

The redirection of attacks by defending forces

Tsvetelina van Benthem*

Tsvetelina van Benthem is a DPhil candidate at Merton College, Oxford, a Research Officer at the Oxford Institute for Ethics, Law and Armed Conflict, and Convenor of the public international law course of the Oxford Diplomatic Studies Programme.

Abstract

This article examines the redirection of incoming missiles when employed by defending forces to whom obligations to take precautions against the effects of attacks apply. The analysis proceeds in four steps. In the first step, the possibility of redirection is examined from an empirical standpoint. Step two defines the contours of the obligation to take precautions against the effects of attacks. Step three considers one variant of redirection, where a missile is redirected back towards the adversary. It is argued that such acts of redirection would fulfil the definition of attack under the law of armed conflict, and that prima facie conflicts of obligations could be avoided through interpretation of the feasibility standard embedded in the obligation to take precautions against the effects of attacks. Finally, step four analyzes acts of redirection against persons under the control of the redirecting State. Analyzing this scenario calls for an inquiry into the relationship between the relevant obligations under international humanitarian law and human rights law.

Keywords: international human rights law, international law, law of armed conflict, military technology, precautions against the effects of attacks, redirection, right to life.



* The author would like to acknowledge the helpful comments of the anonymous peer reviewers and of her colleagues Dr Miles Jackson, Mr Constantinos Giorkas and Ms Gayathree Devi Kalliyat Thazhathuveetil from the Oxford Law Faculty. The views expressed in this article remain those of the author alone.

Introduction

Military technology moves fast. Enhanced capacity to manage battlefield risks, increases in targeting precision and better traceability of outcomes are among the promises that new technology brings. For all their perceived benefits, however, these very capacities may trigger a sense of legal uncertainty. This is so for two main reasons. First, the way in which the applicable international legal regimes apply to such capacities may not be immediately evident and may require in-depth scrutiny. Second, and more fundamentally, inquiring into the way in which the law applies may point to areas where the contours of the rules—even foundational ones—remain pixelated and subject to interpretative contestation. Quite naturally, we want States to do “more” to protect in conflict, yet this “more” can challenge the legal framework, expose some of its own controversies and even lead to conflicts of obligations. What States can do today and what they will be able to do tomorrow therefore requires careful reflection.

The idea that defending forces may be able to hack into the systems of their adversaries and redirect incoming missiles may seem like a worry for a more distant future, but breakthroughs in the redirection of missiles in flight have already been reported.¹ Moreover, it is important to consider potential legal challenges preemptively—in the context of autonomous weapons systems, suggestions were made back in 2013 that such weapons had not even “left the drawing board”,² but in 2021, the report of United Nations Panel of Experts on Libya described an incident in which an autonomous weapons system had hunted down logistics convoys.³

This article will examine the practice of redirection when employed by defending forces to whom obligations to take precautions against the effects of attacks apply. The terms “defending forces” and “defenders” will be used subsequently as a shorthand to denote those to whom such precautionary obligations apply. The analysis will proceed in four steps. In the first step, acts of redirection will be examined from a historical and empirical standpoint. Step two will assess the obligation to take precautions against the effects of attacks. Step three will consider one variant of redirection, where a missile is redirected back towards the adversary. Finally, step four will analyze redirections against persons under the control of the redirecting State.

1 Gary Sheftick, ‘Smart Sensor Network Helps Redirect Missile’, 18 September 2019, available at: www.army.mil/article/226890/smart_sensor_network_helps_redirect_missile (all internet references were accessed in October 2021).

2 Michael N. Schmitt and Jeffrey S. Thurnher, “‘Out of the Loop’: Autonomous Weapon Systems and the Law of Armed Conflict”, *Harvard National Security Journal*, Vol. 4, No. 2, 2013, p. 234. Of course, in determining whether a capability is already “here” or not, much will depend on the starting point—its definition.

3 *Final Report of the Panel of Experts on Libya Established Pursuant to Security Council Resolution 1973 (2011)*, UN Doc. S/2021/229, 8 March 2021, para. 63.

The possibility of redirection

Redirecting a missile away from those to whom we owe protective duties is undoubtedly a desirable option, and one that aligns with the obligations of defenders under the law of armed conflict.⁴ Questions surrounding the possibility of redirecting incoming projectiles are not new; what is new is the way in which such redirection can occur.

When Germany initiated the bombing of London in June of 1944, it deployed a new type of guided missiles known as V-weapons. As detailed by Burri in her excellent piece “Why Moral Theorizing Needs Real Cases: The Redirection of V-Weapons during the Second World War”, the British were faced with a difficult choice. Relying on double agents that they had recruited among German spies, the British could, by sending selective information on impact sites, have misled the Germans about the performance of the new weapons, and could thus have effectively led them to redirect their bombs away from Central London and towards the Southeast.⁵ This option, which according to estimates would have meant fewer overall civilian casualties, was ultimately not pursued, and the decision of the British War Cabinet not to redirect has since been the subject of intense academic debate.⁶

While in the case of the V-weapons, the redirection would have occurred through the selective sending of information to the German military command, present-day capabilities may present more direct points of entry into an adversary’s systems. For years, the alarm bell has been sounded over the risk of hacking into weapons systems.⁷ This concern has been prominent in the discussions on autonomous weapons systems,⁸ but it is just as valid when it comes to manned systems, for whatever strides we make with the interconnectivity of military systems, we open more possibilities for intrusion and potentially loss of control. Thus, enhancing the capacity to redirect may come with the risk of opening up space for additional vulnerabilities.

In August 2019, the US Army successfully redirected a munition in flight in an A3I⁹ experiment by using smart sensors and artificial intelligence.¹⁰ And just as

4 Protocol Additional (I) to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts, 1125 UNTS 3, 8 June 1977 (entered into force 7 December 1978) (AP I), Art. 58; Jean-Marie Henckaerts and Louise Doswald-Beck (eds), *Customary International Humanitarian Law*, Vol. 1: *Rules*, Cambridge University Press, Cambridge, 2005 (ICRC Customary Law Study), Rule 22, available at: <https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1>.

5 Susanne Burri, “Why Moral Theorizing Needs Real Cases: The Redirection of V-Weapons during the Second World War”, *Journal of Political Philosophy*, Vol. 28, No. 2, 2020, p. 247.

6 *Ibid.*, pp. 254 ff.

7 US Government Accountability Office, *Weapon Systems Cybersecurity: DOD Just Beginning to Grapple with Scale of Vulnerabilities*, Report to the Committee on Armed Services, 2018, available at: www.gao.gov/assets/gao-19-128.pdf.

8 Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, *Report of the 2019 Session*, UN Doc. CCW/GGE.1/2019/3, 25 September 2019, para. 25(a) and Guiding Principle (f).

9 A3I stands for architecture, automation, autonomy and interfaces.

10 G. Sheftick, above note 1.

the interoperability of systems is making qualitative leaps, promising better feedback loops during combat engagements, the risks of losing control over the process due to the actions of external actors are starting to become apparent. Reports have emerged of States hacking into the systems of contractors to steal sensitive information around the development of particular weapons.¹¹ It is not inconceivable that States and non-State actors may soon acquire the capacity to gain control over weapons in flight and redirect them to new locations. Quite aside from the questions around how to ensure the safety of weapons systems, this article starts from the premise that parties to conflict may be able to redirect incoming missiles. The question, then, is: how are we to assess the legality of such acts of redirection, and what are the rules that constrain such acts?

Defending

Contemporary international humanitarian law (IHL), while strongly anchored in the necessities of battlefield reality, has come to be enveloped by a panoply of protective obligations. As affirmed by the International Court of Justice in the Nuclear Weapons Advisory Opinion, the principle of distinction between combatants and civilians and the prohibition against unnecessary suffering are “the cardinal principles contained in the texts constituting the fabric of humanitarian law”.¹² Additional Protocol I to the Geneva Conventions (AP I), in its Article 51(1), sets out an overarching frame for the specific protective obligations binding parties to conflict: “The civilian population and individual civilians shall enjoy general protection against dangers arising from military operations.”¹³ There is thus a dual acknowledgment: danger to civilians and civilian objects may be inherent to armed conflict, but the management of danger and its reduction to a minimum¹⁴ fall within the duties incumbent on parties to conflict.

In addition to a range of prohibitive rules designed to protect civilians and civilian objects, IHL, both conventional and customary, contains rules that require positive action. The obligations to take precautions are an example of such positive obligations. Forming part of the general legal architecture of IHL,¹⁵ they operate in tandem with negative obligations and seek to ensure a reasonable decision-making process, whereby attacks are only directed against specific military objectives,¹⁶ the

11 Jeffrey B. Jones, “Confronting China’s Efforts to Steal Defense Information”, Belfer Center Paper, May 2020, available at: www.belfercenter.org/sites/default/files/2020-05/ChinaStealing.pdf.

12 International Court of Justice, *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, *ICJ Reports 1996* (Nuclear Weapons Advisory Opinion), para. 78.

13 AP I, Art. 51(1).

14 Yves Sandoz, Christophe Swinarski and Bruno Zimmermann (eds), *Commentary on the Additional Protocols*, ICRC, Geneva, 1987 (ICRC Commentary on the APs), para. 1935.

15 Théo Boutruche, “Expert Opinion on the Meaning and Scope of Feasible Precautions under International Humanitarian Law and Related Assessment of the Conduct of the Parties to the Gaza Conflict in the Context of the Operation ‘Protective Edge’”, Expert Opinion commissioned by Diakonia, 2015, p. 7.

16 AP I, Art. 48.

means and methods of attack are constrained,¹⁷ and constant care is taken to spare the civilian population.¹⁸ Importantly, precautionary obligations do not lie exclusively with attackers. Defending forces are bound by their own set of obligations to take precautions, known as precautions against the effects of attacks, or passive precautions. The necessity of imposing precautionary obligations on defenders stems from an understanding that, to ensure the meaningful protection of the civilian population and civilian objects, both attacking and defending parties should be bound to undertake positive protective measures.¹⁹

We read the relevant rule on precautions against the effects of attacks in Article 58 of AP I, a rule also reflected in customary international law:²⁰

The Parties to the conflict shall, to the maximum extent feasible:

- a) ... endeavour to remove the civilian population, individual civilians and civilian objects under their control from the vicinity of military objectives;
- b) avoid locating military objectives within or near densely populated areas;
- c) take the other necessary precautions to protect the civilian population, individual civilians and civilian objects under their control against the dangers resulting from military operations.

These specific measures apply to the defender's own territory or to territory under its control.²¹ As is immediately apparent from the first sentence of Article 58, the obligations are cast in relative terms.²² Conditioned by a standard of feasibility,²³ the obligations set out in paragraphs (a) to (c) do not prescribe a particular result to be achieved in all circumstances.²⁴ Neither do they mandate a particular way of discharging these three specific obligations, or a fixed set of measures that each defending force ought to take to fulfil them.²⁵ What can be gleaned from the wording is a standard embedded in context, where the precise scope of what is "feasible" depends on a range of factors present in the circumstances prevailing at the time.²⁶

"Feasibility" is a standard that has been defined in a rather impressionistic way. According to declarations made by States at the time of ratification of AP I, "feasible" is "that which is practicable or practically possible, taking into account all circumstances prevailing at the time, including humanitarian and military considerations".²⁷ On the one hand, this definition demonstrates that parties to a

17 *Ibid.*, Art. 35(1).

18 *Ibid.*, Art. 57.

19 ICRC Commentary on the APs, above note 14, para. 2241.

20 ICRC Customary Law Study, above note 4, Rule 22.

21 ICRC Commentary in the APs, above note 14, para. 2239.

22 Dieter Fleck (ed.), *The Handbook of International Humanitarian Law*, 4th ed., Oxford University Press, Oxford, 2021, Section 8.09, para. 2.

23 Eric Jensen, "Precautions against the Effects of Attacks in Urban Areas", *International Review of the Red Cross*, Vol. 98, No. 1, 2016, pp. 164–165.

24 *Ibid.*

25 T. Boutruche, above note 15, p. 17.

26 *Ibid.*, pp. 15–16.

conflict are not required to do the impossible.²⁸ On the other, it allows decision-makers to identify the types of considerations that, at each relevant time, give contours to the obligation.²⁹ Importantly, the standard of “feasibility” is flexible enough to accommodate change, and, as noted by Quéguiner, it “acknowledges that the lawfulness of an attack will be judged according to relative standards of measurement, which will namely depend on the economic and technological development of each party to the conflict”.³⁰ It has also been characterized as a standard that evolves through experience.³¹

The obligations listed in paragraphs (a) and (b) of Article 58 address two separate and specific types of action. Paragraph (c), in contrast, does not require a particular type of action – rather, it is a general obligation to “take the other necessary precautions”. A number of examples for precautions under paragraph (c) are provided in the ICRC Commentary on AP I. These include “making available to the civilian population shelters which provide adequate protection against the effects of weapons” and the organization of well-trained and adequately equipped civil defence services.³² These examples are merely illustrative, and what is “feasible” is a moving target that changes with capacity and context. Given this, it becomes particularly important to consider the scope of this obligation in the context of evolving technological capabilities, including capabilities related to the redirection of incoming attacks. If necessity in paragraph (c) is understood as the only way of achieving a particular goal, and redirection is the only way to protect civilians from an incoming attack, could it be said that defenders *must*, if they can, redirect incoming missiles in order to discharge their precautionary obligation?

The following two sections will examine how we ought to think about such acts of redirection – first, when the redirection is carried out towards an adversary, and second, when it is towards persons under the defender’s control.

Redirection against an adversary

A missile is flying towards a densely populated area in the territory of the defending State. There are only minutes to act, and the defender has the capacity to hack into

27 This was the view expressed by a number of delegations upon ratification of AP I. See Julie Gaudreau, “The Reservations to the Protocols Additional to the Geneva Conventions for the Protection of War Victims”, *International Review of the Red Cross*, Vol. 85, No. 849, 2003, pp. 156–157.

28 Marco Sassòli and Anne Quintin, “Active and Passive Precautions in Air and Missile Warfare”, *Israel Yearbook on Human Rights*, Vol. 44, 2014, p. 82. In the context of precautions in attack, we read in a report submitted to the International Criminal Tribunal for the former Yugoslavia (ICTY) that “[t]he obligation to do everything feasible is high but not absolute”. *Final Report to the Prosecutor by the Committee Established to Review the NATO Bombing Campaign against the Federal Republic of Yugoslavia*, 8 June 2000, para. 29.

29 *Ibid.*, p. 83.

30 Jean-François Quéguiner, “Precautions under the Law Governing the Conduct of Hostilities”, *International Review of the Red Cross*, Vol. 88, No. 864, 2006, p. 802.

31 M. Sassòli and A. Quintin, above note 28, p. 87.

32 ICRC Commentary on the APs, above note 14, para. 2257.

the operating system of the missile and redirect it. Depending on, *inter alia*, the capacity available to the defending force, redirecting back towards the adversary may be the only option, or it may be the preferred option among many. Should the defender redirect, how will the act of redirection be assessed? And can an argument that this act was carried out as a way of discharging the defender's precautionary obligations affect the qualification of the act of redirection?

Turning to the first question, the sharp-end issue is to determine whether such an act ought to be qualified as a new attack, such that the defender is treated as having mounted an attack of its own. Qualifying this act as an attack carries significant implications. It would trigger all attack-related IHL obligations on the conduct of hostilities, including the prohibitions on directing attacks against civilians³³ and launching disproportionate attacks.³⁴ This would, in turn, constrain the actions of the defender. To understand how the act of redirection ought to be characterized, then, it is necessary to understand the meaning of "attack" under the law of armed conflict.

A definition of attacks is found in Article 49 of AP I: attacks are acts of violence against the adversary, whether in offence or in defence. As noted by O'Keefe,

an "attack" is an act of armed violence directed against military forces of an opposing party, provided those forces have not fallen into the power of the party directing the violence, or against persons or objects under the control of an opposing party.³⁵

If this definition is taken to denote a purely factual description of conduct, then the act of redirection seems to fall within its ambit without much difficulty. It entails an act of violence directed towards a target – it is, in this sense, an act of setting upon a target "with hostile action",³⁶ an act of "combat action".³⁷ It is also carried out against an adversary, be it combatants from the other party or persons under its control. And finally, it can also be classified as an act conducted in defence.

One outstanding question here, however, is whether the phrase "against the adversary" encompasses a subjective standard that requires more than the *fact* of violence against persons falling within the category of "adversary". In their observations on the *Ntaganda* case, for instance, Corn *et al.* advance the position that the term "attack" incorporates an element of motive. They write:

The motivation for executing the act must be to cause harm to the adversary or other persons or objects in the conduct of hostilities. ... Accordingly, violent acts directed at harming the adversary ... through physical injury or

33 AP I, Art. 51(2).

34 *Ibid.*, Art. 51(5)(b).

35 International Criminal Court (ICC), *Situation in the Democratic Republic of the Congo in the Case of the Prosecutor v. Bosco Ntaganda*, Observations by Professor Roger O'Keefe Pursuant to Rule 103 of the Rules of Procedure and Evidence, No. ICC-01/04-02/06 A2, 17 September 2020 (O'Keefe Observations), p. 3.

36 ICRC Commentary on the APs, above note 14, para. 1879.

37 *Ibid.*, para. 1880.

destruction, are “attacks” within the meaning of IHL. Conversely, without this motive the act is not an “attack”.³⁸

While the phrase “against the adversary” can indeed be interpreted as implying acts that are directed as acts of violence intended to harm – that is, not acts that are, for example, designed to provide humanitarian assistance – it is doubtful whether any inquiry into the *motive* of the attacker is embedded in the notion of attack. A specific motive of “inflicting harm” has not been part of the inquiry of tribunals dealing with the interpretation of “attack” as understood in IHL.³⁹ While the recent International Criminal Court (ICC) appeals judgment in *Ntaganda* did not engage with the existence of such a subjective element,⁴⁰ Judge Eboe-Osuji’s partly concurring opinion does so, and leans towards a more factual standard in determining the scope of an “attack”. In his opinion,

[p]urpose or motive does not define a conduct as an “attack.” An essentially violent conduct or use of force of arms remains an “attack” notwithstanding that it is entirely gratuitous; or has a particular motive or purpose. ... The purpose or motive – when present – only explains the reason for the violence or the use of force arms, and that reason may be considered on its own intrinsic merit, terms or value. But, it does not alter the fact that violence or force of arms had been brought to bear – in the nature of an “attack.”⁴¹

Recent academic initiatives, such as the *Tallinn Manual 2.0 on the International Law Applicable to Cyber Operations* (Tallinn Manual 2.0) and the *Oslo Manual on Select Topics of the Law of Armed Conflict* (Oslo Manual), similarly accept that motive is not required for the qualification of an act as an “attack”. According to the Tallinn Manual 2.0, “[a] cyber attack is a cyber operation, whether offensive or defensive, that is reasonably expected to cause injury or death to persons or damage or destruction to objects”,⁴² and under the Oslo Manual, in the context of outer space operations, “[t]he acts must be intended to cause – or must be reasonably

38 ICC, *Situation in the Democratic Republic of the Congo in the Case of the Prosecutor v. Bosco Ntaganda*, Submission of Observations to the Appeals Chamber Pursuant to Rule 103 by Geoffrey Corn *et al.*, No. ICC-01/04-02/06 A2, 18 September 2020, paras 14–15. The authors provide a number of scenarios that distinguish between acts that would amount to an attack and acts that would not: “providing air-delivered supplies such as food or medical equipment may inadvertently cause injury or damage if the air-delivered material lands on a person or structure”, “maneuver damage to roads and fields”.

39 In the *Galić* case, the ICTY only reviewed subjective elements related to the direction of attacks against civilians as additional and separate from the term “attack”. ICTY, *Prosecutor v. Stanislav Galić*, Case No. IT-98-29-T, Judgment (Trial Chamber), 5 December 2003, paras 41 ff. See also ICTY, *Prosecutor v. Pavle Strugar*, Case No. IT-01-41-T, Judgment (Trial Chamber), 31 January 2005, para. 282. The International Criminal Court (ICC) has also left any analysis of subjective elements beyond the definition of “attack”: see ICC, *Prosecutor v. Bosco Ntaganda*, Case No. ICC-01/04-02/06, Judgment (Trial Chamber), 8 July 2019, para. 916; ICC, *Prosecutor v. Germain Katanga*, Case No. ICC-01/04-01/07, Judgment (Trial Chamber), 7 March 2014, para. 798.

40 The Appeals Chamber summarized the Trial Chamber’s reasoning, the submissions received, and the opinions of the individual judges without giving a unified or detailed view of the meaning of “attack”: see ICC, *Prosecutor v. Bosco Ntaganda*, Case No. ICC-01/04-02/06, Judgment (Appeals Chamber), 30 March 2021, paras. 1149–1169.

41 ICC, *Prosecutor v. Bosco Ntaganda*, No. ICC-01/04-02/06 A 2, Judgment (Appeals Chamber), Partly Concurring Opinion of Judge Eboe-Osuji, 30 March 2021, para. 110.

expected to result in—death, injury, destruction or damage”.⁴³ Rather than inquiring into a motive to cause harm, this approach looks at the *reasonable expectation* of causing violent consequences. A similar direction of thinking was embraced by Judge Ibáñez Carranza in her dissenting opinion to the *Ntaganda* Appeals Chamber judgment, in which she found that the core of the test lies in whether “injury, death, damage or destruction are intended or foreseeable consequences” of the act.⁴⁴

This approach thus situates attacks in a deliberate decision-making process whereby a party to conflict decides on carrying out an act against the adversary with the reasonable expectation that this act will cause harm.⁴⁵ And even if it moves away from a party’s motivations, this approach does not cast an unreasonably wide net. For instance, a main concern in the *Corn et al. amicus* submission is over “accidental” cases, such as air-delivered supplies accidentally causing harm to civilians. That they *factually cause harm* does not automatically characterize them as attacks; what is needed is a reasonable expectation that the act will cause such consequences, and such an expectation is indeed lacking in accidental cases. Such cases would also not amount to acts carried out in offence or defence.

Under this view of the term “attack”, it would be difficult to see how an act of redirection would not meet its elements. When redirecting, the defender selects a new target towards which the missile will be reoriented. Is there another way to argue that redirection would not constitute an attack under IHL? A related though distinct conversation under the heading of “shift cold” military tactics employed by attacking forces can be of help in considering the characterization of redirection. As explained by Schmitt and King,

[a] “shift cold” occurs when an operator ... redirects a guided munition, such as a missile or guided bomb, away from its initially-intended point of impact to another location while the munition is in flight (that is, post-launch or release). This is generally done to avoid harm to civilians or to friendly forces in the target area who, at the time of weapon launch or release, were not expected to be there.⁴⁶

In the scenario considered by Schmitt and King, the act of redirection is one carried out by the attacker, and they consider such redirection to be “a paradigmatic example of an international humanitarian law-required ‘precaution in attack’”.⁴⁷ Under their view, a shift cold does not constitute a new attack. Rather, the redirection of the munition into a new area is a continuation of an ongoing

42 Michael N. Schmitt (ed.), *Tallinn Manual 2.0 on the International Law Applicable to Cyber Operations*, Cambridge University Press, Cambridge, 2017, Rule 92.

43 Yoram Dinstein and Arne Willy Dahl, *Oslo Manual on Select Topics of the Law of Armed Conflict: Rules and Commentary*, Springer, Cham, 2020 (Oslo Manual), Rule 8.

44 ICC, *Ntaganda*, above note 40, para. 1166.

45 See, for instance, ICC, *Ntaganda*, above note 39, paras 916–917.

46 Michael N. Schmitt and Lt.-Col. Matthew King, “The ‘Shift Cold’ Military Tactic and International Humanitarian Law”, *Just Security*, 20 February 2018, available at: www.justsecurity.org/52198/shift-cold-tactic-international-humanitarian-law/.

47 *Ibid.*

attack. As they write, “[s]ame aircraft, same weapon, and same personnel in control of the weapon, and the act can best be described as guiding the weapon *away* from a point”.⁴⁸

This view has been challenged by Haque. First, he points out that, while it may seem *prima facie* satisfactory to think of shift cold tactics as not amounting to attacks where the redirection, in seeking to avoid civilian harm, is aimed at an area with fewer civilians at risk, the view becomes untenable where the redirection targets civilians or is done in anticipation of excessive civilian harm. Second, he clarifies that Schmitt and King’s description of shift cold being action guiding the weapon *away* from a point is inaccurate, as the tactics are performing the opposite – the weapon is in fact guided *toward* a point.⁴⁹

A further argument is advanced by Haque. In his view, an act of redirection could be seen as the cancellation or suspension of an attack where “the operator seeks only to avoid or minimize harm to civilians”. This is because international law defines “attacks” as “acts of violence against the adversary, whether in offence or in defence”, and “if an operator redirects a missile solely to avoid or minimize harm to civilians, then this act, violent though it may be, is neither proximately nor ultimately directed against the adversary”.⁵⁰ On reflection, however, the cancellation/suspension argument should also be rejected. In essence, it is a variant of the discussion on subjective elements inherent in the definition of attacks. As becomes clear from the passage cited, here the analysis would turn on what the operator was *seeking to do* – whether she sought solely to avoid or minimize harm to civilians. This reads too much into the phrase “against the adversary”. There is nothing problematic in accepting that the act of redirection can simultaneously amount to the cancellation or suspension of an attack *and* the initiation of a new one. Haque himself acknowledges that attempts to answer such questions by narrowly interpreting the relevant norms may do more harm than good. Indeed, carving out space for arguments on what exactly a party to conflict intended to achieve by directing an act of violence towards a selected target may significantly undermine the protection of civilians in conflict, and would hardly comport with the object and purpose of AP I.

Underlying these discussions is a twofold concern. In its first layer, it demonstrates a worry that certain interpretations of IHL may lead to absurd results – an attacker or defender would not be able to redirect a missile flying towards a residential building to even an empty parking lot without violating the prohibition on directing attacks against civilian objects. In its second layer, it highlights the emergence of complex conflicts of obligations, whereby an attacker or defender may be required to take precautions, including redirection as a method of cancellation, yet that obligation may conflict with a prohibitive obligation not to direct attacks towards certain persons and objects.⁵¹

48 *Ibid.*

49 Adil Ahmad Haque, “The ‘Shift Cold’ Military Tactic: Finding Room under International Law”, *Just Security*, 20 February 2018, available at: www.justsecurity.org/52713/shift-cold-military-tactic-finding-room-under-international-law/.

50 *Ibid.*

When it comes to the obligations of defenders to take precautions against the effects of attacks, the answer to the second layer of concern may be simpler. It is important to note at the outset that the obligations to take precautions have an autonomous character,⁵² and compliance with their exigencies does not in any way relieve parties to conflict from fulfilling their other obligations under the law, including, importantly, the prohibitive rules found in Article 51 of AP I.⁵³ If there is an apparent conflict between the obligation to take precautions against the effects of attacks and, for example, the prohibition on directing attacks against civilians, this conflict may, in fact, be easily avoided. As noted in the previous section, the obligations of defending forces are subject to a feasibility requirement. Feasibility is a notion capable of encompassing a range of considerations, *including* military and humanitarian ones. What is feasible in particular circumstances should also take into account *legal* considerations, such as the potential breach of other international obligations through the envisaged conduct. Such an approach finds support in the customary⁵⁴ rules on interpretation, and in particular the interpretation of terms in their context.⁵⁵ For AP I, the rules prohibiting attacks against civilians and civilian objects are part of the interpretative context for the obligations to take precautions against the effects of attacks. Under this approach, a norm conflict would be avoided, since a measure under Article 58 would not be “feasible” if it violates other rules of IHL.

The first layer of concern identified above may be more difficult to address. Even so, the answer ought not to rely on an *ad hoc* stretching of the interpretation of “attack”. With the sophistication of technology and the increasing capacity of parties to conflict to influence the direction of ongoing attacks, it may very well be that practice will be generated either for a narrow defence-like exception to the prohibitions on attacking certain objects, or perhaps even for a rethinking of whether all civilian objects are subject to the same protection.⁵⁶ Both approaches carry significant risks for the protection of civilians, but a discussion of their viability would at least incentivize a head-on reckoning with the challenges that new technologies may pose for the regime of IHL. For now, the safest route may be to retain the current framework, as it affirms a strong protection of civilians and civilian objects, while at the same time to acknowledge that responsibility is unlikely to be invoked when all a party has done is to seek to avoid civilian harm.

51 This conflict of obligations would be a real concern for attackers, as attackers are required under Article 57 of AP I to cancel or suspend attacks if, *inter alia*, it becomes apparent that the objective is not a military one.

52 T. Boutruche, above note 15, p. 11.

53 AP I, Art. 57(5).

54 Richard Gardiner, “The Vienna Convention Rules on Treaty Interpretation”, in Duncan Hollis (ed.), *The Oxford Guide to Treaties*, Oxford University Press, Oxford and New York, 2020, p. 460.

55 *Ibid.*, pp. 465–466.

56 Consider, for instance, redirection towards an empty field. As Dinstein notes, “one result of the negative definitional methodology is that some objects are deemed ‘civilian’ – even when *stricto sensu* they are not civilian in the dictionary meaning of the word – simply because they are not military objectives”. Yoram Dinstein, *The Conduct of Hostilities under the Law of International Armed Conflict*, Cambridge University Press, Cambridge, 2016, p. 381.

To conclude this section, acts of redirection towards an adversary carried out by defending forces are best characterized as “attacks” under IHL. If this characterization is made, it then conditions the scope of lawful conduct – for instance, the act of redirection could only be carried out towards specific military objectives, and it would have to comply with the rule on proportionality. As set out in the Oslo Manual, a party that achieves control over the adversary’s weapon system or munition (as would be the case with the scenario examined here) becomes responsible for its subsequent employment of the weapon.⁵⁷ Importantly, this interpretation need not place us in a conflict of obligations. A way of avoiding a conflict of obligations between precautions and other rules of IHL is to adopt an interpretation of the “feasibility” standard in Article 58 that encompasses considerations of legality under other relevant rules.

Redirection towards persons under the control of the defender

Missiles can be redirected towards an adversary, but they could equally well be redirected towards areas and persons under the control of the defender. How would this scenario unfold? A missile is flying towards a busy civilian hub, and it is estimated that a hundred civilians will die from this attack. The defender has the capacity to redirect the missile – not back towards the adversary, but towards territory under its own control. The defender decides to redirect towards a rural area with five civilians present. These dynamics place the defender right within the “trolley problem”.⁵⁸ In our scenario, utilitarian considerations clearly underpin the defender’s decision – a few would be sacrificed for the benefit of many.

This scenario raises a number of legal questions. The first question asks us to identify the legal framework(s) through which we ought to analyze the act of redirection. After identifying these frameworks, the second question requires us to consider the interaction between frameworks, if more than one applies to the act. Finally, the third question directs us to the elements of the relevant rules and to the analysis of redirection by reference to these elements. These questions will be examined in turn.

To begin with, who the missile is redirected towards is a question of fundamental importance. If the act of redirection is targeting the adversary, then the notion of attack and the rules on the conduct of hostilities will take centre stage. However, when the act of redirection is aimed at areas under the defender’s own control, the framework of attack is of no relevance – “[a]n ‘attack’ does not relate to where a person against whom or an object against which violence is directed is under the control of the party directing the violence”.⁵⁹ This is not to say that IHL does not apply to the act of redirection –

57 Oslo Manual, above note 43, Commentary to Rule 45.

58 In the trolley problem, a trolley is heading towards a group of five people, and it will cause their death unless it gets redirected to another track, where only one person is present. See Judith Jarvis Thomson, “The Trolley Problem”, *Yale Law Journal*, Vol. 94, No 6, 1985, p. 1395.

after all, it can be argued that the obligation to take precautions against the effects of attacks may, depending on the circumstances, *require* the defender to redirect. At the same time, there is another legal framework that regulates the act. In the relationship between a State party to a conflict and those individuals under its control, international human rights law (IHRL) takes on a central function.

Thus, both IHL and IHRL have a bearing on the legal qualification of the act of redirection. But how these regimes interact is still a contested – and almost mysterious – matter.⁶⁰ Defining the parameters of the relationship between IHL and IHRL when both regimes apply is a task that has been undertaken by many,⁶¹ and which has proven to be rather complex. Indeed, it is not only the applicable rules that may be pulling in different directions, but also the legal visions of those interpreting the rules.⁶² Disagreement continues to fester even on the framing structure of this question – that is, on whether the regimes are complementary or competing.⁶³ What does seem clear at this stage is, first, that IHL does not displace IHRL (i.e., both regimes apply in times of conflict), and second, that the interaction analysis should proceed on a rule-by-rule basis,⁶⁴ with due account given to the specific wording of the relevant provisions.⁶⁵

This relationship is most often looked at from the perspective of how far the relevant provisions of IHRL can go to accommodate the standards under IHL.⁶⁶ A

59 O’Keefe Observations, above note 35, pp. 3–4. See also ICRC Commentary on the APs, above note 14, para. 1890.

60 “One might characterize the two branches as concurrent, coexisting, consistent, convergent, coterminous, congruent, confluent, corresponding, cumulative, complementary, compatible, cross-fertilizing, contradictory, competitive, or even in conflict.” Andrew Clapham, “The Complex Relationship between the 1949 Geneva Conventions and International Human Rights Law”, in Andrew Clapham, Paola Gaeta and Marco Sassòli (eds), *The 1949 Geneva Conventions: A Commentary*, Oxford University Press, Oxford and New York, 2015.

61 Alexander Orakhelashvili, “The Interaction between Human Rights and Humanitarian Law: Fragmentation, Conflict, Parallelism, or Convergence?”, *European Journal of International Law*, Vol. 19, No. 1, 2008; Marco Sassòli and Laura Olson, “The Relationship between International Humanitarian Law and Human Rights Law Where It Matters: Admissible Killing and Internment of Fighters in Non-International Armed Conflicts”, *International Review of the Red Cross*, Vol. 90, No. 871, 2008; Françoise Hampson, “The Relationship between International Humanitarian Law and International Human Rights Law”, in Scott Sheeran and Nigel S. Rodley (eds), *Routledge Handbook of International Human Rights Law*, Routledge, Abingdon, 2013.

62 Andrew Clapham, “Human Rights in Armed Conflict: Metaphors, Maxims, and the Move to Interoperability”, *Human Rights & International Legal Discourse*, Vol. 12, No. 1, 2018, p. 11.

63 Jens David Ohlin, “Introduction: The Inescapable Collision”, in J. D. Ohlin (ed.), *Theoretical Boundaries of Armed Conflict and Human Rights*, Cambridge University Press, Cambridge, 2016, p. 21.

64 Nuclear Weapons Advisory Opinion, above note 12, para. 25: “In principle, the right not arbitrarily to be deprived of one’s life applies also in hostilities. The test of what is an arbitrary deprivation of life, however, then falls to be determined by the applicable *lex specialis*, namely, the law applicable in armed conflict which is designed to regulate the conduct of hostilities.” This approach is also followed by human rights bodies, including in European Court of Human Rights (ECtHR), *Hassan v. UK*, Appl. No. 29750/09, Judgment (Grand Chamber), 16 September 2014.

65 This is a point of particular importance, as provisions under IHRL may differ significantly across treaty instruments.

66 ECtHR, *Hassan*, above note 64, para. 102; but see criticism of the way the Court approached this “accommodation”, in ECtHR, *Hassan v. UK*, Appl. No. 29750/09, Judgment (Grand Chamber), Partly Dissenting Opinion of Judge Spano *et al.*, 16 September 2014, paras 16–17; Lawrence Hill-Cawthorne, “The Grand Chamber Judgment in *Hassan v UK*”, *EJIL: Talk!*, 16 September 2014, available at: www.ejiltalk.org/the-grand-chamber-judgment-in-hassan-v-uk/.

less explored question is the extent to which obligations under IHL ought to be interpreted in light of requirements under IHRL. This is important because the fact of armed conflict and a State's engagement in belligerent acts towards an adversary does not mean that, for any act related to that conflict, the dominant lens ought to be that of IHL. There are different ways to determine the framework which ought to take precedence for a particular context. Ohlin, for instance, suggests a distinction between States acting as "sovereigns" and as "belligerents".⁶⁷ Milanovic points out that the specificity of the rule matters: "in some cases it is IHRL that might be more specific and thus useful for the interpretation of more general IHL".⁶⁸ Standards under both IHL and IHRL could be filled with content through a form of interpretative renvoi to rules of the other regime.⁶⁹ This, for instance, is true of the notion of "arbitrariness" under Article 6 of the International Covenant on Civil and Political Rights. What is "arbitrary" can, without much difficulty, embrace a standard under IHL.⁷⁰ Similarly, "feasibility" under IHL precautionary obligations can be moulded to match the demands of IHRL. Interpreting these provisions by reference to other relevant applicable standards is already required under Article 31(3)(c) of the Vienna Convention on the Law of Treaties: any relevant rules of international law applicable in the relations between the parties "shall be taken into account".

When redirecting missiles towards areas under its own control, the State is not acting as a belligerent. Rather, what can be observed is a sovereign decision-making process whereby risk is being reallocated from one group of individuals within the State's jurisdiction towards another, and this raises issues under the right to life. Therefore, it is not the right to life that should be sculpted to match the standard under IHL. If any difference between obligations under IHL and IHRL arises, the IHL standard should be shaped around the IHRL one, through interpretation if possible – if not, a conflict of obligations will emerge. As noted above, the IHL obligation of precautions against the effects of attacks is capable of accommodating standards under other rules.

This, then, leads to the final question – what are the elements of the relevant rules, and how do they apply to acts of redirection? To answer this question, the following paragraphs will assess the right to life. Because of the specificity of its text, Article 2 of the European Convention on Human Rights (ECHR) will be the framework for the inquiry.

Under Article 2(2) of the ECHR,

67 Jens David Ohlin, "Acting as a Sovereign Versus Acting as a Belligerent", in J. D. Ohlin (ed.), above note 63, p. 129: "[B]elligerent powers flow from actions that regulate the armed conflict between two co-equal belligerents, while sovereign powers regulate the subjects under the government's control. The distinction between the modes of action might overlap in discrete situations – requiring a legal principle (such as *lex specialis*) to resolve the potential conflict."

68 Marko Milanovic, "The Lost Origins of *Lex Specialis*: Rethinking the Relationship between Human Rights and International Humanitarian Law", in J. D. Ohlin (ed.), above note 63, p. 107.

69 Robert Kolb, "Human Rights and Humanitarian Law", in *Max Planck Encyclopedia of Public International Law*, March 2013, paras 35–37.

70 Human Rights Committee, General Comment No. 36, "Article 6: Right to Life", UN Doc. CCPR/C/GC/36, 30 October 2018, para. 64.

[d]eprivation of life shall not be regarded as inflicted in contravention of this Article when it results from the use of force which is no more than absolutely necessary:

(a) in defence of any person from unlawful violence; ...⁷¹

As a starting point, the text of the provision and the jurisprudence of the European Court of Human Rights (ECtHR) make it clear that Article 2 covers “not only intentional killing but also the situations where it is permitted to ‘use force’ which may result, as an unintended outcome, in the deprivation of life”.⁷² The ECHR only allows for such use of force in pursuit of three legitimate aims, of which the most relevant one for the present purposes is the “defence of any person from unlawful violence”.⁷³ Even if the State indeed acts in pursuit of one of those aims, its actions need to comply with a test of strict necessity.

At first glance, acts of redirection may be seen as an apt fit within Article 2 (2)(a) of the ECHR: there is a use of force against persons, this use of force is designed to protect others from violence and therefore pursues a legitimate aim, and there is no other way to protect those at risk from imminent violence. However, the jurisprudence of the ECtHR suggests a more limited approach to the aim in Article 2(2)(a). Uses of force have been accepted as pursuing a legitimate aim by the Court where there is something about the persons against whom force is used that makes them liable to the use of such force. This is the case where the person *is* the threat (or at least is perceived as being the threat).⁷⁴ The fact that force factually impacts innocent persons does not automatically mean that the operation was not pursuing a legitimate aim. Force can incidentally impact persons who are not the origin of the threat where they are part of the “threat” environment, and often where they are those for whose protection the State claims to be acting. In *Finogenov*, the ECtHR accepted “that there existed a real, serious and immediate risk of mass human losses and that the authorities had every reason to believe that a forced intervention was the ‘lesser evil’ in the circumstances”,⁷⁵ even though the use of force by the State led to the deaths of 125 hostages. In *Isayeva*, “the context of the conflict in Chechnya at the relevant time” was considered pertinent by the Court, and it accepted that the use of force could have been directed at an attack or a risk of attack from illegal insurgents, even though civilians were present in the vicinity.⁷⁶ In these cases, the innocent persons were not the target of the force but were *incidentally* impacted. A more controversial yet similar example would be the shooting down of a hijacked aeroplane with hostages on board.⁷⁷ It could be argued that the hostages have

71 European Convention on Human Rights, ETS 5, 4 November 1950, Art. 2(2).

72 ECtHR, *Isayeva, Yusupova and Bazayeva v. Russia*, Appl. Nos 57947/00, 57948/00, 57949/00, Judgment, 6 July 2005, para. 169.

73 The other aims being “(b) in order to effect a lawful arrest or to prevent the escape of a person lawfully detained” and “(c) in action lawfully taken for the purpose of quelling a riot or insurrection”.

74 ECtHR, *Bubbins v. UK*, Appl. No. 50196/99, Judgment, 17 March 2005, para. 138.

75 ECtHR, *Finogenov v. Russia*, Appl. Nos 18299/03, 27311/03, Judgment, 20 December 2011, para. 226.

76 ECtHR, *Isayeva*, above note 72, para. 181; ECtHR, *Andronicou and Constantinou v. Cyprus*, Appl. No. 25052/94, Judgment, 9 October 2007, para. 192.

become part of the weapon, and would therefore not act as a constraint on the use of force by the State.⁷⁸ The situation with regard to redirection towards innocent persons is, however, fundamentally different. Those persons are not part of the threat environment and have not in any way made themselves liable to a use of force, and yet they become the State's target. It is only through a utilitarian calculus of the State that they become enmeshed in the violence of the initial attack. And even if their killing or injury is not the desired outcome of the State, the use of force against them is intentional. Considering the jurisprudence of the ECtHR, it is unlikely that such redirection would be accepted as lawful under Article 2.

At the same time, what we observe in the Court's approach is significant deference to States on the question of legitimate aims.⁷⁹ Given this, it is worth briefly addressing the question of strict necessity, as the act of redirection may fall short of the requirements under this test. For instance, it would be relevant whether the State could have resorted to other means that would not entail such a risk to innocent persons. If available, a more viable option could be the missile neutralization technique employed by Israel's Iron Dome. The Iron Dome is a mobile air-defence system which has been used by the Israeli military to intercept missiles coming from Gaza. Through the use of "fuse blast warheads" that explode in the proximity of the incoming rockets, the latter are destroyed in mid-air. Using this method neutralizes the rocket without giving it a new direction – in other words, the defender does not initiate a use of force of its own. Of course, some protective obligations under the right to life may still be operable, for instance when there is a foreseeability of debris causing a loss of life,⁸⁰ but these obligations would not preclude the possibility of neutralizing the incoming attack. The inquiry will turn to, *inter alia*, the methods used, the guarantees taken to avoid unintended injury, the supervision system in place, and investigative mechanisms.

A final point on the practice of redirection towards persons under the defender's control needs to be made, once again militating against its use. This point combines legal and practical considerations. Article 2(2) of the ECHR provides for the defence of any person from *unlawful* violence. This means that any assessment of the legality of the use of force would have to take into account the legality of the source of the violence – i.e., the initial attack. It may thus be queried whether the lawfulness inquiry can reach back to IHL and test the legality of the attacker's actions under the principles of distinction and proportionality, among others. It seems that it can. In *Varnava*, the ECtHR

77 See German Federal Constitutional Court, *Aviation Security Act* case, 1 BvR 357/05, Judgment (First Senate), 15 February 2006.

78 Kai Moller, "The Right To Life between Absolute and Proportional Protection", LSE Law, Society and Economy Working Paper, 2010, p. 15.

79 ECtHR, *Isayeva*, above note 72, para. 178.

80 For example, if there is debris that imperils the life of individuals, obligations to protect persons from threats may become relevant: "The obligation of States parties to respect and ensure the right to life extends to reasonably foreseeable threats and life-threatening situations that can result in loss of life." Human Rights Committee, above note 70, para. 7.

accepted that Article 2 “must be interpreted in so far as possible in light of the general principles of international law, including the rules of international humanitarian law”.⁸¹ But such inquiries of legality under IHL are far from easy, especially when judgements have to be made about the proportionality of attacks.⁸² Given that decisions on redirection would have to be taken within very short time frames, it would seem that making such a judgement of legality would, in many cases, be virtually impossible.⁸³ In addition, this could place defenders in a rather absurd situation – faced with the same incoming missile and the same potential harm to civilians, they may be either allowed to act or prevented from acting on the basis of the legality of another actor’s conduct. Matters would become even more complicated if compliance with the *jus ad bellum* is brought to bear on the “lawfulness” inquiry.⁸⁴

Ultimately, it seems that redirecting missiles towards innocent persons under the defender’s control would be hard to justify under the right to life provision of the ECHR. After all, intentionally using force against individuals who have in no way made themselves liable to attack, for the mere fact that their death or injury may save a larger number of other persons, seems problematic from all angles – legal, policy and moral. Many of the concerns underpinning such an act mirror those surrounding the possible redirection of German V-weapons in the Second World War. And, just as in that case, redirection through new technologies may either not be desirable at all, or at least it may not be desirable to codify it as a possibility as a matter of law.

Conclusion

This article has advanced the argument that acts of redirection may, depending on the circumstances, be required as a “feasible” precaution against the effects of attacks. At the same time, obligations under both IHL and IHRL impose certain constraints on the possibility of redirection, and these constraints stemming from other applicable rules should, through interpretation, be read into the standard of feasibility.

While redirection could be seen as an effective protective measure, it also hides a complex web of legal, policy and ethical controversies. Even as a matter of practicality, it should not be forgotten that this practice would entail decision-making within narrow temporal frames. In describing the context of war,

81 ECtHR, *Varnava et al. v. Turkey*, Appl. Nos 16064/90, 16065/90, 16066/90, Judgment (Grand Chamber), 18 September 2009, para. 185.

82 On the difficulties of applying the proportionality test under IHL in the 2021 violence in Gaza, for instance, see Alonso Gurmendi, “The Rabbit Hole, from Antwerp to Gaza”, *Opinio Juris*, 19 May 2021, available at: <http://opiniojuris.org/2021/05/19/the-rabbit-hole-from-antwerp-to-gaza/>.

83 Similar concerns were raised in the *Aviation Security Act* case, above note 77, paras 125–129.

84 Human Rights Committee, above note 70, para. 70. Such thinking can already be found in individual opinions of judges at the ECtHR: see ECtHR, *Georgia v. Russia (II)*, Appl. No. 38263/08, Judgment (Grand Chamber), Concurring Opinion of Judge Keller, 21 January 2021, para. 27. Of course, each side will argue that the other is breaching *jus ad bellum*, and therefore that there is unlawful violence.

Clausewitz wrote that “all action must, to a certain extent, be planned in a mere twilight, which in addition not unfrequently—like the effect of a fog or moonshine—gives to things exaggerated dimensions and an unnatural appearance.”⁸⁵ Caution ought to be exercised in considering resort to acts of redirection, especially since they entail the need for a careful case-by-case legality analysis. The twilight of uncertainty may magnify our perceptions of threat and overstate the feasibility and desirability of new forms of military responses, and this, in turn, may lead to rash decision-making and imperil protected persons and objects even further. To lay the foundations for a reasonable decision-making process, even in such high-pressure scenarios, it is crucial to at least have clarity over the relevant rules, their scope and their interactions.

85 Carl von Clausewitz, *On War*, Project Gutenberg, 1946, p. 54.