals who are members of armed groups or forces may be targeted at any time.⁵⁰⁸ Unfortunately, there is no commonly accepted definition of "direct participation in hostilities".⁵⁰⁹ Nonetheless, there is agreement as to the fact that direct participation in hostilities may include only conduct that relates to combat, or conduct which directly provides combat support.⁵¹⁰

One may therefore conclude that an armed drone attack against an opponent or terrorist group in all instances will consist of highly nuanced and intricate decision-making. This whole process may be susceptible to immediate and drastic changes in circumstances, which could have the result of the accomplishment of a valid military objective being deemed an illegitimate attack, with unwarranted loss of civilian life.

⁵⁰⁴ Dormann 2003 *IRRC* 72-73; Breau "Civilian Casualties and Drone Attacks: Issues in International Humanitarian Law" 118.

⁵⁰⁵ Breau "Civilian Casualties and Drone Attacks: Issues in International Humanitarian Law" 118.

⁵⁰⁶ Breau "Civilian Casualties and Drone Attacks: Issues in International Humanitarian Law" 118.

⁵⁰⁷ Melzer *Targeted Killings in International Law* 311.

⁵⁰⁸ Melzer *Targeted Killings in International Law* 311-312.

⁵⁰⁹ Breau "Civilian Casualties and Drone Attacks: Issues in International Humanitarian Law" 118.

⁵¹⁰ *Report of the Special Rapporteur on extrajudicial, summary or arbitrary executions, Philip Alston* A/HRC/14/24 19.

Thus, the principle of distinction in effect weighs heavily on the shoulders of an attacker.⁵¹¹ Hence, succeeding in attaining legitimate military objectives with due regard to the principle of distinction becomes an inconceivably difficult task when conducted via drones,⁵¹² where minimal or no human decision-making is involved (in cases of human-on-the-loop or human-out-of-the-loop control systems).⁵¹³

The immense difficulties associated with utilising the distinction principle in this context may as a result lead to ill-considered interpretations, as in the case of the US targeted killing or signature strike method, which allows for drone strikes against persons who are deemed to be or are suspected to be terrorists due to their characteristics, conduct or contacts.⁵¹⁴ Methods such as this are not in line with the fundamental principles of IHL. In particular, they contravene the principle of distinction and do not comply with the precautionary principle⁵¹⁵ that should be observed in situations of doubt.⁵¹⁶

4.2.1.6 Proportionality

Proportionality serves as a more complex principle that requires adherence, and has been described as ambiguous by some authors.⁵¹⁷ The proportionality of the use of drones should be assessed by comparing instances where drones were utilised in similar situations with a parallel or alternate outcome.⁵¹⁸ Furthermore, the utilisation

⁵¹¹ Wagner *JLIS* 2011 6.

⁵¹² "In the case of UAVs this means that the underlying software would have to be able to determine whether a particular target is civilian or military in nature." Wagner *JLIS* 2011 6.

⁵¹³ Wagner *JLIS* 2011 6.

⁵¹⁴ Heller *JICJ* 2-4.

⁵¹⁵ Upon the implementation of the relevant principle, the executors of an attack must take all possible precautions to avoid both collateral damage and wrongful targeting. Where they conduct an assessment and it seems that the damage caused will not rightly correlate with the military advantage gained, they must abstain from executing such an attack; see Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 23-24.

⁵¹⁶ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 23.

⁵¹⁷ Kanner 2016 *BUSLR* 13.

⁵¹⁸ It has been argued that drones adhere to the principle of proportionality, due to their capability of utilising very accurate weaponry, such as hellfire missiles. Drones are furthermore argued to be substantially more proportionate than older and historical means of warfare. This could be argued to be a flawed assessment: just because drones are more proportionate than previous means of warfare, doesn't necessarily qualify them as proportionate. See Kanner 2016 *BUSLR* 15.

of armed drones by humans will be the deciding factor regarding the proportionality or disproportionality of an attack.⁵¹⁹

Incidental damage, death or harm is an important aspect of the proportionality principle test.⁵²⁰ If we consider how this principle may affect drone warfare, it is important to take into consideration the distance between the controllers of the drone (semi-autonomous drones) and the drone itself, and to take into account the technical requirements for the controllers to make the correct decision regarding the execution of a strike on targets.⁵²¹ Drones are often regarded as having near surgical precision⁵²² during armed combats, but this could be a flawed perception if we consider the high civilian casualty rate over the past years.⁵²³ Conversely, drone technology has been susceptible to tremendous development,⁵²⁴ which renders current drones capable of performing within the ambit of IHL principles such as proportionality.

According to Sehwat,⁵²⁵ proportionality includes an inherent obligation to consider all options when targeting decisions need to be made, including the verification of a target, the timing of the attack, and the choice of a weapon. Arguably, drones are capable of seeing, thinking, and acting in a meticulous manner, providing the controller with sufficient opportunity to consider all options before striking.⁵²⁶

As stated above, IHL allows the targeting of persons in non-international armed conflicts only if they are members of organised armed groups (thus, they have a combat function that is regarded as continuous, or they participate in the conduct of hostilities directly). As can be rightly pointed out, even individuals who are suspected

⁵¹⁹ Kanner 2016 *BUSLR* 15.

⁵²⁰ Incidental civilian death isn't outlawed and is allowed to some extent; see Sehwat 2017 *JLIA* 179.

⁵²¹ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 25.

⁵²² Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 25.

⁵²³ The Central Intelligence Agency (CIA) of the US has been reported to have had between 20% and 90% collateral damage rates during their attacks in the period of 2004-2012, during which their operations have resulted in about 2000 to 3000 individual deaths; see Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 25. See also New America 2017 <https://www.newamerica.org/in-depth/americas-counterterrorism-wars/pakistan/>.

⁵²⁴ See para 3.2.

⁵²⁵ Sehwat 2017 *JLIA* 179.

⁵²⁶ Sehwat 2017 *JLIA* 179.

of being militant leaders wear civilian clothes, and therefore the problem as to which target can be deemed a combatant, a direct participant, or an innocent civilian, is as yet still unsolved. When one considers the statistics of individuals executed during an armed drone attack, the numbers will spread across all three of these categories. Hence, it is therefore pertinent to address the issue of targeting.

Reports have continuously held that drone attacks cause large numbers of civilian casualties, and therefore it is essential to question whether this is truly the case.⁵²⁷ It is open to debate whether the problem relating to drone warfare and the principle of proportionality in this regard lie with the issue of exactly who constitutes a combatant, and whether this is the key area of IHL that is often infringed, and not the law relating to targeting.⁵²⁸

Moreover, although drone strikes involve a great amount of secrecy and a lack of transparency, this is not to say that calculations relating to the principle of proportionality are not taking place. In all likelihood these assessments are taking place, but the true difficulty arises when one has to determine who is truly a civilian, and thus immune from targeting, or who is a combatant or directly partaking in the conduct of hostilities.⁵²⁹ What is clear is that simply classifying an individual as a combatant in order to launch an attack does not mean that such an attack is truly lawful.⁵³⁰

It is evident that the casualties resulting from an attack must be proportionate to the military advantage obtained from the attack.⁵³¹ When one considers the published reports concerning the number of civilian casualties resulting from drone strikes, one may often conclude that the amount of civilian deaths is disproportionate when compared with the number of combatant deaths.⁵³² However, it must be taken into account that a proportionality assessment requires the balancing of the military advantage that was anticipated against the harm against civilians that was

⁵²⁷ Breau "Civilian Casualties and Drone Attacks: Issues in International Humanitarian Law" 123.

⁵²⁸ Breau "Civilian Casualties and Drone Attacks: Issues in International Humanitarian Law" 123.

⁵²⁹ Breau "Civilian Casualties and Drone Attacks: Issues in International Humanitarian Law" 125.

⁵³⁰ Breau "Civilian Casualties and Drone Attacks: Issues in International Humanitarian Law" 125.

⁵³¹ See para 2.4.2.6 above.

⁵³² Akerson 2014 *ORIL* 194.

foreseen.⁵³³ An essential part of this calculation is the fact that it must be conducted before the strike is launched, not afterwards, or based on the actual consequences of the attack.⁵³⁴ Frequently the mistake is made by especially commentators of drone strikes to base their findings on the result of a strike, rather than evaluating whether the decision that was taken to launch the attack was in fact valid.⁵³⁵ Consequently, the principle of proportionality bears a prospective nature. In the context of this study, it is submitted that it is often difficult for commentators to make a true assessment as to the proportionality of an attack from the perspective of the military commander, in view of the dire lack of transparency relating to drone strikes.

It is held, however, that when a drone strike is aimed at a particular target rather than at a broad military objective, there are generally two considerations which must be borne in mind: firstly, the likelihood of that specific attack in attaining the goal of eliminating the relevant target, and secondly the military advantage that would be obtained from the elimination.⁵³⁶ With regard to the first consideration, it would be valuable for the military commander to consider previous attempts to eliminate the target.⁵³⁷ In terms of the second consideration, the military commander must bear in mind the evaluation of a specific individual being targeted, based on an assessment of the military advantage that would be obtained from the individual's elimination.⁵³⁸ Evidently, lower-ranking targets would provide a lesser amount of military advantage upon their elimination, whereas the killing of a high-value military target would have a greater amount of military advantage as a result. This sliding-scale assessment is immensely complicated to make where the enemy is informally organised since no clear hierarchical rank is identifiable among them. Armed drone strikes have as its purpose the identification of irregular combatants who are attempting to hide as or even amongst civilians.⁵³⁹

⁵³³ Akerson 2014 *ORIL* 194.

⁵³⁴ Akerson 2014 *ORIL* 195.

⁵³⁵ Akerson 2014 *ORIL* 195.

⁵³⁶ Akerson 2014 *ORIL* 195.

⁵³⁷ Akerson 2014 *ORIL* 195.

⁵³⁸ Akerson 2014 *ORIL* 196.

⁵³⁹ Akerson 2014 *ORIL* 196.

In view of the difficulty associated with identifying legitimate military targets, some states have adopted the practice of targeted killing, or signature strikes via armed drones. This is considered to be one of the ways in which high-value targets are identified, where the criteria utilised to rationalise the strike is not based on evaluable evidence of the rank of a particular belligerent, but rather on their definitive characteristics and behavioural patterns.⁵⁴⁰ This method is very often criticised as being too lax,⁵⁴¹ and it is therefore desirable that clear legal guidelines should be developed in order to direct states during their proportionality assessments.

4.2.2 Transparency

In the context of drone warfare, the lack of overall transparency has often been identified as a major challenge. This is especially true, given that transparency is not expressly required under IHL, and consequently the challenge presents itself as highly complex, since it extends to the need for defining transparency and identifying the requirements thereof under IHL. It is arguable that this becomes problematic where, for instance, it is required of states to adhere to the principles of military necessity, humanity, precaution, distinction and proportionality before lodging a drone attack, but no explicit requirement exists within IHL that requires states to display transparency as to the measures undertaken in an attempt to comply with these aforementioned principles.

A possible point of departure in this regard is Common Article 1 to the *Geneva Conventions*,⁵⁴² which demands from the High Contracting Parties to the conventions to agree to respect, and subsequently ensure respect, for the rules of the conventions in all cases. The duty to "ensure respect" for the conventions has been widely interpreted as expecting of states, in all instances to do what is within their powers to cause offender states to comply with the conventions.⁵⁴³ Hence, it

⁵⁴⁰ Akerson 2014 *ORIL* 196.

⁵⁴¹ Boyle 2013 *Intl Affairs* 5.

⁵⁴² (1949).

⁵⁴³ *Report of the Special Rapporteur on extrajudicial, summary or arbitrary executions, Philip Alston A/HRC/14/24/;* Pretorius *Armed Drones: Transparency and Accountability under International Law* 29.

requires of states to disclose the measures they have introduced to ensure compliance and respect for the rules under the conventions.⁵⁴⁴ From the above it is clear that a measure of transparency can thus be inferred from the obligation.⁵⁴⁵

In the light of the lack of an explicit requirement for transparency in IHL, it is useful to consider both IHRL and IL, since the notion is defined to a greater extent in these bodies of law, and could consequently assist one in determining what could be expected from the notion of transparency under IHL.⁵⁴⁶

Transparency in IHRL is founded on the obligation to investigate human rights violations, and to consequently give effective relief to the victims of these violations.⁵⁴⁷ Hence, those who are responsible for violations must be held accountable. Furthermore, with regard to freedom of expression, the right to information can further be identified as a factor supporting the requirement of transparency.⁵⁴⁸ Lastly, the justifications relating to the "right to truth", as a developing idea, are linked inherently to transparency in that it is the right of family members and close relatives, in conjunction with the community as a whole, to be provided with the truth as to grave infringements of human rights.⁵⁴⁹

IHRL recognises that there may be limits as to providing transparency, such as when a state's national security is concerned, but it is held that such limitations must be for a legitimate purpose.⁵⁵⁰ Additionally, it is argued that the limitation must be very narrowly interpreted and that the rule should drive the exception, instead of the

⁵⁴⁴ Pretorius *Armed Drones: Transparency and Accountability under International Law* 29.

⁵⁴⁵ Pretorius *Armed Drones: Transparency and Accountability under International Law* 29.

⁵⁴⁶ Sharma 2015 http://www.prix-henry-dunant.org/wp-content/uploads/Recherche_2015_VAISHALI_SHARMA.pdf.

⁵⁴⁷ Moorehead *et al Out of the Shadows: Recommendations to Advance Transparency in the Use of Lethal Force* 110-112; see also Sharma 2015

http://www.prix-henry-dunant.org/wp-content/uploads/Recherche_2015_VAISHALI_SHARMA.pdf; Moorehead *et al Out of the Shadows: Recommendations to Advance Transparency in the Use of Lethal Force* 110-112.

⁵⁴⁸ Sharma 2015 http://www.prix-henry-dunant.org/wp-content/uploads/Recherche_2015_VAISHALI_SHARMA.pdf; Moorehead *et al Out of the Shadows: Recommendations to Advance Transparency in the Use of Lethal Force* 110-112.

⁵⁴⁹ Sharma 2015 http://www.prix-henry-dunant.org/wp-content/uploads/Recherche_2015_VAISHALI_SHARMA.pdf; Moorehead *et al Out of the Shadows: Recommendations to Advance Transparency in the Use of Lethal Force* 110-112.

⁵⁵⁰ Moorehead *et al Out of the Shadows: Recommendations to Advance Transparency in the Use of Lethal Force* 111.

other way around.⁵⁵¹ When the proportionality of a decision to maintain secrecy is considered, the subsequent impact of the decision on other rights and duties, as well as the effect thereof on the efficacy of an investigation, and on the victims' rights to remedies, must be taken into account.⁵⁵²

In IL, states bear a specific obligation under the UN Charter to report to the Security Council any force used in the exercise of self-defence in the jurisdiction of another state where they are not already partaking in armed conflict, or when they direct force against new parties in an armed conflict.⁵⁵³ This is regarded as a crucial part of the accountability states bear towards the Security Council, the purpose being to ensure that such actions during armed conflicts are in fact lawful and that these actions do not hinder the authority and responsibility held by the Security Council to intervene when it regards it as necessary so as to preserve or restore peace and security internationally.⁵⁵⁴ Consequently, it is evident that IL requires transparency from states when they employ force.

Transparency concerning the use of lethal force against another state (such as in the case of a drone strike) is crucial for various reasons. Firstly, it is an essential principle of the ROL: states must, on an international level, exercise transparency in order to further and uphold the international legal order and to ensure state sovereignty. The UN has stated in the past that the ROL necessitates legal transparency, and as a consequence it demands laws which are promulgated publicly.⁵⁵⁵ Concerns as to the ROL in this regard are heightened when states elect to apply lethal force, which action would heighten the need for transparency.⁵⁵⁶ An important remark in this regard is that of The House of Lords' Joint Committee on

⁵⁵¹ Moorehead *et al* *Out of the Shadows: Recommendations to Advance Transparency in the Use of Lethal Force* 111.

⁵⁵² Moorehead *et al* *Out of the Shadows: Recommendations to Advance Transparency in the Use of Lethal Force* 111.

⁵⁵³ A 51 of the *Charter of the United Nations* (1945).

⁵⁵⁴ A 51 of the *Charter of the United Nations* (1945); Moorehead *et al* *Out of the Shadows: Recommendations to Advance Transparency in the Use of Lethal Force* 110.

⁵⁵⁵ A 19 of the *International Covenant on Civil and Political Rights General Comment 34* (2011).

⁵⁵⁶ Ku and Jacobson *Democratic Accountability and the Use of Force in International Law* 3, 8.

Human Rights, where it held in its report,⁵⁵⁷ as to the UK's targeted killing policies, that:

If the availability of drone technology is not to lead to a significant lowering of the level of protection for the right to life, it is important to ensure that there is absolute clarity about the legal frameworks that apply to the use of drones for targeted killing, and that all those involved understand exactly what those legal frameworks require of them.⁵⁵⁸

In addition, transparency regarding the application of lethal force could potentially assist in deterring harm, because the possibility of the public exposure of their wrongdoings could make government actors more compliant with the law.⁵⁵⁹ Furthermore, transparency facilitates oversight, and is required in order for meaningful accountability to ensue when violations occur.⁵⁶⁰ Lastly, transparency enables informed public debate and allows for democratic accountability to take place.⁵⁶¹

Recently, the need for transparency regarding drone strikes has been exemplified by the various calls for greater transparency during drone strikes by numerous stakeholders in IL. For instance, Alston⁵⁶² in a report⁵⁶³ to the UNHR in 2010 dedicated an entire portion of the report to the requirements of both transparency and accountability and was critical of the failure of states to disclose their legal rationale for the performance of targeted killings, the consequences of these targeted strikes in view of the subsequent harm caused to the civilians involved, and

⁵⁵⁷ *The Government's policy on the use of drones for targeted killing* 21.

⁵⁵⁸ The House of Lords Joint Committee on Human Rights *The Government's policy on the use of drones for targeted killing* 21.

⁵⁵⁹ Roth 2013 <https://www.hrw.org/news/2013/03/11/what-rules-should-govern-us-drone-attacks>; Moorehead *et al Out of the Shadows: Recommendations to Advance Transparency in the Use of Lethal Force* 106.

⁵⁶⁰ Moorehead *et al Out of the Shadows: Recommendations to Advance Transparency in the Use of Lethal Force* 106.

⁵⁶¹ Levine 2013 <https://www.3quarksdaily.com/3quarksdaily/2013/02/drones-threaten-democratic-decision-making.html>; Moorehead *et al Out of the Shadows: Recommendations to Advance Transparency in the Use of Lethal Force* 106.

⁵⁶² Current Special Rapporteur on extreme poverty and human rights; see UNHR 2018 <https://www.ohchr.org/en/issues/poverty/pages/srextremepovertyindex.aspx>.

⁵⁶³ *Report of the Special Rapporteur on extrajudicial, summary or arbitrary executions, Philip Alston A/HRC/14/24*; see UNHR 2010 <https://www2.ohchr.org/english/bodies/hrcouncil/docs/14session/A.HRC.14.24.Add6.pdf>.

the legal safeguards available in this regard.⁵⁶⁴ This position was reiterated by Heyns.⁵⁶⁵ Melzer⁵⁶⁶ further held that a lack of both transparency and accountability in relation to the use of armed drones during armed conflicts constitutes a breach of the ROL and potentially threatens international security. McDonald⁵⁶⁷ remarks that transparency in the investigating procedures and the dedication of sufficient funds to the process of ensuring that mistakes are recognised could potentially improve the perception of the community as to the use of drones during armed conflicts.

Hence, we may discern that the concerns as to transparency relate to the legal rationale for the drone strike, the identity of these targets, as well as the disclosure of information about civilian deaths and ensuing investigations.⁵⁶⁸ In broader terms, the issue of providing transparency in drone strike operations evidently requires the provision of relevant, timely, accessible, and accurate information as to each individual drone attack.⁵⁶⁹

To illustrate the need for transparency in drone strikes, it is useful to consider the most salient example in the drone warfare debate regarding the issue of transparency: the US targeted killing programme. This programme has been subjected to severe criticism in this regard on an international level. It is held that few persons outside of the exclusive circle of policymakers know what the process and rules involve regarding the making of targeting decisions during drone strikes.⁵⁷⁰ Consequently, it is argued that greater oversight should exist regarding the policies utilised to make the determination of who should be targeted, how and why they are targeted, as well as what measures are in place to provide protection to civilians

⁵⁶⁴ Sharma 2015 http://www.prix-henry-dunant.org/wp-content/uploads/Recherche_2015_VAISHALI_SHARMA.pdf.

⁵⁶⁵ *Report of the Special Rapporteur on extrajudicial, summary or arbitrary executions, Chris Heyns* A/68/382.

⁵⁶⁶ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 4.

⁵⁶⁷ McDonald *Drones and the European Union: Prospects for a Common Future* 1.

⁵⁶⁸ Sharma 2015 http://www.prix-henry-dunant.org/wp-content/uploads/Recherche_2015_VAISHALI_SHARMA.pdf.

⁵⁶⁹ Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 27.

⁵⁷⁰ Holewinski "Just Trust Us: The Need To Know More About the Civilian Impact of US Drone Strikes" 61.

during targeting.⁵⁷¹ Given the need to protect and defend national security, one is able to understand a justifiable amount of secrecy, especially in the light of the goal of attaining military advantage. Nonetheless, it remains desirable that the details of the targeted killing programme, such as with all other drone programmes, and the details of the decisions made to employ drones in effecting strikes abroad, should be made more transparent, if not to the greater public, then at the very least to Congress.⁵⁷²

It is also deemed essential that improved transparency should exist as to certain issues such as the elements of the targeted killing process, the human rights and IHL training provided to drone operators, and the application of the principles of IHL before and during the execution of a strike.⁵⁷³ Furthermore, it is desirable that clarity be obtained regarding how the US administration elects to define combatants and civilians and how civilian casualties are both assessed and tracked; and it is desirable that information regarding the decision as to who will be targeted, and why they are chosen, should be made transparently available in order for civilians to be informed of the behaviour that might cause them to be targeted, so as to enable them to protect themselves.⁵⁷⁴ The above recommendations could be regarded as valuable in a general sense. They relate not only to the US's and the UK's targeted killing programme, but they could potentially act as useful considerations and guidelines for all states employing armed drones in combat.

One may glean from the above that although IHL does not explicitly demand transparency from states during an armed conflict, a degree of transparency is required in order to ensure that states fulfil their IHL obligations. However, there is an evident lack of transparency pertaining to drone strikes, and it is arguable that this deficiency could weaken the incentives to fulfil certain duties, such as precisely

⁵⁷¹ Holewinski "Just Trust Us: The Need To Know More About the Civilian Impact of US Drone Strikes" 61.

⁵⁷² Holewinski "Just Trust Us: The Need To Know More About the Civilian Impact of US Drone Strikes" 61.

⁵⁷³ Holewinski "Just Trust Us: The Need To Know More About the Civilian Impact of US Drone Strikes" 61.

⁵⁷⁴ Holewinski "Just Trust Us: The Need To Know More About the Civilian Impact of US Drone Strikes" 61.

determining civilian deaths, which would subsequently affect the process of accountability, in that it would weaken the victim identification process necessary for reparation in terms of non-combatant injury or casualty.

4.2.3 Accountability

The use of drones during armed conflicts creates accountability issues which relate especially to the lack of information released about drone strikes, and inadequate reporting about the casualties resulting from drone attacks.⁵⁷⁵ In fact, it has been held that the deficient amount of publicly released data regarding deaths resulting from individual drone attacks (consisting of both collateral deaths and target casualties) causes an "accountability vacuum".⁵⁷⁶

Accountability can be considered a requirement under IHL, since IHL contains several provisions which establish the obligation to "investigate" in certain circumstances, such as the duty to search for individuals responsible for committing war crimes.⁵⁷⁷ For instance, per article 49 of the *Geneva Convention (I) for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field*⁵⁷⁸ it is required of the High Contracting Parties to agree to enact legislation that is deemed necessary to establish effective punishments for persons who commit, or who order others to commit, any of the grave breaches⁵⁷⁹ envisioned in this convention.

Furthermore, it is expected of the High Contracting Parties to search for individuals who have allegedly committed a grave breach and to bring such individuals before their national courts, or to hand over the relevant individuals to another High Contracting Party concerned, where the party has made a *prima facie* case in this

⁵⁷⁵ Vavrichek *The Future of Drone Strikes: A Framework for Analysing Policy Options* 46.

⁵⁷⁶ Stimson Centre 2014 https://www.stimson.org/sites/default/files/file-attachments/recommendations_and_report_of_the_task_force_on_us_drone_policy_second_edition.Pdf; Vavrichek *The Future of Drone Strikes: A Framework for Analysing Policy Options* 46.

⁵⁷⁷ Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 28.

⁵⁷⁸ (1949).

⁵⁷⁹ A 50 of the *Geneva Convention (I) for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field* (1949).

regard.⁵⁸⁰ In addition to the grave breaches envisioned by the convention, the High Contracting Parties are moreover expected to take the necessary measures for the suppression of all conduct which may be considered as contrary to the rules of the convention.⁵⁸¹ Similar provisions may be found in the subsequent *Geneva Conventions*.⁵⁸²

Consequently, in instances where there are reasons to question whether IHL violations have occurred due to a drone strike during an armed conflict, such as when disproportionate harm transpired or individuals have incorrectly been identified as targets, accountability under IHL requires that a preliminary investigation should be undertaken, and the number of civilian deaths must be determined and disclosed.⁵⁸³

Drone strikes more often than not occur within the ambit of non-international armed conflicts.⁵⁸⁴ The IHL rules that apply to non-international armed conflicts regarding the principle of accountability are considered less comprehensive than those which apply to international armed conflicts.⁵⁸⁵ Nonetheless, in terms of customary IHL, those rules pertaining to international armed conflicts have been extended so as to apply to non-international armed conflicts as well.⁵⁸⁶

From the above, it is determinable that the notion of accountability involves penal consequences for occasions where offences have been committed, and that efforts need to be made to avoid it from reoccurring.⁵⁸⁷ Hence, accountability does not only rely on transparency as outlined above, but involves effective oversight mechanisms

⁵⁸⁰ A 49 of the *Geneva Convention I for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field* (1949).

⁵⁸¹ A 49 of the *Geneva Convention I for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field* (1949).

⁵⁸² See for instance a 50 of the *Geneva Convention II for the Amelioration of the Wounded, Sick and Shipwrecked Members of Armed Forces at Sea* (1949); a 129 of the *Geneva Convention III relative to the Treatment of Prisoners of War* (1949); and a 146 of the *Geneva Convention IV relative to the Protection of Civilian Persons in Time of War* (1949). Provisions of this kind can furthermore be found in a 85 of *AP I*; the *Rome Statute of the ICC* (1998) etc.

⁵⁸³ *Report of the Special Rapporteur on extrajudicial, summary or arbitrary executions, Chris Heyns* A/68/382 22.

⁵⁸⁴ Pretorius *Armed Drones: Transparency and Accountability under International Law* 14.

⁵⁸⁵ Pretorius *Armed Drones: Transparency and Accountability under International Law* 14.

⁵⁸⁶ Pretorius *Armed Drones: Transparency and Accountability under International Law* 14.

⁵⁸⁷ Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 28.

which test compliance and identify misconduct. Accountability furthermore relies on institutions that ensure justice and that impose penalties or punishment where it is deemed necessary.⁵⁸⁸ Accordingly, the requirement of accountability generally includes an obligation to conduct investigations regarding alleged violations, and to prosecute the responsible parties, as well as to provide victims with reparation in view of the infringement of their rights.⁵⁸⁹ Accountability also entails a duty to prevent the further occurrence of violations.

Due to the fact that, in terms of IHL, it is allowable to lodge attacks against the participants in armed forces, it does not follow that a full-scale investigation into each and every drone attack is necessary, where it is lodged against targets that have been confirmed to be legitimate.⁵⁹⁰ This will generally be the case, unless other reasons come to the fore which renders the operation questionable, such as the occurrence of a substantial degree of incidental civilian harm during the attack.⁵⁹¹ On the other hand, where strikes are directed at persons who are merely suspected of being militants or terrorists, such as during the targeted strikes, the lawfulness of such an attack could be contentious. Therefore, where civilian status is generally presumed, it is suggested that an investigation should be instituted in every case as a necessary safeguard.

However, the interpretation of this duty is scant, and consequently it is not altogether clear what such an investigation should involve. In an attempt to provide some clarity, the UN General Assembly adopted a resolution⁵⁹² which reinforces the duty not only to respect but also to ensure respect for and implement IHRL and IHL, and to

⁵⁸⁸ Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 27-29.

⁵⁸⁹ Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 27-29.

⁵⁹⁰ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 40.

⁵⁹¹ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 40.

⁵⁹² *Basic Principles and Guidelines on the Right to a Remedy and Reparation for Victims of Gross Violations of International Humanitarian Law* 60/147 (2005).

Investigate violations effectively, promptly, thoroughly and impartially and, where appropriate, take action against those allegedly responsible in accordance with domestic and international law.⁵⁹³

There is some deliberation as to what this investigation might involve, or what the nature thereof must be. For instance, Human Rights Watch has recommended that investigations into war crimes should be thorough, impartial, and prompt, and should involve an independent prosecution process.⁵⁹⁴ Some authors suggest that the duty to investigate involves determining whether the strike on the individual was lawful, and further entails an investigation into any resultant incidental injuries, destruction or casualties arising from the attack.⁵⁹⁵ It is also recommended that for the investigation to be regarded as effective, it is desirable that it must be thorough, impartial and immediate, and involve a sufficient amount of public scrutiny.⁵⁹⁶

As mentioned above, a fundamental aspect relating to accountability is the recording of casualties. Currently, the *Geneva Conventions* do not explicitly stipulate an obligation to systematically record all the deaths resulting from the application of lethal force during an armed attack, but provision is made for the duty to search for and identify individuals who are either dead or missing during armed conflict situations.⁵⁹⁷ Given that states have a definite obligation to institute investigations during instances where potentially illegitimate strikes were performed, it is evident that they would in practice be incapable of fulfilling their duty without determining a thorough record of both the combatant and civilian deaths stemming from a military operation.⁵⁹⁸ Consequently, it is argued that due to the current obligations in IHL regarding missing and dead persons, and the interpretation of these provisions, a binding international duty rests on each party to an armed conflict to record every

⁵⁹³ A 3(b) of the *Basic Principles and Guidelines on the Right to a Remedy and Reparation for Victims of Gross Violations of International Humanitarian Law* 60/147 (2005).

⁵⁹⁴ Human Rights Watch *Turning a Blind Eye: Impunity for Laws-of-War Violations during the Gaza War* 7.

⁵⁹⁵ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 40.

⁵⁹⁶ What would amount to sufficient public scrutiny will be dependent on each individual case, but it is held that it should always include the next-of-kin of the victims; Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 40.

⁵⁹⁷ See for instance a 16(2), 26, 129(2), 130(1)-(3), 136, 139, 140 of *Geneva Convention (IV) relative to the Protection of Civilian Persons in Time of War (1949)*; a 4, 8 of *AP II*.

⁵⁹⁸ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 40.

civilian death during the conflict, regardless of whether it is an international or a national armed conflict.⁵⁹⁹

When one considers what might be expected in terms of the duty of accountability as it relates to drone strikes, it is reasonable to assume that it will involve the act of ensuring that the relevant role-players or institutions are held answerable for their actions by way of conducting thorough and impartial investigations, and that there is in fact recourse in cases where obligations are not met.⁶⁰⁰ Thus, the recording of casualties is vital. It is important to keep in mind that transparency may often serve as a precursor to accountability but does not in all instances result therein.⁶⁰¹ Hence, the notions of transparency and accountability are interlinked, but in listing their requirements, they must be considered separately.⁶⁰²

It is important to take into account the role reparations play in terms of the accountability of states for the consequences of drone attacks.⁶⁰³ Victims of grave breaches of IHL due to drone strikes are entitled to reparation, due to the customary nature of the duty to provide reparations.⁶⁰⁴ The extent of the reparation provided to these victims will be dependent on the circumstances prevalent in each case and the gravity of the relevant violation.⁶⁰⁵ Therefore, accountability in terms of drone strikes is furthermore essential so that the duty of reparation can be fulfilled, and the victims may be entitled to guarantees of non-repetition, compensation, restitution, rehabilitation and satisfaction.⁶⁰⁶ Consequently, where the duty of accountability is

⁵⁹⁹ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 40.

⁶⁰⁰ Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 27.

⁶⁰¹ Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 27.

⁶⁰² Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 27.

⁶⁰³ The UN's General Assembly adopted the *Basic Principles and Guidelines on the Right to a Remedy and Reparation for Victims of Gross Violations of International Humanitarian Law* 60/147 (2005), which holds that the statute of limitation will not be applicable to IHL transgressions of a serious nature which also amounts to crimes under IL; Pretorius *Armed Drones: Transparency and Accountability under International Law* 49.

⁶⁰⁴ It is held that "it is a principle of international law, and even a general conception of law, that any breach of an engagement involves an obligation to make reparation. Reparation is the indispensable complement of a failure to apply a convention, and there is no necessity for this to be stated in the convention itself"; see *Factory at Chorzow* 1927 PCIJ 21; Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 42.

⁶⁰⁵ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 42.

⁶⁰⁶ Where the damage is economically assessable, it is held that financial reparation could be necessary, especially with regards to moral, material, psychological or physical harm, or the loss

neglected, the ability of victims of unlawful strikes to seek reparations will potentially be impeded.

As can be concluded from the above, IHL does entail some mechanisms relating to the duty of accountability. However, when it comes to the enforcement of this duty, certain problems are encountered. Significant weaknesses can be observed among states in relation to their duty to extradite or prosecute, as well as their willingness to cooperate with one another during an investigation or prosecutions.⁶⁰⁷ Further weaknesses pertain to the adjudication of individuals who are charged with such violations, and their subsequent punishment should they be convicted.⁶⁰⁸ In an attempt to strengthen the position of IHL in this regard, the UN has over the years adopted certain mechanisms to counter the aforementioned weaknesses to a certain extent.⁶⁰⁹ However, the enforcement of IHL remains problematic. This, coupled with issues such as the reluctance of the US to ratify *AP I* and *AP II*, still hampers the exercise of accountability for violations of IHL via drone strikes – especially in terms of the contentious use of drones in targeted strikes, for instance.

4.2.4 Targeted – and Indiscriminate Strikes

According to a study by the European Parliament regarding armed drones,⁶¹⁰ the "signature" or "targeted" strikes conducted by the US and UK, which allow drone attacks against persons who are alleged terrorists or militants, present a serious challenge to the fundamental principles of IHL.⁶¹¹ A grave concern in this regard is

of income or earning potential; Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 42.

⁶⁰⁷ Pretorius *Armed Drones: Transparency and Accountability under International Law* 48.

⁶⁰⁸ Pretorius *Armed Drones: Transparency and Accountability under International Law* 48.

⁶⁰⁹ For instance, the UN adopted a resolution which confirms that when a state refuses to provide its cooperation as to the arrest, extradition, trial and subsequent punishment of individuals guilty of either crimes against humanity or war crimes, it would be contrary to the norms of IL and the UN Charter; see the *UN Resolution on the Question of the Punishment of War Criminals and of Persons who have Committed Crimes against Humanity* 2840 (1971). Subsequently, the UN adopted a resolution entitled the *UN Resolution on the Principles of International Cooperation in the Detection, Arrest, Extradition, and Punishment of Persons Guilty of War Crimes and Crimes against Humanity* 3074 (1993).

⁶¹⁰ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare*.

⁶¹¹ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 34; see also Center for Civilians in Conflict 2012

the secrecy surrounding the practice of targeted killings, which gives rise to an alarming lack of transparency and accountability.⁶¹²

This practice completely disregards the principle of distinction and violates the precautions that must be taken during armed conduct, since the method of identification is not based on appreciable evidence of a militant's rank but rather on the pattern of such an individual's behaviour or mannerisms.⁶¹³ There is a lack of information regarding exactly how signature strikes are conducted, and consequently it is hard to assess the true effect thereof on the principles of IHL.⁶¹⁴

A further concern is the proportionality assessment utilised by drone operators during such strikes, which entails the practice of excluding all males of fighting age in the area of the attack from the proportionality valuation, solely based on the presupposition that they are belligerents.⁶¹⁵ This method denies the assumption of civilian status, and neglects the principle of distinction as well as the compulsory precaution when an attack is launched. The final alarming approach is that of follow-up strikes. This type of attack allows subsequent strikes on already wounded soldiers. In essence, it is a deliberate attack on persons *hors de combat*,⁶¹⁶ which is prohibited under IHL.⁶¹⁷

All of the above acts considered by the European Parliament⁶¹⁸ are regarded as constituting war crimes under the *Rome Statute of the ICC*.⁶¹⁹ For this reason, it is arguable that the way in which drones are used in this regard may be illegitimate

http://civiliansinconflict.org/uploads/files/publications/The_Civilian_Impact_of_Drones_w_cover.pdf; see also Heller *JICJ* 2-4.

⁶¹² Pretorius *Armed Drones: Transparency and Accountability under International Law* 18.

⁶¹³ Akerson 2014 *ORIL* 197; see also Global Research 2017 <http://www.globalresearch.ca/drone-warfare-signature-strikes/5324491>.

⁶¹⁴ As part of their 5-point plan regarding the reform of US drone-strike policy, Amnesty International calls for the release of more information regarding drone strikes; see Amnesty International 2017

<http://www.amnestyusa.org/pdfs/5PointPlanForReformingUSDroneStrikePolicy.pdf>.

⁶¹⁵ Global Research 2017 <http://www.globalresearch.ca/drone-warfare-signature-strikes/5324491>; see further Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 34.

⁶¹⁶ A 41 of *AP I*.

⁶¹⁷ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 34.

⁶¹⁸ Melzer *Human Rights Implications of the Usage of Drones and Unmanned Robots in Warfare* 34-35.

⁶¹⁹ A 8(2)(b)(ii), 8(2)(e)(iii), 8(2)(b)(iv), 8(2)(b)(xii), and 8(2)(c)(i).

and even criminal. Furthermore, the practices described above may constitute a breach of article 57 of *AP I*.⁶²⁰

4.2.5 Drone Proliferation

As discussed above,⁶²¹ the issue of drone proliferation is a growing concern. This is especially true, since there is some misunderstanding amongst the international community as to which rules apply explicitly to the transfer of armed drones.⁶²² The US, previously the main developer of drone technology, can no longer slow down proliferation in terms of primary drone technology due to the readily accessible nature thereof, and can only keep a steady hand on specialised drone technology such as advanced autonomous systems, stealth and protected communications techniques.⁶²³

Various arguments can be made, in consideration of current multilateral agreements pertaining to weapon control, for the effective regulation of the export and proliferation of a specific potentially harmful weapon such as an armed drone. Firstly, it is held that it is necessary to prevent access to such weapons by undesirable end-users, such as non-state actors, in order to curtail the occurrence of unnecessary instances of violence causing superfluous harm, or the conduct of terrorist acts.⁶²⁴ Furthermore, it is desirable that weapons such as armed drones should not be made available to too many states.⁶²⁵ This is usually a consideration regarding the spread of weapons of mass destruction, such as nuclear weaponry.⁶²⁶ Thirdly, curtailing the proliferation of lethal drones, for instance, is regarded as a

⁶²⁰ For instance, a 57(2)(a)(ii) of *AP I* holds that "With respect to attacks, the following precautions shall be taken: a) those who plan or decide upon an attack shall: ii) take all feasible precautions in the choice of means and methods of attack with a view to avoiding, and in any event to minimizing, incidental loss of civilian life, injury to civilians and damage to civilian objects".

⁶²¹ See para 3.5 above.

⁶²² Stohl and Dick *The Arms Trade Treaty and Drones* 11.

⁶²³ CNAS 2017 <http://drones.cnas.org/reports/drone-proliferation/>.

⁶²⁴ Article 36 2018 <http://www.article36.org/wp-content/uploads/2018/10/A36-approaches-to-tech-policy-drones.pdf>.

⁶²⁵ Article 36 2018 <http://www.article36.org/wp-content/uploads/2018/10/A36-approaches-to-tech-policy-drones.pdf>.

⁶²⁶ See for instance the *Treaty on the Non-Proliferation of Nuclear Weapons* (1968); Article 36 2018 <http://www.article36.org/wp-content/uploads/2018/10/A36-approaches-to-tech-policy-drones.pdf>.

contributory measure towards mitigating unintended harm against civilian populations.⁶²⁷ Another argument in favour of controlling the weapons trade is that it curtails the possibility of enabling activities which are already regarded as being unacceptable.⁶²⁸ The last two considerations are that it is necessary to pay regard to the possible problematic use of certain types of weaponry, and the fact that the use thereof could be detrimentally challenging in certain areas, such as areas densely populated by civilians.⁶²⁹

Consequently, drone proliferation presents itself as a major challenge, since the armed drones could fall into the wrong hands and, for instance, armed terrorist forces. Proliferation creates a significant vulnerability, since it could allow for the unregulated development of this technology to take place outside of the confines of article 36 of *AP I*. Thus, unlawful weapons could be developed which are not in compliance with the principles of IHL. Hence, attempt should be made to control the proliferation of armed drones in order to prevent the dangerous ramifications that could ensue should it be left ungoverned.

The US has initiated several policies to establish norms of appropriate conduct towards ultimately regulating drone proliferation. For example, in 2015 they issued a new export policy regarding drones, which requires the acquirers of US drones to comply with the "principles of proper use",⁶³⁰ namely:

Recipients are to use these systems in accordance with international law, including international humanitarian law and international human rights law, as applicable;

Armed and other advanced UAS [unmanned aerial systems] are to be used in operations involving the use of force only when there is a lawful basis for the use of force under international law, such as national self-defense;

⁶²⁷ Article 36 2018 <http://www.article36.org/wp-content/uploads/2018/10/A36-approaches-to-tech-policy-drones.pdf>.

⁶²⁸ Article 36 2018 <http://www.article36.org/wp-content/uploads/2018/10/A36-approaches-to-tech-policy-drones.pdf>.

⁶²⁹ Article 36 2018 <http://www.article36.org/wp-content/uploads/2018/10/A36-approaches-to-tech-policy-drones.pdf>.

⁶³⁰ See Arms Control Association 2015 https://www.armscontrol.org/ACT/2015_05/Features/Exercising-Restraint-The-New-United-States-Rules-for-Drone-Transfers; also CNAS 2017 <http://drones.cnas.org/reports/drone-proliferation/>.

Recipients are not to use military UAS to conduct unlawful surveillance or use unlawful force against their domestic populations; and

As appropriate, recipients shall provide UAS operators technical and doctrinal training on the use of these systems to reduce the risk of unintended injury or damage.

The urgency of the US to regulate the proliferation and use of drones forms an integral part of the argument for the ultimate creation of a regulatory standard for all armed drones during conflict situations.⁶³¹

4.2.6 *Autonomous Drones*

AWS, as explained above,⁶³² are a characteristic of drone warfare which is currently unregulated and which is troubling the international community.⁶³³ This may be attributed to the fast-paced growth and development of this sphere of technological weaponry, and the lack of international consensus on the definition of AWS and critical elements thereof.⁶³⁴ It is evident, however, that the advent of AWS is no longer decades away, but mere years.⁶³⁵ It should be noted that there are various potential benefits for the use of AWS in armed conflicts. For instance, AWS are able to make more precise decisions in a split second, without the involvement of fear, exhaustion, bias or human error weighing thereon.⁶³⁶ Furthermore, the speed of a manned aircraft is limited due to the effect of g-force on the pilot, whereas this has no bearing on an unmanned craft, which the speed of which would be limited only by the structural integrity of the craft itself.⁶³⁷ Therefore, it is arguable that the

⁶³¹ The urgency for the regulation of drone proliferation is further clearly noticeable in reports such as that of the Exports Control Working Group, in their report regarding *UAV Exports Control and Regulatory Challenges* in 2015; see Stimson 2015 <https://www.stimson.org/sites/default/files/fileattachments/ECRC%20Working%20Group%20Report.pdf>.

⁶³² See para 3.7 above.

⁶³³ Foy 2014 *Dal J Leg Stud* 47.

⁶³⁴ See para 3.7 above.

⁶³⁵ The urgency need to adopt a legal position is generally accepted: see Human Rights Watch 2012 <https://www.hrw.org/report/2012/11/19/losing-humanity/case-against-killer-robots>; UN Human Rights Office of the High Commissioner 2013 http://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session23/A-HRC-23-47_en.pdf for a report by Christoff Heyns on lethal autonomous robotics.

⁶³⁶ Sharkey "Drones Proliferation and Protection of Civilians" 110-113.

⁶³⁷ Sharkey "Drones Proliferation and Protection of Civilians" 110.

probability exists that it bears greater military advantage to allow an AWS on the battlefield rather than a human combatant.⁶³⁸

However, it is argued that pre-emptive regulation is necessary, since AWS aim to remove the human element from warfare as much as is possible. Hence, one may reason that the ensuing dehumanisation of IHL is inevitable, and as a result it presents itself as one of the biggest challenges which IHL must address.⁶³⁹ Consequently, one may strongly argue that the regulation of current drone systems is essential in order to fully embrace the large-scale effect that AWS with fully integrated artificial intelligence capabilities will have on our law, especially IHL.⁶⁴⁰

The potential nature of AWS is troubling for a number of reasons. According to Heyns,⁶⁴¹ the extent to which AWS can be programmed to comply with IHL is questionable, and the deployment of such systems could be unacceptable due to the fact that there are difficulties in creating a system of legal accountability to regulate them. The Special Rapporteur made recommendations as to the establishment of a high-level panel for the purpose of creating an international legal framework in this regard.⁶⁴²

If one were to allow an AWS to apply lethal force in armed conflicts, one would expect it to be capable of complying with the fundamental principles of IHL. For instance, an AWS would require the capacity to distinguish between a civilian and a combatant in order to satisfy the requirements of the principles of distinction and proportionality.⁶⁴³ In theory, it would seem to be relatively easy to programme an AWS to refrain from targeting a civilian, but this would require not only an advanced level of artificial intelligence but also that one would be able to specify to an AWS exactly what a "civilian" is.⁶⁴⁴ The discussion earlier in this paper regarding distinction and proportionality points to the difficulty of making such a

⁶³⁸ Sharkey "Drones Proliferation and Protection of Civilians" 110.

⁶³⁹ Foy 2014 *Dal J Leg Stud* 50.

⁶⁴⁰ Foy 2014 *Dal J Leg Stud* 47.

⁶⁴¹ (2013).

⁶⁴² *Report of the Special Rapporteur on extrajudicial, summary or arbitrary executions, Christof Heyns* (2013).

⁶⁴³ Sharkey "Drones Proliferation and Protection of Civilians" 112.

⁶⁴⁴ Sharkey "Drones Proliferation and Protection of Civilians" 112.

determination.⁶⁴⁵ This is particularly true in instances where combatants are disguised as civilians or in instances where the determination is to be made regarding whether a civilian is directly partaking in hostilities or not.⁶⁴⁶ Although it is arguable that scientists will in theory be able to develop advanced artificial intelligence capabilities via deep learning and machine learning, for instance, so as to cultivate a sense of situational awareness and the capacity to apply accurate discriminative vision and sensing systems,⁶⁴⁷ it is doubtful that we would be able to programme the fundamental principles of IHL, often critiqued for their vagueness and ambiguity, in such a manner so as to enable an AWS armed drone strike without at least some level of human involvement.⁶⁴⁸

The above argument is significantly elaborated upon by Heyns,⁶⁴⁹ who argues that if computers are allowed to take the decision as to whether a human being lives or dies in armed combat, this would have potential right to life implications. If one regards it as improbable that an AWS will be able to fully adhere to the principles of distinction and proportionality, as exemplified in the above deliberation, it follows that an AWS will lack the capacity to adhere to proper targeting in armed conflicts.⁶⁵⁰ Thus, in such an instance, the subsequent application of force by an AWS would be regarded as arbitrary and as a consequence would violate the right to life.⁶⁵¹ A further concern which requires urgent consideration is the issue of accountability. If an AWS were to err in its application of force, following a decision made by its own reason to apply the aforementioned force, it is uncertain who would be held accountable.⁶⁵² A final concern raised by Heyns is that, allowing a robot or a machine to determine whether a human combatant should live or die would violate both the right to life and the right to dignity.⁶⁵³

⁶⁴⁵ See para 4.2.1.4 and 4.2.1.5.

⁶⁴⁶ See para 4.2.1.4.

⁶⁴⁷ Sharkey "Drones Proliferation and Protection of Civilians" 112.

⁶⁴⁸ Sharkey "Drones Proliferation and Protection of Civilians" 112-113.

⁶⁴⁹ Heyns 2017 *ICLA* 1.

⁶⁵⁰ Heyns 2017 *ICLA* 1.

⁶⁵¹ Heyns 2017 *ICLA* 1.

⁶⁵² Heyns 2017 *ICLA* 1.

⁶⁵³ Heyns 2017 *ICLA* 1.

A further concern is raised by Chengeta, who holds that the international community must carefully apply itself as to whether AWS are entering the sphere of armed conflicts as weapons or as combatants.⁶⁵⁴ This concern follows from the requirement that a weapon utilised by a combatant during an armed conflict must be "meaningfully controlled" by a person or, as commonly put, it must be subject to meaningful human control.⁶⁵⁵ In the past a weapon has never been capable of certain key elements of a combatant, such as making proportionality assessments or establishing a target to eliminate.⁶⁵⁶

Due to the uncertainty looming in the international community as to the meaning of AWS, what the requirement of meaningful human control entails, and the novel nature of this weapon system, during the UN's conference on the Convention on Certain Conventional Weapons a decision was finally made to establish a Group of Governmental Experts on Lethal Autonomous Weapon Systems, and this group met on this issue in November 2017.⁶⁵⁷ In September 2018 the EP brought forward a motion for a resolution on AWS, which held that -

the need for an internationally agreed working definition of LAWS [exists], and [the EP] calls on the ... Member States and the European Council to adopt a common position on autonomous weapon systems that ensures meaningful human control over the critical functions of weapon systems, including during deployment, ahead of the meeting of the parties to the UN Convention on Certain Conventional Weapons (CCW) in November 2018; demands the start of international negotiations for a legally binding instrument that would prohibit fully autonomous weapons...⁶⁵⁸

In October 2018, the UN General Assembly's First Committee on Disarmament and International Security met to discuss AWS.⁶⁵⁹ Some states called for a legally binding instrument to control the use of drones and AWS, whereas other states called for a

⁶⁵⁴ Chengeta 2016 *UC Davis J Int'l L & Pol'y* 79.

⁶⁵⁵ Chengeta 2016 *UC Davis J Int'l L & Pol'y* 79.

⁶⁵⁶ Chengeta 2016 *UC Davis J Int'l L & Pol'y* 79.

⁶⁵⁷ UN Offices at Geneva 2017

[https://www.unog.ch/80256EE600585943/\(httpPages\)/F027DAA4966EB9C7C12580CD0039D7B5?OpenDocument](https://www.unog.ch/80256EE600585943/(httpPages)/F027DAA4966EB9C7C12580CD0039D7B5?OpenDocument); see further Future of Life Institute 2017

<https://futureoflife.org/autonomous-weapons-open-letter-2017/> where an open letter by Elon Musk, Stephen Hawking and 116 other signatories is published regarding the request to ban lethal AWS, due to the threat of its becoming the third revolution in warfare.

⁶⁵⁸ Para 2 of the *European Parliament Motion for a Resolution on Autonomous Weapons Systems* 2018/2752/(RSP).

⁶⁵⁹ UN 2018 <https://www.un.org/press/en/2018/gadis3611.doc.htm>.

protocol prohibiting AWS, since it is regarded as being incompatible with IHL.⁶⁶⁰ Given the aforementioned discussions as to AWS, and the unique and complex nature of AWS, it is arguable that this technology, as it exists in the context of drone warfare, not only presents itself as a strong challenge to IHL, but it could be a clear indicator that IHL as it stands today is potentially inadequate and could thus require further development.

4.3 Conclusion

As can be seen from the above, it is essential to engage in discussions regarding the challenges caused by the use of armed drones in armed conflicts, since they could enable the identification of the most important issues, which should be addressed with urgency.⁶⁶¹ In considering the challenges, it is evident that the use of drones does not significantly challenge all of the fundamental principles of IHL,⁶⁶² but one could argue that some of the most intricate issues regarding the use of drones in warfare relate to the principles of precaution, distinction and proportionality.⁶⁶³ Accordingly, it is desirable that the international community should engage in debate regarding these issues in order to gain greater clarity regarding the application of these principles during armed conflicts. Furthermore, issues relating to the lack of transparency and accountability, the significant increase in the proliferation of drones, targeted killings and the development of AWS should surely feature as the most challenging problems concerning the current use of drones in armed conflicts. As can be gleaned from the above, the current regulatory system fails to fully address these issues. For instance, IHL does not directly provide for the requirement of transparency,⁶⁶⁴ and there is some ambiguity in relation to the requirement of accountability under IHL.⁶⁶⁵ Therefore, in the absence of clear legal rules, the adequacy of IHL to regulate drone warfare is put into question.

⁶⁶⁰ UN 2018 <https://www.un.org/press/en/2018/gadis3611.doc.htm>.

⁶⁶¹ See para 4.1 above.

⁶⁶² See for instance para 4.2.1.2 and 4.2.1.3 above.

⁶⁶³ See para 4.2.1.3, 4.2.1.4, and 4.2.1.5 above.

⁶⁶⁴ See para 4.2.2 above.

⁶⁶⁵ See para 4.2.3 above.

Chapter 5 Recommendations and Conclusion

5.1 Introduction

The use of armed drones has transformed the conduct of armed conflicts, and has brought with it various challenges which IHL, as applicable in armed conflicts, is expected to address. These challenges include the infamous targeted strikes performed by several states, which cause problems with regard to several of the fundamental principles of IHL, such as precaution, distinction and proportionality.⁶⁶⁶ Moreover, the use of drones is especially problematic when it is expected that they make nuanced decisions in order to comply with the principle of distinction, such as determining whether or not a certain individual is a combatant or an innocent civilian.⁶⁶⁷ The issue is further complicated when one regards the ambiguity regarding the determination of whether a civilian is directly partaking in hostilities or not.⁶⁶⁸ Where it is expected of drone warfare to adhere to the fundamental principles of IHL despite the existence of such ambiguity and the need for highly complex decision-making, one may reason that the insufficient guidelines provided by IHL might add to the concern regarding the troubling use of drones in armed conflicts.

Furthermore, there is a dire lack of transparency,⁶⁶⁹ accountability⁶⁷⁰ and oversight concerning the actual use of armed drones in conflict situations. This includes the insufficiency of IHL in establishing measures to enforce transparency, and vagueness regarding the policies states employ during tactical planning of the launching of a drone strike against a particular target, as well as the minimal amount of information that is made available regarding the strike and the consequences thereof.⁶⁷¹ In addition, although IHL requires at least a preliminary investigation to be conducted,

⁶⁶⁶ See para 4.2.4 above.

⁶⁶⁷ See para 4.2 above.

⁶⁶⁸ See para 4.2 above.

⁶⁶⁹ See para 4.2.2 above.

⁶⁷⁰ See para 4.2.3 above.

⁶⁷¹ See para 4.2.2 – 4.2.3 above.

there is no clarity or general consensus as to what should be included during the preliminary investigation.⁶⁷²

Lastly, there are some miscellaneous issues relating to drone warfare which are further causes for concern, and which call into question the capacity of IHL as it currently stands to regulate these matters. For instance, there is some confusion in the international community as to which rules apply to the import and export of drones.⁶⁷³ Issues pertaining to the novelty of technological developments in warfare, such as the creation of AWS and the threat of cyber warfare, are critical concerns which can potentially be adequately dealt with only by developing IHL and establishing a clear legal framework to regulate these issues.

Consequently this chapter seeks to assess the adequacy of IHL in relation to the regulation of the use of drones in armed conflicts. Furthermore, the current movement towards drone warfare regulation will be discussed and the chapter will conclude with some recommendations of the way forward for the use of drones in warfare.

5.2 Assessment of the Adequacy of IHL

Substantial technological advances have seemingly always caused instability in terms of the existing economic, psychological, institutional, cultural and social frameworks, and they have done so in particular for international and national laws, which are usually thought to support societal stability.⁶⁷⁴ Generally, it is desirable that regulatory systems such as IHL should be difficult to modify. This is because the constancy of laws often supports their coherence and legitimacy.⁶⁷⁵ On the other hand, when sudden transformative change takes place, the strengths of these essentially conservative bodies of law can very easily be considered vulnerabilities.⁶⁷⁶

⁶⁷² See para 4.2.3 above.

⁶⁷³ Stohl and Dick *The Arms Trade Treaty and Drones* 11.

⁶⁷⁴ Allenby "How to Manage Drones: Transformative Technologies, the Evolving Nature of Conflict, and the Inadequacy of Current Systems of Law" 439.

⁶⁷⁵ Allenby "How to Manage Drones: Transformative Technologies, the Evolving Nature of Conflict, and the Inadequacy of Current Systems of Law" 439.

⁶⁷⁶ Allenby "How to Manage Drones: Transformative Technologies, the Evolving Nature of Conflict, and the Inadequacy of Current Systems of Law" 439.

One may therefore argue that although IHL may derive some strength from its stability, in the face of the development of complex technological military advancements such as drones, some flexibility is required from the law in order for it to remain adequate to performing its purpose.

Furthermore, it is widely recognised that IHL faces serious challenges, as has been pointed out in the preceding chapter. Often, this is understood to be as a result of a failure of compliance caused by the very nature of the irregular forces active in modern-day warfare.⁶⁷⁷ Due to this perceived lack of compliance, IHL is deemed by some authors to be ineffective or inadequate, both in terms of shaping behaviour and in adding to the broader goals of the international community.⁶⁷⁸ Legitimacy, effectiveness and compliance lie at the heart of this issue.

A further potential detriment, as mentioned above, is the fact that IHL seems to be constantly one war behind reality. Moreover, as can be gleaned from the above discussion, some of the challenges posed by drone warfare require the law in this regard to develop, especially where no provision is made for the regulation of a certain challenge, such as with the issue concerning the lack of transparency, or AWS. In view of the recent increase in the number of gross violations of IHL, the former chief executive officer of the Australian chapter of the ICRC, Robert Tickner, argued that IHL, as we well know it, is being challenged as never before in history.⁶⁷⁹

Hence, when we are confronted with the intricate challenges presented by the novelty of the use of drones in warfare, we are left to determine the adequacy of this body of law in regulating such challenges. Unfortunately, there are no established benchmarks for assessing the adequacy of IHL.⁶⁸⁰ However, it is held that a clear indicator of the inefficacy of a set of laws is the situation where there is not merely a lack of conformity between the prescribed and actual behaviour, but a failure to accede to the binding nature or validity of the rules themselves by way of

⁶⁷⁷ Clark *et al*/2017 *EJIR* 18.

⁶⁷⁸ Clark *et al*/2017 *EJIR* 19.

⁶⁷⁹ ICRC 2015 <https://www.icrc.org/en/author/robert-tickner>; Clark *et al*/2017 *EJIR* 2.

⁶⁸⁰ Clark *et al*/2017 *EJIR* 2.

an "unreasoning" complete indifference to the rules, by a rational appeal to numerous and contradictory principles, or by a complete lack of rules within the law to govern certain problems with which it is faced.⁶⁸¹

Very often, technologies such as drones are identified as the problem in this regard, due to the fact that the underlying complexity thereof presents itself as daunting. Consequently, it is essential to understand and engage in the difficult reality of the challenges presented by the actual use of drones in order to potentially develop more appropriate regulatory frameworks.⁶⁸² An effective method of doing so is to think about drones not as a unitary technology, but as an arrangement of possible responses to specific challenges, and in different contexts.⁶⁸³ Given the nature of most of the issues discussed above, it is clear that it is the nature of the use of drones in an armed conflict which is potentially problematic for IHL and consequently raises questions as to the adequacy of this body of law to address the challenges it is presented with.

Given the above reasoning and the challenges IHL is faced with, it is clear that assessing the adequacy of IHL, a body of law designed to govern armed conflicts, in regulating the unique challenges posed by the use of armed drones in warfare is an inconceivably intricate task. However, in an attempt to clarify the position, it is arguable that where IHL is unable fully to address an issue, it can be deemed inadequate to do so. This does not mean that it is inherently inadequate, or that the principles underlying this body of law are entirely ineffective in regulating the present challenges, but it simply implies that it requires some development in order to effectively regulate the issues it is faced with today. As can be seen from the discussion on the development of IHL, it is clear that where in the past IHL was lacking, it was subjected to modification. Therefore, the argument can be made that, in view of the vast challenges IHL is faced with regarding the use of drones in armed conflicts, in conjunction with the rapid development of the technology relating to the

⁶⁸¹ Clark *et al*/2017 *EJIR* 2.

⁶⁸² Allenby "How to Manage Drones: Transformative Technologies, the Evolving Nature of Conflict, and the Inadequacy of Current Systems of Law" 439.

⁶⁸³ Allenby "How to Manage Drones: Transformative Technologies, the Evolving Nature of Conflict, and the Inadequacy of Current Systems of Law" 439.

future use of drones (such as the development of autonomous drones which challenge the foundational principle of IHL, namely, the "human" element) IHL should be developed in order to adequately address the complex issues it is faced with. This seems to be the general consensus in the international community, since various actors are currently engaged in negotiations regarding the regulation of the use of armed drones.⁶⁸⁴

Consequently, one can conclude that at the moment IHL is inadequate to regulate the challenges identified above – but this does not imply the demise of this body of law, since the situation can be remedied by adapting and adding to the current rules which comprise IHL.

5.3 Movement towards Drone Warfare Regulation

The international debate regarding the use of drones in armed conflicts has increased significantly over time. Hence, in view of some of the pressing issues related to the use of armed drones, some important movements towards the regulation of drone warfare can be observed.

The First Committee of the UN General Assembly held its first discussion on drones in October 2015, where several presenters⁶⁸⁵ voiced their concerns. They found that there is a severe lack of transparency during decision-making, and it is uncertain which legislative frameworks are utilised to support drone assaults.⁶⁸⁶ Transparency is necessary in relation to both the policies and legal justifications utilised.⁶⁸⁷ Furthermore, accountability is also essential in this regard. The speakers held that

⁶⁸⁴ See para 5.3 below.

⁶⁸⁵ Amrit Singh, Hina Shamsi, Wim Zwijsenburg and Michael Spies; see UNODA 2015 <https://www.un.org/disarmament/update/discussing-drones-at-the-un-headquarters-2/>.

⁶⁸⁶ They used the example of targeted strikes, as discussed above, where states have held that these strikes are a response to impending serious threats to their nations, where capture is unlikely, but they fail to inform the public what the threat is or which international legal frameworks govern their use of force; see UNODA 2015 <https://www.un.org/disarmament/update/discussing-drones-at-the-un-headquarters-2/>.

⁶⁸⁷ UNODA 2015 <https://www.un.org/disarmament/update/discussing-drones-at-the-un-headquarters-2/>. US drone attacks have set a dangerous precedent which other states will follow. Non-state actors have also actively been using drones - for example, Hezbollah, Hamas and Islamic State; see United Nations Office for Disarmament Affairs 2015 <https://www.un.org/disarmament/update/discussing-drones-at-the-un-headquarters-2/>.

drones are not necessarily problematic in themselves; it is the use made of them in conflict situations that is.⁶⁸⁸

As a result of the perceived lack of regulation, UNODA published a study on armed drones, seeking to investigate this matter.⁶⁸⁹ One may glean that this and several draft resolutions indicate that there is a clear movement towards the regulation of armed drones, for which there is a dire need. It is arguable that the development of armed drone regulation would assist in the development IHL, as it is required that this body of law develop with technology, not lag behind it.

In the past there have been several attempts to regulate different facets of military drones. In 2013 it was recommended that UN member states include armed drones in their reports regarding the relocation of conventional weapons, as per the *Continuing operation of the UN Register of Conventional Arms and its further development*.⁶⁹⁰ The UN Security Council Resolution⁶⁹¹ affirmed that drones capable of delivering chemical, biological or nuclear weapons are a major danger to international security and harmony.⁶⁹² Furthermore, the *Missile Technology Control Regime*⁶⁹³ aims to curtail the spread of drones and rockets capable of transporting weapons with mass destruction capabilities.⁶⁹⁴ Moreover, the *Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technology*⁶⁹⁵ assists export control systems that are aimed at preventing the spread of weapons of mass destruction and the carriage thereof.⁶⁹⁶ However, the aforementioned developments are regarded as either too narrow or irrelevant.⁶⁹⁷ One may conclude that a new, comprehensive, singular regulatory body could be necessary.

⁶⁸⁸ UNODA 2015 <https://www.un.org/disarmament/update/discussing-drones-at-the-un-headquarters-2/>.

⁶⁸⁹ UNODA 2015 *Study on Armed Unmanned Aerial Vehicles*; also see UNODA 2015 <https://www.un.org/disarmament/update/discussing-drones-at-the-un-headquarters-2/>.

⁶⁹⁰ (A/68/140) para 69.

⁶⁹¹ 1540 of 2004.

⁶⁹² UNODA *Study on Armed Unmanned Aerial Vehicles* 10.

⁶⁹³ MCTR (1987).

⁶⁹⁴ UNODA *Study on Armed Unmanned Aerial Vehicles* 10.

⁶⁹⁵ (1996).

⁶⁹⁶ UNODA *Study on Armed Unmanned Aerial Vehicles* 16.

⁶⁹⁷ UNODA *Study on Armed Unmanned Aerial Vehicles* 10-12.

According to Stoica⁶⁹⁸ the closest the international community has come to a drone treaty is the *Human Rights Council Resolution*,⁶⁹⁹ which states that drone operations must comply with IHL and with the principle that both drone operators and military commanders can be held accountable for their conduct.⁷⁰⁰ One of the issues of concern in the resolution is the immense loss of civilian lives resulting from the continuous use of armed drones.⁷⁰¹ The resolution urges states to observe their obligations under IHL in pursuit of any acts of counter-terrorism via the use of armed drones.⁷⁰² In this regard, the resolution places specific focus on the duty to observe the principles of distinction, proportionality and precaution.⁷⁰³ Moreover, it calls upon states to be transparent in their recording of the use of armed drones, and to ensure that impartial, speedy and independent investigations are conducted whenever there are any indications that an IHL violation occurred, caused by their use of an armed drone.⁷⁰⁴ Therefore, one may discern that the resolution highlights some important elements, such as the necessity for IHL to be observed and respected, the need for transparency as to the recording of armed drone strikes, and the facilitation of accountability via independent investigations into IHL violations.

In July 2018 the EP passed a recommendation to the EC on armed drones during the 73rd session of the UN GA. The recommendation placed particular emphasis on the need for armed drones to be used in accordance with IL, and it requested the EC to commence pursuing this goal.⁷⁰⁵ The recommendation also requested that the EC should pay attention to the technological advancements made in terms of armed

⁶⁹⁸ Stoica 2016 *CKS* 517.

⁶⁹⁹ A/HRC/25/L.32; see UN General Assembly 2014 http://www.un.org/ga/search/view_doc.asp?symbol=A/HRC/25/L.32.

⁷⁰⁰ This resolution was adopted from the Pakistan resolution in this regard, namely *Ensuring Use of Remotely Piloted Aircraft or Armed Drones in Counter-terrorism and Military Operations in Accordance with International Law, including International Human Rights and Humanitarian Law* (A/HRC/25/L.32). See further Stoica 2016 *CKS* 517.

⁷⁰¹ *Human Rights Council Resolution* A/HRC/25/L.32 1.

⁷⁰² *Human Rights Council Resolution* A/HRC/25/L.32 2.

⁷⁰³ *Human Rights Council Resolution* A/HRC/25/L.32 2.

⁷⁰⁴ *Human Rights Council Resolution* A/HRC/25/L.32 2.

⁷⁰⁵ EFAD 2018 <https://www.efadrones.org/efad-welcomes-european-parliaments-push-to-address-legal-issues-surrounding-the-use-of-armed-drones/?fbclid=IwAR3ZuwWb3sUXLqajojT-YFNuTIRVc1MBRAm0-g9S73AHP50XYI0-OYMd71E>; S (av) of the *European Parliament recommendation to the Council on the 73rd session of the United Nations General Assembly* (2018/2040(INI)).

drones, and to whether the development thereof conforms to IL standards.⁷⁰⁶ Furthermore, it suggested that a legal framework concerning drones and armed drones should be established, which would be aligned with the existing IHL principles governing the use thereof, in order to prevent drones from being misused for illegitimate activities by both state, and non-state actors.⁷⁰⁷ In addition, the EP touched on the issue of autonomous drones. In this regard they recommended that effective negotiations should be commenced with a view to establishing a prohibition on the use of armed drones where strikes are enabled without meaningful human control.⁷⁰⁸ The recommendation made in relation to the promotion of a UN-based set of rules which states that the utilisation of armed drones has to respect IHL and HRL at all times is immensely important in view of states' mandate to establish and promote respect for IHL and disseminate knowledge as to the rules thereof.⁷⁰⁹ The recommendation further requests of the EC⁷¹⁰ –

to strongly condemn the widespread human rights abuses and violations of international humanitarian law; to call for greater protection of human rights and fundamental freedoms in every dimension of their expression, including in the context of new technologies; to work towards an international ban on weapon systems that lack human control over the use of force as requested by Parliament on various occasions and, in preparation of relevant meetings at UN level, to urgently develop and adopt a common position on autonomous weapon systems and to speak at relevant fora with one voice and act accordingly.

In the light of recent developments, it is arguable that the EP's position on the use of armed drones and IL is somewhat unclear, since earlier in 2018 the EP rejected a recommendation that IHRL should be tied to the EU's advancement of armed

⁷⁰⁶ EFAD 2018 <https://www.efadrones.org/efad-welcomes-european-parliaments-push-to-address-legal-issues-surrounding-the-use-of-armed-drones/?fbclid=IwAR3ZuwWb3sUxLqajojT-YFNuTIRVc1MBRAm0-g9S73Ahp50XYI0-OYMd71E>; S (av) of the *European Parliament recommendation to the Council on the 73rd session of the United Nations General Assembly* (2018/2040(INI)).

⁷⁰⁷ EFAD 2018 <https://www.efadrones.org/efad-welcomes-european-parliaments-push-to-address-legal-issues-surrounding-the-use-of-armed-drones/?fbclid=IwAR3ZuwWb3sUxLqajojT-YFNuTIRVc1MBRAm0-g9S73Ahp50XYI0-OYMd71E>; S (av) of the *European Parliament recommendation to the Council on the 73rd session of the United Nations General Assembly* (2018/2040(INI)).

⁷⁰⁸ S (av) of the *European Parliament recommendation to the Council on the 73rd session of the United Nations General Assembly* (2018/2040(INI)).

⁷⁰⁹ S (av) of the *European Parliament recommendation to the Council on the 73rd session of the United Nations General Assembly* (2018/2040(INI)).

⁷¹⁰ S (av) of the *European Parliament recommendation to the Council on the 73rd session of the United Nations General Assembly* (2018/2040(INI)).

drones, whereas in 2014 the EP urged the EU to develop policies which would support IHL and human rights by passing a resolution in this regard.⁷¹¹ The EP also requested the EC to establish an "EU Common Position on the use of armed drones".⁷¹²

Over the years, states have made various remarks at the First Committee of the UN General Assembly regarding the issue of armed drones.⁷¹³ In particular, states have asserted that it is essential for the current rules pertaining to armed conflicts to be upheld in relation to the use of armed drones.⁷¹⁴ They have raised various humanitarian concerns as to the impact of armed drone usage, such as concern about the growing number of civilian casualties, and the subsequent lack of accountability in this regard.⁷¹⁵ Furthermore, they have raised the issue of drone proliferation amongst states, or among non-state groups, as an issue pertaining to global security and peace, and they have highlighted the challenging nature of new technologies such as AWS's and the potential use thereof in drone warfare.⁷¹⁶ Finally, states have called for continuous discussions regarding a common understanding on how the law applies to armed drone usage, and for the establishment of a legal framework on the use of drones in warfare.⁷¹⁷

One may draw certain conclusions from the above. It is evident that there seems to be a trend in the international community regarding the issues that are of particular importance to the debate on the regulation of the use of armed drones. One may therefore identify the following issues that are clear concerns in the international

⁷¹¹ EFAD 2018 <https://www.efadrones.org/efad-welcomes-european-parliaments-push-to-address-legal-issues-surrounding-the-use-of-armed-drones/?fbclid=IwAR3ZuwWb3sUXLqajojT-YFNUtIRVc1MBRAm0-g9S73Ahp50XYI0-OYMd71E>.

⁷¹² EFAD 2018 <https://www.efadrones.org/efad-welcomes-european-parliaments-push-to-address-legal-issues-surrounding-the-use-of-armed-drones/?fbclid=IwAR3ZuwWb3sUXLqajojT-YFNUtIRVc1MBRAm0-g9S73Ahp50XYI0-OYMd71E>.

⁷¹³ Article 36 2018 <http://www.article36.org/wp-content/uploads/2018/09/Mapping-UN-and-state-activity-on-armed-drones-July-2018.pdf>.

⁷¹⁴ Article 36 2018 <http://www.article36.org/wp-content/uploads/2018/09/Mapping-UN-and-state-activity-on-armed-drones-July-2018.pdf>.

⁷¹⁵ Article 36 2018 <http://www.article36.org/wp-content/uploads/2018/09/Mapping-UN-and-state-activity-on-armed-drones-July-2018.pdf>.

⁷¹⁶ Article 36 2018 <http://www.article36.org/wp-content/uploads/2018/09/Mapping-UN-and-state-activity-on-armed-drones-July-2018.pdf>.

⁷¹⁷ Article 36 2018 <http://www.article36.org/wp-content/uploads/2018/09/Mapping-UN-and-state-activity-on-armed-drones-July-2018.pdf>.

community: firstly, the need for states to observe the fundamental principles of IHL; the lack of transparency, and the necessity of accountability and investigative measures. Further concerns relate to the worrying number of civilian casualties resulting from drone attacks, and the challenging aspect of new technologies such as AWS. The call by states for continuing discussions as to the possibility of a drone legal framework paired with the growing international debate about the use of armed drones in conflicts can be perceived as a movement towards the regulation of drone warfare. In view of these tendencies and the movement towards regulation, some recommendations can be made as to the way forward regarding the use of drones in armed conflicts.

5.4 Recommendations

The above discussion of the challenges posed by the use of drones in armed conflicts⁷¹⁸ in conjunction with the analysis of the current movement towards the regulation of drone warfare⁷¹⁹ informs the following recommendations, which are based on the above clearly identifiable concerns.

5.4.1 The Establishment of a Draft Legal Framework for the Use of Armed Drones in Armed Conflicts

The first point of departure is the creation of a draft legal framework which addresses issues which are of particular concern regarding the current use of drones in warfare.

On demand of the European Parliament's sub-committee for Human Rights, Dorsey and Bonacquisti wrote a paper entitled *Towards an EU Common Position on the Use of Armed Drones* in 2017, which proposes certain elements of a model common position for the European Union.⁷²⁰ Several general principles are outlined for inclusion in a common position regarding the use of armed drones,⁷²¹ namely:

⁷¹⁸ See para 4.2 above.

⁷¹⁹ See para 5.3 above.

⁷²⁰ Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 20.

⁷²¹ Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 22.

- that member states must agree to an independent supervisory body regarding the use of armed drones;
- that the use of armed drones must be in complete compliance with IHL and IL;
- that member states will refrain from participating in the illegal use of drones;
- that member states will consent to the obligation to conduct investigations in the interest of transparency regarding the use of force via armed drones; and
- that member states will consent to the judicial review of drone strikes at a local level, and will take measures to redress wrongful actions in cases where violations of these obligations are substantiated.⁷²²

Furthermore, a proposal has been made that member states must create and publish a set of national rules, in the interests of transparency, regarding the use and permissibility of armed drone strikes.⁷²³ Certain criteria that member states could employ in their national legal frameworks have been suggested, namely criteria regarding transparency, accountability and the determination not to assist other states in unlawful drone attacks.⁷²⁴ These criteria are compelling and could greatly assist the drafters of an international legal framework regarding the use of armed drones.

In the previous sections of this paper concerning the challenges posed by the use of armed drones in conflicts,⁷²⁵ and from the discussion of the movement to regulate the use of armed drones,⁷²⁶ some issues presented themselves as continuing concerns. Accordingly, these concerns could potentially inform the elements of a draft regulatory framework, as they are issues which require urgent regulation.

⁷²² Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 22.

⁷²³ Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 22.

⁷²⁴ Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 26-31.

⁷²⁵ See para 4.2 above.

⁷²⁶ See para 5.3 above.

5.4.1.1 Rules Relating to Transparency and Accountability

It is evident that the two challenges that feature prominently throughout the discussion of the use of armed drones in warfare are the lack of transparency and the need for accountability. Given the above discussion concerning the lack of transparency and accountability during drone strikes,⁷²⁷ and the insufficient provision of rules pertaining thereto in IHL, it is recommended that rules relating to transparency and accountability should be founded extensively in a legal framework concerning armed drone usage. The rules should establish clear obligations for states to follow in this regard, and mechanisms for oversight and transparency should be identified.

A study conducted by UNODA identified some issues that could be included in any mechanism that promotes accountability and transparency in this regard, namely information as a state's legal framework, laws and policies regarding the use of military drones; information with regard to the manner of accountability utilised during investigations of violations of war crimes; facts as to the legal defence for the use of force; operative data regarding targeted strikes; and lastly the results of investigations into alleged infringements of the right to life.⁷²⁸

The study also holds that there are seven reasons to develop mechanisms to ensure transparency and accountability in drone attacks. These are:⁷²⁹

- 1) increasing mutual confidence in and adherence to international law,
- 2) preventing unlawful use by others,
- 3) protecting civilians,
- 4) promoting international peace and security,
- 5) promoting the democratic legitimacy of counter-terrorism;
- 6) assisting in combatting human rights violation;
- 7) establishing national and international export controls

⁷²⁷ See para 4.2.2 and 4.2.3 above.

⁷²⁸ UNODA *Study on Armed Unmanned Aerial Vehicles* 58-59;

⁷²⁹ UNODA *Study on Armed Unmanned Aerial Vehicles* 50-52.

Considering the above, a recommendation that may be made regarding transparency and accountability during drone strikes is that member states should be requested to record their armed drone attacks via the on-board recording capabilities of the drone, and that such footage must be stored by an independent body⁷³⁰ for examination by courts, should any direct violation or infringement have occurred. This is a precautionary measure which would not only demand transparency but would aid in the consideration of states when an unlawful drone strike is considered.

However, it is unlikely that states would agree to provide footage from an armed conflict for examination by courts. This is because, thinking forward, it would make the state vulnerable to criticism about the military tactics and strategies employed during battle, which are matters that states will seek to protect under all circumstances in the interest of military advantage. Storing video footage would cause problems in itself, since it not only would it pose massive security risks for states, but it would require the availability of a huge server facility due to the large file size of video footage. The practicality of such a recommendation is doubtful, and therefore other solutions should be sought.

Nonetheless, it is desirable that an independent body should be established to oversee the use of armed drones in warfare. The body could be modelled, for instance, after a pre-existing body such as the International Atomic Energy Agency (hereafter, IAEA), which is an independent international organisation that reports annually to the UN.⁷³¹ This agency is responsible for applying mandatory comprehensive safeguards under the *Nuclear Non-Proliferation Treaty*.⁷³² The agency performs its functions in conformity with the rules of the UN relating to the furtherance of global disarmament via safeguards.⁷³³ In instances where it is deemed necessary, such as the non-compliance with their duties by members, the

⁷³⁰ Such a body could be created through the one-stop international legal framework that is being argued for in this study, or it could report to the UN Security Council.

⁷³¹ NTI 2018 <https://www.nti.org/learn/treaties-and-regimes/international-atomic-energy-agency/>.

⁷³² (1968).

⁷³³ NTI 2018 <https://www.nti.org/learn/treaties-and-regimes/international-atomic-energy-agency/>.

agency will report to the UN Security Council.⁷³⁴ The agency's "Board of Governors" is also able to call upon states to remedy their actions in cases of non-compliance.⁷³⁵

Consequently, the establishment of an independent body responsible for the oversight of member states' use of drones in armed conflicts is advisable. This body could be established in conformity with the rules of the UN, and it is recommended that the functioning thereof be outlined by the legal framework responsible for the regulation of the use of armed drones.

In terms of transparency, states could be required as a point of departure to provide an immediate and prompt report regarding every attack performed by the state, and they should be required to do so publicly.⁷³⁶ Furthermore, it is recommended that states should make available certain types of information, such as explanations relating to which rules or policy guidelines were applied during a drone strike, and statistics on the employment of lethal force by the relevant state via armed drones, including telemetric information such as the geographical location of strikes as well as the type of weapons platform utilised in the drone strike.⁷³⁷ Lastly, and in line with the requirement of accountability, states must be required to publish details pertaining to the accountability measures undertaken in instances where an investigation into a particular drone strike was necessitated.

With due regard to the requirement of accountability, one could expect of states to establish certain measures and processes which would facilitate their accountability relating to drone strikes. States should be required to determine the processes which will enable adequate disciplinary or criminal investigations.⁷³⁸ The public should be informed of states' accountability practices, and this information should be extended to individuals who might be directly impacted by drone attacks conducted by the relevant states.⁷³⁹ Finally, states should have reparation procedures in place to

⁷³⁴ NTI 2018 <https://www.nti.org/learn/treaties-and-regimes/international-atomic-energy-agency/>.

⁷³⁵ NTI 2018 <https://www.nti.org/learn/treaties-and-regimes/international-atomic-energy-agency/>.

⁷³⁶ Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 26.

⁷³⁷ Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 26.

⁷³⁸ Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 28.

⁷³⁹ Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 28.

follow an investigation where a state is found at fault for conducting an unlawful drone attack.⁷⁴⁰

A last consideration in this regard is the issue of targeted killings. From the above reasoning pertaining to targeted killings,⁷⁴¹ it is arguable that the practice of targeted strikes could potentially be regarded as a product of the on-going lack of transparency of states as to their conduct in armed conflicts, especially in regard to whether the policies which states employ during targeting procedures are compliant with IHL. The issue is exacerbated by the subsequent lack of accountability. Therefore, one may reason that this specific challenge posed by the use of drones in armed conflicts should be addressed under the ambit of transparency and accountability, and that by allowing for the inclusion of rules pertaining to transparency and accountability, the problem of targeted killings could be greatly ameliorated. For instance, requiring states to make public the policies on which they base their decisions to engage in a targeted strike could induce them to adhere to IHL, and upon the violation of IHL by such targeted strikes, states could be held accountable accordingly.

5.4.1.2 Rules Mandating Casualty Recording

There is a growing recognition that the recording of casualties would be a positive initiative for the protection of civilians. There is a general duty in IHL to record casualties.⁷⁴² An integral feature of the rules relating to transparency and accountability should be the obligation to promote the independent and robust recording of all casualties of an armed drone strike. This is especially essential in view of investigations pertaining to the legality of a strike, or investigations regarding grave breaches of IHL. Furthermore, the vigorous recording of casualties would facilitate the process of making reparation, as required under IHL. The ICRC, along with various other casualty recording organisations, is involved with the

⁷⁴⁰ Dorsey and Bonacquisti *Towards an EU Common Position on the Use of Armed Drones* 27.

⁷⁴¹ See para 4.2.4 above.

⁷⁴² A 32 of *AP I*; a 8 of *AP II*.

systematic recording of casualties.⁷⁴³ The ICRC and the organisation "Every Casualty Worldwide"⁷⁴⁴ have therefore developed certain standards for casualty recording.⁷⁴⁵ These standards require from casualty recorders for instance to be completely transparent as to their mission, motivation and methodology, and the information they collect.⁷⁴⁶ Recorders are required to have measures of corroboration in place, in order to be able to justify the number of casualties they report.⁷⁴⁷ The standards also provide guidelines as to how to enter data and the quality control of the data collected.⁷⁴⁸

Accordingly, it is recommended that the framework relating to the regulation of the use of armed drones in warfare should include in the rules, regarding transparency and accountability clear measures pertaining to the recording of casualties during warfare. The guidelines relating thereto could be based on the standards for casualty recording outlined above.⁷⁴⁹ There would then be a clear obligation on states to be transparent and responsible, rather than a complete reliance on international bodies like the ICRC which, as seen in this study, are already overburdened with various tasks pertaining to IHL.

⁷⁴³ ICRC 2016 <https://www.icrc.org/en/event/international-launch-standards-casualty-recording-putting-principles-practice>.

⁷⁴⁴ EveryCasualty 2018 <http://www.everycasualty.org>.

⁷⁴⁵ EveryCasualty 2016 [https://www.everycasualty.org/downloads/ec/pdf/StandardsforCasualtyRecording-Version1.0\(2016\).pdf](https://www.everycasualty.org/downloads/ec/pdf/StandardsforCasualtyRecording-Version1.0(2016).pdf).

⁷⁴⁶ EveryCasualty 2016 [https://www.everycasualty.org/downloads/ec/pdf/StandardsforCasualtyRecording-Version1.0\(2016\).pdf](https://www.everycasualty.org/downloads/ec/pdf/StandardsforCasualtyRecording-Version1.0(2016).pdf).

⁷⁴⁷ EveryCasualty 2016 [https://www.everycasualty.org/downloads/ec/pdf/StandardsforCasualtyRecording-Version1.0\(2016\).pdf](https://www.everycasualty.org/downloads/ec/pdf/StandardsforCasualtyRecording-Version1.0(2016).pdf).

⁷⁴⁸ EveryCasualty 2016 [https://www.everycasualty.org/downloads/ec/pdf/StandardsforCasualtyRecording-Version1.0\(2016\).pdf](https://www.everycasualty.org/downloads/ec/pdf/StandardsforCasualtyRecording-Version1.0(2016).pdf).

⁷⁴⁹ EveryCasualty 2016 [https://www.everycasualty.org/downloads/ec/pdf/StandardsforCasualtyRecording-Version1.0\(2016\).pdf](https://www.everycasualty.org/downloads/ec/pdf/StandardsforCasualtyRecording-Version1.0(2016).pdf).

5.4.1.3 Rules Relating to Drone Proliferation

It is essential that the export or transfer of lethal drone systems should be undertaken in a responsible manner, as has been discussed above.⁷⁵⁰ Consequently, establishing clarity as to the rules applicable to the import and export of drone technology is essential.

In this regard, a valuable starting point could be the following five general principles identified by the *Joint Declaration for the Export and Subsequent Use of Armed or Strike-Enabled Unmanned Aerial Vehicles (UAVs)*.⁷⁵¹ It is held that the applicability of IL norms, inclusive of both IHRL and IHL as they relate to the use of armed drones, as with other such weapons, must be kept in mind. Next, the importance of engaging in the responsible export of armed drones, in compliance with current international arms control laws and rules relating to disarmament, is underlined and it is held that such behaviour could assist in building confidence in the peaceful intention of states partaking in such export. Thirdly, during the export processes the recipient state's history relating to its performance of its international duties and commitments must be considered, and armed drone exportation should consequently be consistent with the laws of current non-proliferation frameworks and multilateral export control regimes. Furthermore, it is suggested that states' willingness to voluntarily partake in the appropriate measures of transparency concerning the exportation of armed drones and the reporting of such exports through current mechanisms in view of national security deliberations, must be regarded as crucial. Lastly, continuous debate as to how the improved capabilities of drones are both transferred and used by all states must take place, especially in consideration of the current rapid development of drones and the need to set firm international standards for the use and exportation of drone systems.

Consequently, it is advisable that rules should be drafted requiring states to publish annual reports pertaining to the acquisition and export of drone technology, in

⁷⁵⁰ See para 4.2.5 above.

⁷⁵¹ US Department of State 2016 <https://2009-2017.state.gov/r/pa/prs/ps/2016/10/262811.htm>; Middle East Institute 2017 <http://www.mei.edu/publications/norms-needed-regulate-use-armed-drones>.

conjunction with reports pertaining to the use of such armed drones in conflict situations.

5.4.1.4 Rules Relating to Miscellaneous Challenges Posed by the Use of Drones in Armed Conflicts

In this regard, some general recommendations can be made. In the first instance, rules should be developed to clarify the current ambiguities and difficulties pertaining to the use of drones and the fundamental principles of IHL. For instance, as discussed above, a common position as to what amounts to direct participation in hostilities should be established, a clearer definition of "combatants" should be determined so as to clear the fog relating to so-called unlawful combatants, and generally, there should be an attempt to simplify or clarify the rules common to the principle of distinction, in order to better assist the determination of an individual's status.

In addition, and in view of the ambiguity regarding the principle of proportionality, it is recommended that greater clarity should be provided to states as to making a proportionality assessment before initiating a drone strike.

In view of the discussion (above) regarding AWS,⁷⁵² it is arguable that much of the debate surrounding the legality of the potential use of AWS in armed conflicts is grounded on the fear that they would not be capable of adhering to the fundamental principles of IHL. One is able to glean from much of the reasoning employed regarding the legality of AWS,⁷⁵³ that it is not that AWS do not have the potential for development to such an extent that they would be susceptible to lawful use. Rather, it is discernible that the underlying issue is the vagueness of the principles of distinction and proportionality, for instance, and the primary requirements thereof in order for a strike to be lawful. It is held that there are various potential advantages in allowing AWS on the battlefield.⁷⁵⁴ Thus, it is arguable that an attempt should be made to clarify the rules of IHL in order to facilitate discussion relating to AWS. Only

⁷⁵² See para 4.2.6 above.

⁷⁵³ See para 4.2.6 above.

⁷⁵⁴ See para 4.2.6 above.

when the element of legal ambiguity is eliminated from the argument and certainty is gained as to the particular definitions regarding AWS and the application thereof in armed conflicts could a fair argument be made for either the ban or the regulation of such systems.

Consequently, it is pertinent that clarity should be provided regarding the status of AWS in the international community. A commonly accepted definition of an AWS should be developed, and the vagueness relating to the term "meaningful human control" as a crucial issue facing the legality of AWS should be addressed. Thereafter, consideration should be given to defining the parameters of the principles of IHL with greater clarity so as to enable AWS to be "programmable". A development such as this could greatly add to the adequacy of IHL in addressing nuanced technological developments in warfare.

In regard to the current movement towards a ban of AWS, a thorough investigation should first be conducted to determine the true possibility of AWS being utilised as lawful weapons. This must be done with special regard to the on-going developments of artificial intelligence, machine learning and deep learning. This recommendation is essential, since one could argue that AWS have the capability of assisting combatants to conduct "safer" and more effective wars with fewer civilian casualties.

5.5 Conclusion

Arguably, drones are not only legitimate means of warfare, but due to their unique capabilities they are capable of being used in ways which could enhance the conduct of war. Nonetheless, as with all weapons, armed drones are subject to use which is contrary to the fundamental principles of IHL. In view of the major challenges presented by the use of drones in warfare, the fundamental principles of IHL have been scrutinised.⁷⁵⁵ It was concluded from this scrutiny that the principles inherent in IHL are relatively ambiguous, which leads to the inadequacy of IHL in regulating the use of drones in warfare. The vagueness of these principles is also a cause for

⁷⁵⁵ See para 4.2 above.

general concern. The principles of distinction, precaution and proportionality are of significant relevance in this regard,⁷⁵⁶ since there are various problems involved in the application of these rules during armed conflicts.⁷⁵⁷ Hence, it is desirable that the principles should be developed in order to ensure that IHL remains capable of effectively regulating armed conflicts.⁷⁵⁸

The challenging use of drones is a major cause for concern, and as can be gleaned from the continuous international debate thereon. It is an aspect of warfare which must be addressed with great urgency.⁷⁵⁹ In view of the inadequacy of IHL to fully regulate the challenges outlined above, there is a dire need for the establishment of a common position on the use of armed drones. This could assist in maintaining international peace and security by establishing legal certainty, could result in a significant contribution towards the willingness of states to comply with IHL, and could assist in improving the enforceability of this body of law. What is evident is that IHL is not entirely inadequate to address the use of drones in armed conflicts. Instead, it is inadequate in addressing the particular challenges it is faced with by the use of drones in armed conflicts.⁷⁶⁰ Therefore, it is necessary for the law to develop. This is vital since the inability of a body of law to develop, or the reluctance to do so (especially where it is expected to regulate certain human activities such as the conduct of war, which is constantly subjected to rapid development by its very nature) could be regarded as a potential vulnerability.⁷⁶¹

As far as the challenges pertaining to drone warfare are concerned, it is determinable that the greatest problem is the lack of transparency and accountability.⁷⁶² This issue could have a worldwide snowball effect in the absence of its resolution, since as drone proliferation increases, states are more likely to engage in the potentially unlawful use of drones and to allow to them the right to strike their enemies without any meaningful transparency and a consequent lack of

⁷⁵⁶ See para 4.2.1.4-4.2.1.6 above.

⁷⁵⁷ See para

⁷⁵⁸ See para 5.4 above.

⁷⁵⁹ See para 5.3 above.

⁷⁶⁰ See para 5.2 above.

⁷⁶¹ See para 5.2 above.

⁷⁶² See para 4.2.2-4.2.3; 5.3 above.

accountability. If a legal framework were to be developed, one would be able to establish legal certainty and ensure the subsequent respect for the ROL. Enhancing transparency and accountability could have a far-reaching impact on the future use of drones in warfare, and could greatly assist in states' compliance with IHL.

It is arguable that any regulations which are developed with a view on regulating the use of armed drones should proceed from the fundamental principles of IHL. Hence, it is desirable that these principles and the rules which IHL consists of should inform the rules developed in the form of a legal framework for drone warfare. Thus, the principles of distinction, precaution and proportionality should form an integral part of the regulations pertaining to armed drone use. However, it is necessary for these rules to be developed in order that they may be adequate measures of regulation. Thus, the concepts of "civilians" and "combatants" should be delineated and should be formulated in clearer terms to allow for more complete adherence to these considerations as they relate to the principles of distinction and proportionality. Furthermore, what is truly "feasible" in terms of the requirement relating to taking the necessary precautions before initiating a drone attack could be a further useful development of this IHL principle, in view of the need to effectively regulate drone warfare.

If one considers the development of armed drones in warfare and the potential thereof to become fully integrated with AWS, it is evident that the means and methods of warfare are evolving at a very rapid pace.⁷⁶³ Therefore, it is necessary for IHL to develop, and for a legal framework on the use of armed drones in warfare to be established, so as to enable the world to maintain the humanitarian spirit upheld by IHL in armed conflicts. In the matter of AWS, it is discernible that allowing a machine, in the absence of meaningful human control, to apply lethal force could have potential detrimental consequences. Hence, it is pertinent that the international community should engage with the foundational issues relating to AWS: namely, the lack of certainty as to the exact meaning of AWS, vagueness pertaining to the definition of meaningful human control within the ambit of AWS, and the ambiguity

⁷⁶³ See para 3.7, 4.2.6 and 5.2 above.

relating to the fundamental principles of IHL and the current inadequacy thereof. Such ambiguities should be transformed into clear guidelines regarding, one such being the determination of the status of an individual.⁷⁶⁴ Addressing these issues would make it possible to further the debate regarding AWS and allow for IHL to develop in conjunction with the future of warfare, and no longer in response to the development of war.

⁷⁶⁴ See para 5.2 above.

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TO WHOM IT MAY CONCERN

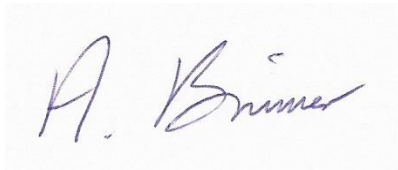
2 December, 2018

I hereby certify that I have edited the language of a dissertation by Nicolene Steyn titled "The adequacy of International humanitarian law in regulating the challenges posed by drone warfare".

I am Professor Alan Brimer, DLitt (UPE), Professor Emeritus of UKZN.

Yours faithfully,

Alan Brimer

A handwritten signature in blue ink that reads "A. Brimer". The signature is written in a cursive style with a large initial 'A' and a distinct 'B'.