

Precautions against the effects of attacks in urban areas

Eric Talbot Jensen*

Dr Eric Talbot Jensen is a Professor of Law at Brigham Young University Law School and a retired US Army Judge Advocate who provided legal advice to military commanders while deployed to Bosnia, Macedonia, Kosovo and Iraq.

Abstract

The conduct of hostilities in urban areas is inherently difficult, particularly with respect to the protection of civilians. International humanitarian law places restraints on both attackers and defenders. While much is written about the obligations of attackers with respect to protecting civilians, much less attention has been paid to the defender's obligations. These obligations are routinely referred to as "passive precautions" or "precautions against the effects of attacks" and are codified in Article 58 of Additional Protocol I to the 1949 Geneva Conventions. Article 58 requires parties, "to the maximum extent feasible", to remove civilians and civilian objects from the vicinity of military objectives, to avoid locating military objectives within or near densely populated areas, and to take other necessary precautions to protect civilians and civilian objects from the dangers resulting from military operations.

Even though they are limited by only requiring those actions which are feasible, the obligations placed on the defender are far from trivial and, if applied in good faith, would certainly provide much needed protections to civilians in armed conflict, particularly in times of urban conflict. However, this ever-increasing urbanization is creating significant pressure on the doctrine of precautions in defence, stretching the "feasibility" standard beyond its capacity to adequately protect civilians. On the other hand, the emergence of advanced technology provides a mechanism for

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defenders to more easily and more fully comply with their obligations to segregate or protect the civilian population.

For the customary obligation of “precautions against the effects of attacks” to maintain its effectiveness, particularly in urban areas of conflict, the understanding of feasibility and what is “practicable” in current urbanized armed conflicts will have to expand, increasing the practical responsibilities on the defender, including through the use of modern technology. Moreover, imposing criminal responsibility when appropriate and feasible precautions are not taken will rectify the perceived imbalance between the responsibilities of the attacker and those of the defender.

Keywords: international humanitarian law, precautions, defender, civilians, protections, technology, criminal responsibility.

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Introduction

An article in *The New York Times* by Matthew Rosenberg and Eric Schmitt highlights one of the many vexing problems of modern warfare: adhering to the principle of distinction while still effectively engaging in armed conflict. Writing about the fight against Daesh¹ in Syria, Rosenberg and Schmitt describe this problem as confronted by US military planners:

For months, the United States military has known that the Islamic State uses the city hall in Raqqa, Syria, as an administrative center and a dormitory for scores of fighters. Some American officials even believe that Abu Bakr al-Baghdadi, the group’s leader, may have been in the building at times.

Yet, despite the American air campaign against the Islamic State, the white, three-story building remains standing because it also houses a jail.²

The unwillingness of the United States, and many other nations, to engage in aggressive targeting of Daesh fighters is magnified by the urban nature of the

1 I will use the term Daesh to describe what Rosenberg and Schmitt refer to as the Islamic State.

2 Matthew Rosenberg and Eric Schmitt, “In ISIS Strategy, U.S. Weighs Risk to Civilians”, *The New York Times*, 19 December 2015, available at: www.nytimes.com/2015/12/20/us/politics/in-isis-strategy-us-weighs-risk-to-civilians.html?_r=0 (all internet references were accessed in December 2016). The article continues:

Its inmates are mainly victims of the extremist group – men caught sneaking a cigarette, women spotted with clothes that reveal even a hint of skin, shop owners who failed to pay their bills – and for American officials, the risk of killing any of them in an airstrike is too high.

The same is true of six other nearby buildings, including a mosque and court complex, which, together with city hall, compose the closest thing the Islamic State has to a headquarters.

... But Mr. Obama also acknowledged the dilemma the United States and its allies face in Raqqa and other urban areas in Syria and Iraq, noting that the Islamic State “is dug in, including in urban areas, and they hide behind civilians.[”]

conflict and the almost inevitable intermixing, whether intentional or not, of civilians and fighters.³

The conduct of hostilities in urban areas is inherently difficult, particularly with respect to the protection of civilians. Separating military operations and targets from the civilian population is hard in almost any environment, but the density of civilians and civilian objects such as homes and other buildings in urban environments dramatically magnifies the risks to non-participants in hostilities. Indeed, the roads, sewers, transportation systems, observation points, food distribution points and clean water sources that support the large civilian population – the very infrastructure of cities – are also vital for military operations, and hence become military targets. The significantly increased number of “dual-use” objects in urban areas, and the heightened number of civilians that use them, highlight the perils populations face in urban warfare.

In order to mitigate the risk to civilians, international humanitarian law (IHL) places restraints on attackers such as the United States in the Rosenberg and Schmitt article quoted above, commonly referred to as “precautions in attack”.⁴ In addition, however, those fighters defending urban areas also have legal obligations. These obligations are known as “precautions against the effects of attacks” and are codified in Article 58 of Additional Protocol I to the 1949 Geneva Conventions (AP I).⁵ Article 58 requires parties, “to the maximum extent feasible”,⁶ to remove civilians and civilian objects from the vicinity of military objectives, to avoid locating military objectives within or near densely populated areas, and to take other necessary precautions to protect civilians and civilian objects from the dangers resulting from military operations.

This specific provision of the law is binding only on States party to AP I and only in international armed conflicts,⁷ but the International Committee of the Red Cross (ICRC) argues that it is considered part of customary international law⁸ as an

3 Matthew C. Waxman, *International Law and the Politics of Urban Air Operations*, RAND Corporation, Santa Monica, CA, 2000, p. 16, where the author states: “The density of civilian populations in urban areas increases the chances that even accurate attacks will injure noncombatants. In addition, the collocation of military and civilian assets in urban environments multiplies the chances that military attacks will cause unintended, and perhaps disproportionate, civilian damage.”

4 See 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. 57.

5 *Ibid.*, Art. 58.

6 *Ibid.*

7 A similar provision which was proposed for Additional Protocol II to the 1949 Geneva Conventions was rejected by the States negotiating the Protocol. See 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.

8 *Ibid.*, Rules 22–24; Michael N. Schmitt, Charles H. B. Garraway and Yoram Dinstein, *The Manual on the Law of Non-International Armed Conflict With Commentary*, International Institute of Humanitarian Law, San Remo, 2006, reprinted in Yoram Dinstein and Fania Domb (eds), *Israel Yearbook of Human Rights*, Vol. 36, 2006, para. 2.3.7; Yoram Dinstein, *The Conduct of Hostilities under the Law of International Armed Conflict*, 2nd ed., Cambridge University Press, Cambridge, 2010, p. 145; Christopher Greenwood, “Customary International Law and the First Geneva Protocol of 1977 in the Gulf Conflict”, in Peter Rowe (ed.), *The Gulf War 1990–91 in International and English Law*, Routledge, New York and London, 1993, p. 86. Note that the International Group of Experts which

application of the principles of distinction⁹ and proportionality.¹⁰ Article 58's customary status has also been accepted in international criminal litigation.¹¹ The new US Department of Defense *Law of War Manual* (US Law of War Manual) does not acknowledge Article 58 as customary international law but does argue that:

Outside the context of conducting attacks (such as when conducting defense planning or other military operations), parties to a conflict should also take feasible precautions to reduce the risk of harm to protected persons and objects from the effects of enemy attacks. In particular, military commanders and other officials responsible for the safety of the civilian populations must take reasonable steps to separate the civilian population from military objectives and to protect the civilian population from the effects of combat.¹²

This language highlights the United States' understanding of the obligations set out in Article 58, including their obligatory nature.

Even though they are limited by only requiring those actions which are feasible, the obligations placed on the defender are far from trivial and, if applied

produced the *Tallinn Manual on the International Law Applicable to Cyber Warfare* "took the position that the Rule's application was limited to international armed conflicts". Michael N. Schmitt (ed.), *Tallinn Manual on the International Law Applicable to Cyber Warfare*, International NATO Cooperative Cyber Defence Centre of Excellence, Cambridge University Press, Cambridge, 2013 (Tallinn Manual), p. 176.

9 ICRC Customary Law Study, above note 7, Rules 23–24. See also Jean-Francois Queguiner, "Precautions Under the Law Governing the Conduct of Hostilities", *International Review of the Red Cross*, Vol. 88, No. 864, 2006, pp. 820–821, where the author states: "Contrary to what is sometimes maintained, Additional Protocol I does not introduce a fundamental imbalance between the precautions required of the defender and those required of the attacker. Responsibility for applying the principle of distinction rests equally on the defender, who alone controls the population and objects present on his territory, and on the attacker, who alone decides on the objects to be targeted and the methods and means of attack to be employed. Consequently, only a combination of precautions taken by all belligerents will effectively ensure the protection of the civilian population and objects."

This is reflected in modern military operations. For example, a recent report on the armed conflict between Israel and the Palestinians in Gaza stated: "The Law of Armed Conflict not only prohibits targeting an enemy's civilians; it also requires parties to an armed conflict to distinguish their combatant forces from their *own* civilians, and not to base operations in or near civilian structures, especially protected sites such as schools, medical facilities and places of worship. ... The reason for these rules is clear. When a party to an armed conflict uses civilian and protected spaces for military purposes, those spaces become legitimate targets for the opposing side, thereby placing civilian lives and infrastructure in grave danger." Israel Ministry of Foreign Affairs, *The Operations in Gaza: Factual and Legal Aspects*, 29 July 2009, available at: www.mfa.gov.il.

10 See David A. Bagley, "Ratification of Protocol I to the Geneva Conventions of 1949 by the United States: Discussion and Suggestions from the American Lawyer-Citizen", *Loyola of Los Angeles International and Comparative Law Journal*, Vol. 11, No. 3, 1989, pp. 448–449, where the author argues that "Articles 51 through 58 of the Protocol are among the most sweeping in their expansion of the protection afforded civilians and civilian objects. In general, they are broad positive law enactment of the 'principle of proportionality' in that they require that destruction of civilian objects be minimized."

11 See International Criminal Tribunal for the Former Yugoslavia (ICTY), *The Prosecutor v. Stanislav Galić*, Case No. IT-98-29-A, Judgment (Appeals Chamber), 30 November 2006, para. 194; and ICTY, *The Prosecutor v. Kupreskic et al.*, Case No. IT-95-16-T, Judgment (Trial Chamber), 14 January 2000, para. 524, where the ICTY found Articles 57 and 58 to be "part of customary international law, not only because they specify and flesh out general pre-existing norms, but also because they do not appear to be contested by any State, including those which have not ratified the Protocol".

12 US Department of Defense, *Law of War Manual*, Office of General Counsel, June 2015 (US Law of War Manual).

in good faith, would certainly provide much-needed protections to civilians in armed conflict.¹³ However, the combination of increased urbanization and growing asymmetry of armed conflicts¹⁴ is creating significant pressure on the doctrine of precautions in defence, stretching the “feasibility” standard beyond its capacity to adequately protect civilians. On the other hand, advancing technology, such as communication devices and sensors, provides a mechanism for defenders to more easily and more fully comply with their obligations to segregate or protect the civilian population.

For the customary obligation of “precautions against the effects of attacks” to maintain its effectiveness, particularly in urban areas of conflict, the understanding of feasibility and what is “practicable” in current urbanized armed conflicts will have to expand, increasing the practical responsibilities on the defender, including through the use of modern technology. Moreover, imposing criminal responsibility when appropriate and feasible precautions were not taken will add to the doctrine’s enforceability and rectify the perceived imbalance between responsibilities of the attacker and the defender.

This article will first analyze the law, including its scope and application, documenting the historical development of the defender’s obligation to segregate or protect civilian populations during armed conflict. It will then focus on the doctrine of “feasibility” in the context of this rule, including the meaning and application of the term. In particular, the article will argue that the doctrine of feasibility is both insufficiently defined and seldom fully administered enough to provide meaningful civilian protections, particularly given the increasing incidence of armed conflict in urbanized areas. Finally, the article concludes by proposing solutions to both the lack of perceived “feasible” precautions as they are currently understood and the lack of enforcement of violations of defensive precautions. Among the possible options that can be of tremendous assistance to the defender trying in good faith to meet its obligations are a variety of modern technologies.

Article 58

The obligations that have come to be known as “precautions against the effects of attacks” developed slowly, through decades of IHL formulation. Although it is now a well-accepted doctrine, its beginnings were humble.

13 See J.-F. Queguiner, above note 9, p. 820, where the author states: “It is also worth noting that the standards laid down in Article 58 are not limited to prohibiting the deliberate scattering of military elements in a civilian environment in order to impede enemy operations. Article 58 has a much broader field of application: it requires the party under attack to adopt, in good faith, proactive measures that are designed to guarantee immunity of the civilian population and objects.”

14 Michael John-Hopkins, “Regulating the Conduct of Urban Warfare: Lessons from Contemporary Asymmetric Armed Conflicts”, *International Review of the Red Cross*, Vol. 92, No. 878, 2010, p. 470.

Historical development

As IHL developed, little emphasis was placed on the defender's responsibilities, particularly with respect to civilians.¹⁵ In many ways, this is counter-intuitive because the defender is in the best position to know the location and situation of the civilian population at risk.¹⁶ This much is demonstrated in one of the earliest acknowledgments of the defender's responsibilities found in the 1907 Hague Convention.¹⁷

Article 27 of Hague Convention IV, covering the laws of land warfare, starts with a general requirement for both attacker and defender:

In sieges and bombardments all necessary steps must be taken to spare, as far as possible, buildings dedicated to religion, art, science, or charitable purposes, historic monuments, hospitals, and places where the sick and wounded are collected, provided they are not being used at the time for military purposes.¹⁸

Then, recognizing the greater level of control and knowledge possessed by the defender, Article 27 places additional duties specifically on the defender: "It is the duty of the besieged to indicate the presence of such buildings or places by distinctive and visible signs, which shall be notified to the enemy beforehand."¹⁹

While limited in its coverage, Article 27 represents quite a progressive approach to the defender's duties which has carried forward and is especially important with respect to modern urban warfare. The fact that the first codified provision of IHL dealing with duties of the defender required marking of buildings or places during a siege might seem a minimal obligation toward civilian protection, but it nevertheless is evidence of the principle of the defender's special obligations and has great applicability to current armed conflicts.

After the destruction of World War I, the International Law Association (ILA) noted the lack of emphasis on the defender's responsibilities to protect citizens from attacks. In 1938 the ILA proposed a draft convention²⁰ that would have "[set] up safety zones under the supervision of an independent controlling authority for the protection of a very limited section of the population".²¹

As argued by A. P. V. Rogers, one problem with the draft convention was that the ICRC and others were concerned it would be read to provide belligerents with "an excuse not to take any precautions for the protection of the civilian population outside such zones".²² The draft convention was never adopted, and

15 A. P. V. Rogers, *Law on the Battlefield*, Manchester University Press, Manchester, 1996, p. 71.

16 W. Hays Parks, "Air War and the Law of War", *Air Force Law Review*, Vol. 32, No. 1, 1990, p. 153.

17 Convention (IV) respecting the Laws and Customs of War on Land, 36 Stat. 2277, The Hague, 18 October 1907 (entered into force 26 January 1910).

18 *Ibid.*, Art. 27.

19 *Ibid.*

20 International Law Association, Draft Convention for the Protection of Civilian Populations Against New Engines of War, Amsterdam, 2 September 1938, available at: www.icrc.org/applic/ihl/ihl.nsf/Treaty.xsp?action=openDocument&documentId=29.DF95181E9CC0FDC12563CD002D6A9B.

21 A. P. V. Rogers, above note 15, p. 71.

22 *Ibid.*

Rogers concludes that prior to World War II, “[i]t was left to the good sense of the authorities of a place under attack to provide shelter for its citizens, and, with the advent of aerial bombardment, air raid warning systems and air raid shelters were usually provided”.²³

In the aftermath of World War II, the ICRC proposed rules for the consideration of States that were designed to limit the dangers to the civilian population based on the experiences of the war.²⁴ The draft rules covered a wide variety of topics, all designed to increase protections for civilians, including obligations on both attackers and defenders. Article 11 of the 1956 draft rules was titled “‘Passive’ Precautions” and stated:

The Parties to the conflict shall, so far as possible, take all necessary steps to protect the civilian population subject to their authority from the dangers to which they would be exposed in an attack – in particular by removing them from the vicinity of military objectives and from threatened areas. However, the rights conferred upon the population in the event of transfer or evacuation under Article 49 of the Fourth Geneva Convention of 12 August 1949 are expressly reserved.

Similarly, the Parties to the conflict shall, so far as possible, avoid the permanent presence of armed forces, military material, mobile military establishments or installations, in towns or other places with a large civilian population.²⁵

The draft rules were never adopted. As Bothe, Partsch and Solf note, specifically with reference to the proposed obligation of defenders,

[t]he reaction of experts at the Conferences of Government Experts lacked the enthusiasm with which the complementary obligation for precautions in attack was examined. It was pointed out that the interdependence of the civilian population with the infrastructure of a modern society makes full implementation of these goals impossible.²⁶

The ICRC again raised the issue of defender’s obligations in 1973 in an initial proposal for the Additional Protocol drafting convention. Very similar to the earlier attempt, the initial draft stated:

23 *Ibid.*, p. 72. See also W. H. Parks, above note 16, p. 153, where the author states: “The practice of *all* nations that carried out aerial bombardment operations during World Wars I and II establishes clearly that *no* nation concerned itself with the risk of injury to the civilian population of an enemy nation incidental to the conduct of military operations.” Parks goes on to argue that “Protocol I constitutes an improvement in the law of war in recognizing that an attacker should, in most cases, give consideration to minimization of collateral civilian casualties.” *Ibid.*, pp. 153–154.

24 ICRC, Draft Rules for the Limitation of the Dangers incurred by the Civilian Population in Time of War, 15 October 1956, available at: www.icrc.org/ihl/INTRO/420?OpenDocument.

25 *Ibid.*

26 Michael Bothe, Karl Josef Partsch and Waldemar A. Solf, *New Rules for Victims of Armed Conflicts: Commentary on the Two 1977 Protocols Additional to the Geneva Conventions of 1949*, 2nd ed., Martinus Nijhoff, Leiden, 2013, pp. 413–414.

Article 51. Precautions against the effects of attacks

1. The Parties to the conflict shall, to the maximum extent feasible, take the necessary precautions to protect the civilian population, individual civilians and civilian objects under their authority against the dangers resulting from military operations.
2. They shall endeavour to remove them from the proximity of military objectives, subject to Article 49 of the Fourth Convention, or to avoid that any military objectives be kept within or near densely populated areas.²⁷

This draft was the basis for what would eventually become Article 58 of AP I.²⁸

The proposed text above generated little debate amongst the participating States. The minimal debate that did occur centred mostly on the issue of the meaning of the words “to the maximum extent feasible”, which is addressed later in this article. Adopted by a vote of eighty to none, with eight abstentions,²⁹ the eventual text of the article states:

Article 58. Precautions against the effects of attacks

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

- (a) without prejudice to Article 49 of the Fourth Convention, endeavor 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.³⁰

Obligations

The final text of Article 58 lays out mandatory obligations that are limited by a significant caveat. The use of the term “shall” denotes the mandatory nature of the obligation, but, as will be discussed at length below, the caveat of “to the maximum extent feasible” has proven to significantly devalue the character of the obligation in modern conflicts. The increased incidence of conflict in urban and densely populated areas requires a re-examination of this obligation and its practical application.

27 Official Records of the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflicts, Geneva (1974–1977), Swiss Federal Political Department, Bern, 1978 (Official Records), Vol. 1, Part. 1, p. 17.

28 AP I, Art. 58.1.

29 M. Bothe, K. J. Partsch and W. A. Solf, above note 26, p. 416.

30 AP I, Art. 58.

Complement to Article 57

It is clear that at its inception, Article 58 was designed to be read in conjunction with the corresponding protections for civilians found in Article 57.³¹ As Bothe, Partsch and Solf have written:

The obligation to take precautions to protect the civilian population and civilian objects against the collateral effects of attacks is a complementary one shared by both sides to an armed conflict in implementation of the principle of distinction. ... Article 58 is the provision applicable to the party having control over the civilian population to do what is feasible to attain this goal. It is complementary to, and interdependent with, Art. 57 which implements, in somewhat more mandatory terms, the obligations of the attacking Party in this regard.³²

31 Article 57 of AP I states:

1. In the conduct of military operations, constant care shall be taken to spare the civilian population, civilians and civilian objects.
2. With respect to attacks, the following precautions shall be taken:
 - (a) those who plan or decide upon an attack shall:
 - (i) do everything feasible to verify that the objectives to be attacked are neither civilians nor civilian objects and are not subject to special protection but are military objectives within the meaning of paragraph 2 of Article 52 and that it is not prohibited by the provisions of this Protocol to attack them;
 - (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;
 - (iii) refrain from deciding to launch any 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;
 - (b) an attack shall be cancelled or suspended if it becomes apparent that the objective is not a military one or is subject to special protection or that the attack 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;
 - (c) effective advance warning shall be given of attacks which may affect the civilian population, unless circumstances do not permit.
3. When a choice is possible between several military objectives for obtaining a similar military advantage, the objective to be selected shall be that the attack on which may be expected to cause the least danger to civilian lives and to civilian objects.
4. In the conduct of military operations at sea or in the air, each Party to the conflict shall, in conformity with its rights and duties under the rules of international law applicable in armed conflict, take all reasonable precautions to avoid losses of civilian lives and damage to civilian objects.
5. No provision of this Article may be construed as authorizing any attacks against the civilian population, civilians or civilian objects.

32 M. Bothe, K. J. Partsch and W. A. Solf, above note 26, p. 413. The Commentary echoes this same conviction: "This article is a corollary to the numerous articles contained in the Protocol for the benefit of the population of enemy countries. It is not concerned with laying down rules for the conduct to be observed in attacks on territory under the control of the adversary, but with measures which every Power must take in its own territory in favour of its nationals, or in territory under its control." Yves Sandoz, Christophe Swinarski and Bruno Zimmermann (eds), *Commentary on the Additional Protocols*, ICRC, Geneva, 1987, p. 692.

The Commentary makes it clear that this obligation exists despite any potential inconvenience to the defender and regardless of the actions of the attacker.³³ Kalshoven agrees and makes the point that this rule is really about “reduc[ing] the risks incurred by the civilian population as a result of military operations that will be carried out anyway”.³⁴ In other words, Articles 57 and 58 are two sides of the same principle, the principle that civilians must be spared to the extent possible from the effects of armed conflict. Both the attacker and the defender have key roles to play in bringing about that humanitarian obligation.

W. Hays Parks confirms this perspective. Writing with respect to the requirement from both the Hague Conventions and Article 57(2)(c) of AP I, Parks argues:

[T]he reason behind the requirement for warning stated in Hague Conventions IV and IX, and in article 57(2)(c) of Protocol I: it enables the Government controlling the civilian population to see to its evacuation from the vicinity of military objectives that might be subject to attack; it also permits individual civilians to remove themselves and their property from high-risk areas. There is little else that an attacker can do to avoid injury to individual civilians or the civilian population as such. Any attempt to increase an attacker’s responsibility – particularly where a defender has failed or elected not to discharge his responsibility for the safety of the civilian population – will prove futile.³⁵

Parks’ inference is clear: the most effective way to ensure the safety of the civilian population is for the defender to shoulder a significant portion of the responsibility. In fact, Parks argues that “[i]f the new rules of Protocol I are to have any credibility, the predominant responsibility must remain with the defender, who has control over the civilian population”.³⁶ This approach is also echoed in the new US Law of War Manual, which states: “The party controlling civilians and civilian objects has the primary responsibility for the protection of civilians and civilian objects. The party controlling the civilian population generally has the greater opportunity to minimize risk to civilians.”³⁷

33 See *ibid.*, which states: “Belligerents may expect their adversaries to conduct themselves fully in accordance with their treaty obligations and to respect the civilian population, but they themselves must also cooperate by taking all possible precautions for the benefit of their own population as is in any case in their own interest.”

34 Fritz Kalshoven, *Reflections on the Law of War: Collected Essays*, Martinus Nijhoff, Leiden, 2007, p. 223.

35 W. H. Parks, above note 16, p. 158.

36 *Ibid.*, pp. 153–154.

37 US Law of War Manual, above note 12, p. 186. Further, the United States takes the view that the presumption of civilian status laid out in Article 52(3) of AP I is not customary international law and actually has the negative consequence of “encourag[ing] a defender to ignore its obligations to separate military objectives from civilians and civilian objects”. US Law of War Manual, above note 12, p. 197. The Manual then quotes a report from the 1991 Gulf War which states: “This language [of Article 52 (3) of AP I], which is not a codification of the customary practice of nations, causes several things to occur that are contrary to the traditional law of war. It shifts the burden for determining the precise use of an object from the party controlling that object (and therefore in possession of the facts as to its use) to the party lacking such control and facts, i.e., from defender to attacker. This imbalance ignores the realities of war in demanding a degree of certainty of an attacker that seldom exists in combat. It

Matthew Waxman also agrees and lays out several reasons for the argument that the defender plays a key role, if not *the* key role, in protecting the civilian population.

First, the defending force often has substantial control (whereas the attacker has none) over where military forces and equipment are placed in relation to the civilian population. Second, the defending power often has better information than the attacker about where civilian persons and property actually are, and is therefore better positioned to avoid knowingly leaving them in harm's way. And, third, the defender's actions – including its proper efforts to protect itself by resisting attack – may contribute to the danger facing noncombatants. The defender's choice of strategy, too, will significantly determine the extent to which civilians are vulnerable to possible attack.³⁸

Clearly, Articles 57 and 58 establish concurrent obligations that are held by both the attacker and the defender and are meant to complement each other as a means of providing increased protections to civilians. Article 58, then, is the statement of what those concurrent obligations are for the defender. Unfortunately, as will be demonstrated below, the equal levels of responsibility have not been equally reflected in liability over the past century. In fact, international criminal law has focused almost exclusively on the attacker, and almost completely ignored the legal responsibilities of the defender.

Key obligations: Segregate and protect

Acknowledging that the defender plays a key role in protecting the civilian population, States recognized Article 58 as the statement of those obligations. During the negotiations, States were careful to craft these obligations in a way that provided meaningful protections without unduly limiting the necessary actions of States, particularly those with dense populations in isolated urban areas.³⁹

For example, the Commentary to Article 58 points out that “during the final debate several delegations indicated that in the view of their governments, this article should in no way affect the freedom of a State Party to the Protocol to organize its national defence to the best of its ability and in the most effective

also encourages a defender to ignore its obligation to separate the civilian population, individual civilians and civilian objects from military objectives, as the Government of Iraq illustrated during the Persian Gulf War.” US Department of Defense, *Conduct of the Persian Gulf War: Final Report to Congress Pursuant to Title V of the Persian Gulf Conflict Supplemental Authorization and Personnel Benefits Act of 1991 (Public Law 102–25)*, April 1992, p. 616.

38 M. C. Waxman, above note 3, p. 16; Michael N. Schmitt, “Military Necessity and Humanity in International Humanitarian Law: Preserving the Delicate Balance”, *Virginia Journal of International Law*, Vol. 50, No. 4, 2010, p. 828.

39 Of course, as Geoffrey Corn points out, “[i]n this context, it would be improper to interpret the ‘densely populated’ qualifier as a license to co-mingle military assets with civilian populations when the civilian population is not ‘dense’”. Geoffrey S. Corn, “Targeting, Distinction, and the Long War: Guarding Against Conflation of Cause and Responsibility”, *Israel Yearbook on Human Rights*, Vol. 46, 2016.

way”.⁴⁰ Such concerns are especially relevant in an article entitled “Precautions”, given that the use of such a word implies actions taken in advance of potential armed conflict, not just in reaction to it.⁴¹

These “proactive measures,” as Queguiner refers to them, “are not limited to prohibiting the deliberate scattering of military elements in a civilian environment in order to impede enemy operations” but have a “much broader field of application”.⁴² For example, Rogers points out that the provisions for civil defence and for safety zones complement the provisions for protecting civilians against the effects of attacks.⁴³

The final language of Article 58 appears to strike this balance between establishing the obligations of the defender to take precautions and maintaining the defender’s ability to form an effective national security system. It does this by focusing on two main obligations. The first is to segregate military objectives from civilians (paragraphs (a) and (b)). This includes not placing military objectives near civilians and removing any civilians from areas where military objectives are located. The second obligation is to protect civilians and civilian objects under military control from the dangers inherent in military operations (paragraph (c)).

IHL has long recognized the benefits of distinguishing between targetable and non-targetable persons and objects. At its earliest codification, IHL required the defender to “display visible markings – usually flags – on certain buildings in order to make them easy to identify and thus protect them from enemy fire”.⁴⁴

The requirements in Article 58(a) and (b) are an attempt to continue this tradition. As Kalshoven and Zegveld have argued, segregating civilians and civilian

40 Y. Sandoz, C. Swinarski and B. Zimmermann, above note 32, p. 692. Parks echoes this concern when he notes: “For hygiene, morale, communications and other reasons, military personnel and units historically have been billeted or housed in populated areas, and the doctrine of most nations provides for a continuation of this practice; it should not necessarily be viewed as sinister.” W. H. Parks, above note 16, p. 159.

41 Eric Talbot Jensen, “Cyberwarfare and Precautions against the Effects of Attacks”, *Texas Law Review*, Vol. 88, No. 7, 2010, pp. 1554–1555. This view of “precautions” is confirmed by the Commentary, which states that the article contains “measures to be taken already in peacetime, even though, strictly speaking, the article is only addressed to Parties to a conflict. Some of these measures have a preventive or precautionary character since they are concerned with preventing the construction of certain buildings in particular places, or removing objectives from an area where such buildings are located, or otherwise separating the population and their homes from dangerous places.” Y. Sandoz, C. Swinarski and B. Zimmermann, above note 32, p. 692. See also ICRC, *International Humanitarian Law and the Challenges of Contemporary Armed Conflicts*, Report prepared for the 28th International Conference of the Red Cross and Red Crescent, 2–6 December 2003 (2003 Challenges Report), p. 14, available at: www.icrc.org/eng/assets/files/other/ihlcontemp_armedconflicts_final_ang.pdf, where the Conference identified the requirements of the defender to protect civilian populations as one of the areas that needed greater emphasis and noted: “States must be encouraged to take measures necessary to reduce or eliminate the danger to the civilian population already in peacetime.”

42 J.-F. Queguiner, above note 9, p. 820.

43 A. P. V. Rogers, above note 15, pp. 79–83. Solf agrees and writes that States must take precautions “such as the provision of shelters and civilian defense programs, to protect the civilian population against the danger resulting from military operations”. Waldemar A. Solf, “Protection of Civilians against the Effects of Hostilities under Customary International Law and Under Protocol I”, *American University International Law Review*, Vol. 1, No. 1, 1986, p. 132.

44 J.-F. Queguiner, above note 9, p. 817.

objects from military objectives is the best source of protection possible.⁴⁵ The commingling of legitimate targets with civilians and civilian objects significantly increases the risk to civilians, both through mistakes and misinformation and through unintended but collateral civilian deaths.⁴⁶

Article 58(a)'s requirement that belligerents remove the civilian population, individual civilians and civilian objects from the vicinity of military objectives is complemented by Article 58(b)'s requirement that belligerents also refrain from placing or moving targetable military objectives and forces into proximity with civilian populations.⁴⁷

Although the rule is fairly easy to articulate, complying with it has proven to be more difficult. A number of issues quickly present themselves. For example, Queguiner notes that moving the civilian population may not always be the most humane alternative, such as during times of severe weather.⁴⁸ Bothe, Partsch and Solf recognize the special difficulty for segregation in urban areas and allow that "the attainment of this goal is difficult in a densely populated place or one in which war industry is closely integrated in with the civilian population".⁴⁹ Even the Commentary acknowledges that "the circumstances of war can change very rapidly",⁵⁰ making segregation a very difficult task, even for those committed to doing so. Finally, Rogers recognizes that avoiding locating military objectives in populated areas may simply not be feasible,⁵¹ leaving the requirement of paragraph (c) to protect the civilian population as the only feasible option. These examples highlight the importance of segregation, but also the inherent difficulty, particularly in densely populated urban environments.

Additionally, Rogers notes the potential dilemma that by moving its military forces out of populated areas, a defender may "make them more readily identifiable by the enemy".⁵² The Commentary notes this concern and responds:

Moreover, a Party to the conflict cannot be expected to arrange its armed forces and installations in such a way as to make them conspicuous to the benefit of the adversary; several delegations raised this point during the discussion of the article. For example, one delegate, while accepting the article, explained his position as follows:

"With regard to the interpretation of the provision, with particular reference to sub-paragraph (b), it is the understanding of my delegation that this provision does not constitute a restriction on a State's military installations on its own territory. We consider that military facilities necessary for a

45 Frits Kalshoven and Liesbeth Zegveld, *Constraints on the Waging of War: An Introduction to International Humanitarian Law*, 4th ed., ICRC and Cambridge University Press, Cambridge, 2011, p. 117.

46 W. H. Parks, above note 16, p. 152.

47 J.-F. Queguiner, above note 9, p. 818; M. Bothe, K. J. Partsch and W. A. Solf, above note 26, p. 415.

48 J.-F. Queguiner, above note 9, p. 818.

49 M. Bothe, K. J. Partsch and W. A. Solf, above note 26, p. 415.

50 Y. Sandoz, C. Swinarski and B. Zimmermann, above note 32, pp. 693–694.

51 A. P. V. Rogers, above note 15, p. 73.

52 *Ibid.*, p. 75.

country's national defence should be decided on the basis of the actual needs and other considerations of that particular country. An attempt to regulate a country's requirements and the fulfilment of those requirements in this connexion would not conform to actualities."⁵³

Despite the potential difficulties of applying this rule, many nations recognize the practical benefits of it and even non-party States such as the United States have included it in their doctrine.⁵⁴ Indeed, some countries have taken proactive measures to ensure compliance with this rule. Rogers reports that "[i]n Germany, for example, a whole range of emergency laws have been passed, some of them amending the Basic Law, covering business and finance, the supply of food and water, the building of shelters, and the movement and location of the civilian population".⁵⁵ Germany is not alone. The ICRC has documented significant State practice in support of this rule.⁵⁶

Unfortunately, there also are a number of notorious examples of non-compliance. These include Iraq during the Gulf War of 1990–91,⁵⁷ Georgia and South Ossetia,⁵⁸ and Sri Lanka.⁵⁹ Human Rights Watch has noted a number of instances where the defender apparently failed to adequately segregate the civilian population and instead took actions that may have affirmatively violated the rule but that at minimum did not take advantage of available feasible alternatives, including "storing weapons and ammunition in populated areas and making no

53 Y. Sandoz, C. Swinarski and B. Zimmermann, above note 32, p. 692, quoting Republic of Korea, O.R. VI, CDDH/SR.42, Annex, pp. 234–235.

54 See US Department of the Navy, Office of the Chief of Naval Operations and Headquarters, US Marine Corps, Department of Homeland Security and US Coast Guard, *The Commander's Handbook on the Law of Naval Operations*, NWP1-14M, MCWP 5-12.1, COMDTPUB P5800.7A, July 2007 ed., 2007, para. 8.3.2: "A party to an armed conflict has an affirmative duty to remove civilians under its control (as well as the wounded, sick, shipwrecked, and prisoners of war) from the vicinity of objects of likely enemy attack."

55 A. P. V. Rogers, above note 15, p. 74.

56 ICRC Customary Law Study, above note 7, Rules 23–24.

57 See A. P. V. Rogers, above note 15, pp. 77–78, where the author states: "During the Gulf War of 1990–91 it was alleged that Iraq pursued a deliberate policy of placing military objectives near protected objects, for example, near mosques, medical facilities and cultural property. Examples included dispersing military helicopters in residential areas, storing military supplies in mosques, schools and hospitals, including a cache of Silkworm missiles in a school in Kuwait City, placing fighter aircraft near the ancient temple of Ur and the discovery by UN inspectors of chemical weapon production equipment in a sugar factory in Iraq."

58 The Independent International Fact-Finding Mission on the Conflict in Georgia found that many South Ossetian fighters used civilian homes and buildings in the city of Tskhinvali to fire upon the Georgians, "putting at risk the lives of civilians who were sheltering in the basements of the same buildings" and thus committing a "clear violation of the obligation to avoid locating military objectives within or near densely populated areas". Independent International Fact-Finding Mission on the Conflict in Georgia, Report, Vol. 2, September 2009, p. 350.

59 Human Rights Watch documented numerous violations during the conflict between the Liberation Tigers of Tamil Eelam (LTTE) and Sri Lanka with respect to the responsibility to segregate forces from civilians, including allegations that the LTTE "prevented civilians under its effective control from fleeing to areas away from the fighting, [and] ... forcing civilians to retreat with its forces". Similarly, the Sri Lankan Army (SLA) established safe zones for civilians and subsequently "subjected [those safe zones] to heavy shelling from SLA positions". Human Rights Watch, *War on the Displaced: Sri Lankan Army and LTTE Abuses against Civilians in the Vanni*, Report, February 2009, available at: www.hrw.org.

effort to remove the civilians under their control from the area”;⁶⁰ “fir[ing] [rockets] directly from inhabited villages”;⁶¹ and “[taking] over civilian homes in the populated village, fir[ing] rockets close to homes, and driv[ing] through the village in at least one instance with weapons in their cars”.⁶²

Similar problems will continue to persist and may become even more pronounced with the development of new technologies such as cyber-capabilities.⁶³ As segregation becomes more difficult, the Article 58(c) obligation to protect will take on greater importance.

Article 58(c) has been described as a “‘catch-all’ provision that encompasses the requirements set forth in the other subparagraphs” of Article 58.⁶⁴ The article’s “open-ended obligation to take ‘other necessary precautions to protect the civilian population’ ... allows states to take additional precautionary measures according to circumstances such as the state’s available means and other considerations relating to the conflict.”⁶⁵

Two terms in this subparagraph raise questions of interpretation: “military operations” and “danger”. First, the use of the term “military operations” rather than “attacks” (as in the general rule) may well mean that subparagraph (c) applies to a broader range of activities.⁶⁶ For example, the Commentary argues that this language would include “all movements and acts related to hostilities that are undertaken by armed forces”.⁶⁷ On the other hand, others argue that the scope of the application is no different, regardless of the different language used.⁶⁸

Second, the precise meaning that should be ascribed to the word “danger” is unclear. According to Bothe, Partsch and Solf, “[t]he word ‘danger’ was questioned by some delegations but a decision was made by the Working Group to retain it because of the similar formulation concerning civilian hospitals as used in the fifth paragraph of Art. 18 of the Fourth Convention”.⁶⁹ Although that

60 Human Rights Watch, *Why They Died: Civilian Casualties during the 2006 War*, Report, Vol. 19, No. 5(E), September 2007, pp. 42–43, available at: www.hrw.org/sites/default/files/reports/lebanon0907.pdf.

61 *Ibid.*, pp. 46–47.

62 *Ibid.*, p. 55.

63 See Eric Talbot Jensen, “Cyber Attacks: Proportionality and Precautions in Attack”, *International Law Studies*, Vol. 89, 2013, p. 213, where the author argues that “the ubiquitous nature of the cyber domain has made it almost impossible to segregate potential military objectives from civilian objects even in a geographic sense. Consider air traffic control centers and other major civilian transportation control centers as well as power generation facilities. All of these serve both civilian and military purposes and are clear cyber targets but are also virtually impossible to segregate. State practice in this area has at least demonstrated that nations have not found such segregation to be feasible. In fact, many militaries seem to be moving in the exact opposite direction and co-locating an ever greater percentage of their cyber infrastructure with civilian infrastructure.”

64 Tallinn Manual, above note 8, p. 177.

65 J.-F. Queguiner, above note 9, p. 818.

66 See E. T. Jensen, above note 63, p. 212.

67 See Y. Sandoz, C. Swinarski and B. Zimmermann, above note 32, p. 600.

68 Tallinn Manual, above note 8, p. 177; Michael N. Schmitt, “Rewired Warfare: Rethinking the Law of Cyber Attack”, *International Review of the Red Cross*, Vol. 96, No. 893, 2014, pp. 193–194.

69 M. Bothe, K. J. Partsch and W. A. Solf, above note 26, p. 416. The fifth paragraph of Article 18 of the Fourth Geneva Convention states: “In view of the dangers to which hospitals may be exposed by being close to military objectives, it is recommended that such hospitals be situated as far as possible from

may help in understanding the origin of the usage, it offers little help in understanding the details of its application.

Despite this potential confusion, the wording of the article strongly suggests that governments are not expected to protect all civilians and civilian objects in the conflict area from the effects of attacks. Rather, the obligation of subparagraph (c) applies only with regard to those under the government's control. While this was originally conceived of as a territorial limitation, Canadian representative B. G. Wolfe argued for changing the original proposal from "authority" to "control", highlighting the *de facto* nature of the obligation.⁷⁰ The change was accepted and the subparagraph amended. In a further clarification, Fleck argues that "[t]he duty to take precautions against the effects of military actions applies to a party to the conflict not only with regard to its own population but also with regard to other civilians temporarily under its control, e.g. aliens, refugees, and others".⁷¹

With regard to the actual protections, there is much agreement regarding what actions satisfy the subparagraph's requirements. As Queguiner notes:

The most common precautions include the construction of shelters, the establishment of civil defence organizations and the installation of systems to alert and evacuate the civilian population. Other measures include programmes providing relief to the wounded, fire-fighting, decontamination, and identification and marking of high-risk areas.⁷²

If these obligations become overly arduous or even impossible in some cases, the international community may have the responsibility to assist where needed. In a recent report to the United Nations (UN) Security Council, the UN Secretary-General argued that "[w]here a Government is prevented from protecting its civilians, for lack of either resources or *de facto* control over part of its territory, it may need to seek the support of the international system, which has been

such objectives." Geneva Convention (IV) relative to the Protection of Civilian Persons in Time of War of 12 August 1949, 75 UNTS 973 (entered into force 21 October 1950), Art. 18, available at: www.icrc.org/ihl.nsf/FULL/380?OpenDocument.

70 See Official Records, above note 27, Vol. 14, pp. 198–199, where B. G. Wolfe is quoted as having argued that "use of the word 'control' would impose obligations on the parties which would not necessarily be implied by the use of the word 'authority.' It referred to the *de facto* as opposed to the *de jure* situation."

71 Dieter Fleck (ed.), *The Handbook of Humanitarian Law in Armed Conflicts*, Oxford University Press, Oxford, 1995, p. 223.

72 J.-F. Queguiner, above note 9, pp. 818–819. Rogers adds: "The last obligation covers a wide range of possibilities, from the provision of shelters, firefighting, provision of equipment to protect civilians from nuclear, chemical or biological attack, the enforcement of a blackout, an evacuation service, co-ordination of the emergency services and taking other adequate civil defence measures, a civil responsibility, to the broadcasting of warnings such as air raid warnings, a shared responsibility, and the fencing of minefields or the provision of military engineer support, a military responsibility." A. P. V. Rogers, above note 15, p. 76.

The Commentary also confirms many of the same options: "As regards persons, the other measures that can be taken by a Party to the conflict consist mainly of making available to the civilian population shelters which provide adequate protection against the effects of weapons. In some countries real efforts are made to supply the population with such shelters, both collectively and individually, the latter when every dwelling includes a shelter for the occupants." Y. Sandoz, C. Swinarski and B. Zimmermann, above note 32, pp. 694–695.

established for precisely this purpose”.⁷³ Examples of potential international support for civilians might include establishing safe havens or non-conflict zones, arranging egress routes that have been agreed to by the warring parties, or providing transportation, such as by aircraft or ship, for civilians to leave contested areas. As the massacre at Srebrenica⁷⁴ during the Bosnian conflict illustrates, providing such international assistance is not without risks and should be accompanied by adequate resources and resolve to ensure its success.

Unfortunately, the situation with respect to Article 58 in its entirety is such that in 2003, the 28th International Conference of the Red Cross and Red Crescent identified the requirements of the defender to protect the civilian populations as one of the areas that needed greater emphasis.⁷⁵ The intervening years, with their corresponding increase in urban conflict, have only intensified this need. In other words, there is still much to do in ensuring that the defender understands and correctly applies its obligations with respect to precautions against the effects of attacks. This article will next explain why problems with effectively applying the principle of precautions against the effects of attacks might persist, and will propose some potential solutions to increase compliance and responsibility for non-compliance.

Feasibility

Article 58’s obligations demonstrate the international community’s clear attempt to significantly increase the protections for civilians and civilian objects. However, if strictly applied, they could also place unrealistic constraints on a nation’s ability to defend itself effectively.⁷⁶ For this reason, the language “to the maximum extent feasible” was added to the article. As Kalshoven and Zegveld have argued:

It is a truism that effective separation of civilians and civilian objects from combatants and military objectives provides the best possible protection of the civilian population. It is equally obvious that in practice, this may be very difficult, if not impossible, to realise. This much is certain, however, that parties must, “to the maximum extent feasible”, endeavour to bring about and maintain the above separation.⁷⁷

73 Report of the Secretary-General to the Security Council on the Protection of Civilians in Armed Conflict, UN Doc. S/2001/331, 30 March 2001, para. 47.

74 Report of the Secretary-General pursuant to General Assembly Resolution 53/55: The Fall of Srebrenica, UN Doc. A/54/549, 15 November 1999, available at: www.securitycouncilreport.org/atf/cf/%7B65BF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/a_549_1999.pdf.

75 2003 Challenges Report, above note 41, p. 14.

76 See A.P.V. Rogers, above note 15, p. 76, where the author states that the language “to the maximum extent feasible” was “included on the insistence of the densely populated countries, which felt that Art. 58 would adversely affect their ability to defend themselves, and of countries worried about the expense of complying with the provision.”

77 F. Kalshoven and L. Zegveld, above note 45, p. 117.

When Article 58 was originally drafted, the language “to the maximum extent feasible” modified only the first paragraph of the rule. Various proposals were made, including one by Romania to make the obligations absolute by deleting the qualifying phrase “to the maximum extent feasible”.⁷⁸

One of the delegates’ great concerns was the ability of certain States to meet the requirements of Article 58 if the provisions were not limited somehow.⁷⁹ Bothe, Partsch, and Solf report that:

During the deliberations within the Working Group, many representatives of both developing and developed countries strongly objected to the obligation to endeavour to avoid the presence of military objectives within densely populated areas. This was deemed by representatives of densely populated countries to restrict their right to self defence, and by others to impose too heavy an economic burden to disperse their industrial, communications and transportation facilities from existing locations in densely populated places.⁸⁰

Specifically, the representatives of Switzerland, France and Italy noted the difficulty of applying Article 58 in States with dense populations or with certain topographies. The French Representative “wished to express his keen sense of anxiety about the provisions of subparagraph (b) since provisions of that kind could not, in practice, be applied in all regions of the world, having a high population density”.⁸¹ The Italian representative also expressed his concern, noting: “It is clear that a State with a densely populated territory could not allow [subparagraph (b)] to hamper the organization of its defence. The right of self defence ... has overriding force. It is thus unthinkable that the intention of Article [58] should be to place that right in jeopardy.”⁸² And as Queguiner explains:

[Switzerland’s] mountainous topography means that the civilian population is heavily concentrated in valleys, which are areas of vital economic and military importance in which fighting would inevitably take place despite the density of civilian population and housing. For these reasons, the requirement of removing the civilian population from the vicinity of military objectives, and of refraining from placing such objectives within or in the vicinity of densely populated areas, has, on occasion, been described as difficult to achieve on a large scale.”⁸³

78 M. Bothe, K. J. Partsch and W. A. Solf, above note 26, p. 414.

79 A. P. V. Rogers, above note 15, p. 76.

80 M. Bothe, K. J. Partsch and W. A. Solf, above note 26, p. 414.

81 CDDH/SR. 42, paras. 54, 55, quoted in M. Bothe, K. J. Partsch and W. A. Solf, above note 26, p. 416. “The expression ‘to the maximum’ extent feasible used in such provisions, if they were to be applied in the concrete case of France, could not really become operative, given the distribution and density of the population, unless it were accepted that French territory would not be defended That amounted to saying either that it was impossible to apply the provisions of subparagraph (b) or that such provisions, if they were actually applied, would prevent France from exercising its right to self defence, which was unacceptable.” *Ibid.*, p. 416.

82 *Ibid.*, p. 416.

83 J.-F. Queguiner, above note 9, pp. 819–820.

Additionally, as Parks points out, even nations without dense populations or topographic difficulties may still find it extremely difficult, if not impossible, to strictly comply with this requirement for extended periods of time. Parks notes:

Moreover, it is not always possible to remove the civilian population or individual civilians from the vicinity of a military objective for any extended period of time, particularly if there is a shortage of housing and/or the weather is severe. Nothing can be done to move immovable civilian objects in order to protect them from attack.⁸⁴

In response to these types of concerns, the drafters turned to ensuring “that the duty to take these precautions is worded in relative terms”.⁸⁵ B. G. Wolfe, the Canadian representative, proposed that the limiting language of “to the maximum extent feasible” be applied to the entire provision,⁸⁶ an amendment that was eventually accepted by consensus.⁸⁷ Article 58 thus rests on “the proposition that to avoid placing military objectives in populated places is a goal to be attained if feasible which must, however, give way to military requirements if necessary. For this reason, the term ‘feasible’ was used to modify all obligations.”⁸⁸

Applying the term “feasible” to all of the Article 58 obligations was clearly what the majority of States wanted during the negotiations, and it alleviated the concerns about States’ ability to comply with the obligations. But there was no serious attempt to define the term as part of AP I, despite its frequent use.⁸⁹ As Rogers argued, understandings of the term will vary,⁹⁰ but it is safe to assume that “the requirements of Art. 58 of Protocol I are not absolute”.⁹¹

John Redvers Freeland, head of the UK delegation during several of the sessions, stated that the words “to the maximum extent feasible” related to what was “workable or practicable, taking into account all the circumstances at a given moment, and especially those which had a bearing on the success of military operations”.⁹² Similarly, S. H. Bloembergen, representing the Netherlands, stated that “feasible” should be “interpreted as referring to that which was practicable or practically possible, taking into account all circumstances at the time”.⁹³ At least eight other States joined with the UK and Netherlands on this interpretation with respect to the meaning of the term “feasible” in Article 58 as well as the numerous other articles which use that term.⁹⁴

84 W. H. Parks, above note 16, p. 159.

85 J.-F. Queguiner, above note 9, pp. 819–820; 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. 143, 157.

86 Official Records, above note 27, Vol. 14, p. 199.

87 *Ibid.*, p. 304.

88 M. Bothe, K. J. Partsch and W. A. Solf, above note 26, p. 414; CDDH/215/Rev.1, para. 102.

89 For example, the term “feasible” is also used in Articles 41, 56, 57, 78 and 86.

90 A. P. V. Rogers, above note 15, p. 73; Michael N. Schmitt, “Asymmetrical Warfare and International Humanitarian Law”, *Air Force Law Review*, Vol. 62, No. 1, 2008, p. 21.

91 A.P.V. Rogers, above note 15, p. 77.

92 Official Records, above note 27, Vol. 6, p. 214; E. T. Jensen, above note 41, p. 1548.

93 Official Records, above note 27, Vol. 6, p. 214.

94 J. Gaudreau, above note 85, pp. 156–157; M. Bothe, K. J. Partsch and W. A. Solf, above note 26, p. 415.

The use of the language “taking into account all circumstances at the time” takes account of the fact that a State’s or commander’s decisions are limited by their circumstances and knowledge at the time, and therefore should not be subject to subsequently informed analysis. This expression stems from the World War II prosecution of the German general Lothar Rendulic.⁹⁵ General Rendulic anticipated a swiftly advancing Russian force and conducted a scorched earth policy in Finnmark to inhibit troop movement. In adjudicating Rendulic’s responsibility for wanton destruction of property without military necessity, the Court determined that the legal standard was “consideration to all factors and existing possibilities” as they “appeared to the defendant at the time”.⁹⁶ This same standard is understood to apply to the feasibility of precautions in defence.

The US Law of War Manual lists five examples of “circumstances” which may impact the feasibility of a precaution. They are:

- The effect of taking the precaution on mission accomplishment;
- Whether taking the precaution poses risk to one’s own forces or presents other security risks;
- The likelihood and degree of humanitarian benefit from taking the precaution;
- The cost of taking the precaution, in terms of time, resources, or money; or
- Whether taking the precaution forecloses alternative courses of action.⁹⁷

While these considerations are certainly not meant to be exhaustive, they offer one State’s understanding of how to practically apply the principle of “feasibility”.

The widespread similar interpretation of the term “feasible” prompted the ICRC to “caution that the expression should not be too broadly interpreted, for fear that invoking only the success of military operations would lead to the humanitarian duties set out in the various rules being ignored”.⁹⁸ The ICRC’s own Commentary, however, acknowledges the intent of the States Parties not to make this an absolute requirement, but rather to allow flexibility in the application of the rule.⁹⁹ This interpretation continues today.¹⁰⁰

95 See United States Military Tribunal, Nuremberg, *United States v. Wilhelm List et al.*, Case No. 47, Judgment (Military Tribunal V), 19 February 1948, in *Trials Of War Criminals Before The Nuremberg Military Tribunals Under Control Council Law No. 10*, Vol. 11, 1950, p. 1295; See also Eric Talbot Jensen, “Unexpected Consequences from Knock-On Effects: A Different Standard for Computer Network Operations?”, *American University International Law Review*, Vol. 18, No. 5, 2003, pp. 1181–1183.

96 *United States v. Wilhelm List et al.*, above note 96, p. 1296.

97 US Law of War Manual, above note 12, p. 190.

98 See Y. Sandoz, C. Swinarski and B. Zimmerman, above note 32, pp. 681–682; J. Gaudreau, above note 85, pp. 143, 157.

99 See Y. Sandoz, C. Swinarski and B. Zimmerman, above note 32, pp. 681–682; J. Gaudreau, above note 85, p. 692, which states: “In fact the Diplomatic Conference often used this expression to illustrate the fact that no one can be required to do the impossible. In this case it is clear that precautions should not go beyond the point where the life of the population would become difficult or even impossible.”

100 See US Law of War Manual, above note 12, p. 189, which states: “Although this manual primarily uses ‘feasible,’ other adjectives have been used to describe the obligations to take feasible precautions during armed conflict. The words ‘practicable,’ ‘reasonable,’ ‘due,’ and ‘necessary’ have been used to describe this obligation”; and letter from Ambassador Christopher Hulse to the Swiss government, 28 January 1998, available at: www.icrc.org/ihl.nsf/NORM/0A9E03F0F2EE757CC1256402003FB6D2?

Fixing feasibility

As the above discussion highlights, “precautions against the effects of attacks” acts in concert with “precautions in attack” to provide maximum protections to the civilian population. However, despite the accepted fact that the defender has much more control over the civilian population and a much easier task in segregating and protecting them from the dangers of armed conflict than the attacker, the vast majority of scholarship, reporting and litigation focuses on the attacking party’s role in protecting civilians.

Criminal responsibility

Some of the imbalance of focus is attributable to the lack of enforcement for violations of the defender’s responsibilities. In fact, while an attacker can commit a grave breach in at least five different ways under AP I, no similar provisions draw attention to the responsibility of the defender.¹⁰¹ In response to this lack of textual accountability, at least one prominent scholar asserts that “[a] violation of Article 58 will not” entail individual criminal liability.¹⁰² While this assertion may be overbroad, the general lack of criminal responsibility may reflect the intent of the States who determined that “feasibility” was a necessary limitation on the responsibilities of the defender. Nevertheless, in today’s conflicts amongst a growing urbanized population, the lack of criminal responsibility may now be having the unintended consequence of excusing actions that would never have been acceptable to the States who argued for the feasibility limitation.

Some attempts have been made to increase awareness of the defender’s role in armed conflict with respect to individual criminal responsibility. In a recent report by a UN Fact-Finding Commission, the Commission recognized that affirmatively taking actions which put civilians at risk by failing to segregate or protect them from the effects of military operations is a violation of the rule on precautions in defence. The Commission concluded that “launching attacks ... close to civilian or protected buildings constitutes a failure to take all feasible

[OpenDocument](#), listing the United Kingdom’s reservations and declarations to AP I, and explaining in paragraph (b) that “[t]he United Kingdom understands the term ‘feasible’ as used in the Protocol to mean that which is practicable or practically possible, taking into account all circumstances ruling at the time, including humanitarian and military considerations”. See also UK Ministry of Defence, *Manual of the Law of Armed Conflict*, JSP 383, 2004, p. 81, para. 5.32; ICRC Customary Law Study, above note 7, p. 54.

101 AP I, Art. 85.

102 J.-F. Queguiner, above note 9, p. 816. See also Rewi Lyall, “Voluntary Human Shields, Direct Participation in Hostilities and the International Humanitarian Law Obligations of States”, *Melbourne Journal of International Law*, Vol. 9, No. 2, 2008, p. 316, where the author states: “By contrast, liability does not attach to a breach of art. 58 amounting to a failure by a defending state to fulfil its responsibility to take adequate precautions to remove and protect civilians from attack”; and W. H. Parks, above note 16, p. 158, where the author states: “In practical terms, article 58 can do little more than admonish. ... The provisions contained in article 58 are not obligatory.” Note that the Rome Statute has no provision for a violation of precautions against the effects of attacks. The closest possible violation would be the prohibition on human shields found in Rome Statute of the International Criminal Court, UN Doc. A/CONF.183/9, 17 July 1998 (entered into force 1 July 2002), Art. 8(b)(xxxiii).

precautions ... [and] would have constituted a violation of the customary rules of international humanitarian law” because it would have put the civilians at risk from an assumed military response.¹⁰³ In other words, the report found that if a defender launches an attack from an area close to civilians, he is putting those civilians at risk from counter-attacks by the attacker. This is a violation of the customary rule and would presumably result in individual criminal responsibility.

The report further concluded that a territorial State is also responsible for preventing armed groups “from endangering the civilian population by conducting hostilities in a manner incompatible with international humanitarian law”,¹⁰⁴ which would presumably include putting civilians at risk based on the method of defence. Queguiner had made a similar point years earlier when he argued that “a defending party who fails to meet its precautionary obligations will bear at least some legal responsibility for the loss or damage caused by an attack on a legitimate military objective, even when the attacking party has taken certain precautionary measures”.¹⁰⁵

A situation like that highlighted at the beginning of this article, where a defender chooses to co-locate military objectives with civilians and civilian objects once an armed conflict has started, serves as an adequate illustration of why increased criminal responsibility would significantly impact the protection of civilians in armed conflict. It seems unlikely that the post-onset-of-hostilities commingling by Daesh of its military headquarters with a known jail is the type of activity States were anxious to protect when insisting on the principle of feasibility to cover the defender’s obligation. Their concern, as reflected in the discussion above, was to preserve a State’s ability to develop its military infrastructure based on its topography and workforce. There is no evidence that such a placement would facilitate Daesh’s ability to deal with difficult topography or dense populations.¹⁰⁶ Rather, as many modern scholars have argued,¹⁰⁷ this and similar actions by defenders in recent armed conflicts seem more like attempts to use the law as a shield¹⁰⁸ and to potentially immunize otherwise

103 Report of the United Nations Fact-Finding Mission on the Gaza Conflict, Human Rights Council, UN Doc. A/HRC/12/48, 25 September 2009, para. 496, available at: www2.ohchr.org/english/bodies/hrcouncil/docs/12session/A-HRC-12-48.pdf.

104 *Ibid.*, para. 498.

105 J.-F. Queguiner, above note 9, p. 821.

106 See the discussion above.

107 J.-F. Queguiner, above note 9, pp. 811–817; Robin Geiss, “When Locating Military Objectives Within Populated Areas Becomes Using Human Shields”, in Edoardo Greppi (ed.), *Proceedings of the 37th Round Table on Current Issues in International Humanitarian Law: Conduct of Hostilities: The Practice, the Law and the Future*, 2014.

108 This type of activity has been termed “lawfare”. See Col. Charles J. Dunlap Jr., “Law and Military Interventions: Preserving Humanitarian Values in 21st Century Conflicts”, presentation prepared for the Humanitarian Challenges in Military Intervention Conference, Washington, DC, 29 November 2001, available at: www.ksg.harvard.edu/cchrp/Web%20Working%20Papers/Use%20of%20Force/Dunlap2001.pdf; Michael N. Schmitt, “The Impact of High and Low-Tech Warfare on the Principle of Distinction”, Harvard Program on Humanitarian Policy and Conflict Research, Briefing Paper, November 2003, reprinted in Roberta Arnold and Pierre-Antoine Hildbrand (eds), *International Humanitarian Law and the 21st Century’s Conflicts: Changes and Challenges*, Editions Interuniversitaires Suisses, Lausanne, 2005.

legitimate targets through the presence of civilians.¹⁰⁹ Whether or not Daesh's actions might be prosecuted as a war crime for the use of human shields, they should be prosecutable as a violation of Article 58.

Professor Geoff Corn has pointed out the difficulties of proving the "intentional" nature of a violation of precautions in defence¹¹⁰ and has proposed a comparative assessment approach whereby individual criminal liability would be based on the factual circumstances, such as an analysis of what other structures might have been used by Daesh for its headquarters.¹¹¹

Corn's conclusion is undoubtedly correct, particularly with respect to accounting for the factual situation. Nevertheless, the current complete lack of individual criminal responsibility based on "feasibility" as a justification for not taking important steps to protect civilians in a defender's control should not continue. Rather, when the defending forces intentionally commingle military headquarters or other installations with civilians and civilian objects, or by their own actions intentionally put civilians at increased risk of attack and fail to warn or take other protective actions, particularly after the onset of hostilities, the international community ought to find a violation of the defending force's obligations and prosecute responsible individuals for a war crime.¹¹²

While this would certainly be an evolution of the law from its current application, existing and emerging technology provides the defender with a multitude of options that directly expand the "feasibility" of precautions in defence and enable the defender to more aggressively fulfil its obligations. Failure to utilize these emerging technologies, when accessible, should lead to criminal responsibility.

Technology

Emerging technologies and their potential impact on the conduct of hostilities have been the subject of extensive scholarship recently,¹¹³ but little attention has been

109 AP I, Art. 51(7); Nils Melzer, *Interpretive Guidance on the Notion of Direct Participation in Hostilities Under International Humanitarian Law*, ICRC, Geneva, 2009, pp. 56–57, available at: www.icrc.org/eng/assets/files/other/icrc-002-0990.pdf.

110 See G. S. Corn, above note 39.

111 *Ibid.*

112 It might be argued that the wording of Article 58 of "The Parties to the conflict" applies only to States and would not bind non-State actors. This interpretation is refuted by the ICRC in a March 2008 Opinion Paper which states, "non-governmental groups involved in the conflict must be considered as 'parties to the conflict'". ICRC, "How is the Term 'Armed Conflict' Defined in International Humanitarian Law?", Opinion Paper, March 2008, available at: www.icrc.org/eng/assets/files/other/opinion-paper-armed-conflict.pdf. This view is also reflected in the 2016 Commentary to Article 3 which clearly makes the distinction between States and Parties to a conflict. ICRC, *Commentary on the First Geneva Convention: Convention (I) for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field*, 2nd ed., 2016, paras 384–392, available at: <https://ihl-databases.icrc.org/ihl/full/GCI-commentary>.

113 For example, a 2012 issue of the *International Review of the Red Cross* was dedicated to "New Technologies and Warfare": *International Review of the Red Cross*, Vol. 94, No. 886, 2012, available at: www.icrc.org/en/international-review/new-technologies-and-warfare. See also William H. Boothby, "The Legal Challenges of New Technologies: An Overview", in Hitoshi Nasu and Robert McLaughlin (eds), *New Technologies*

given to how such technologies can increase the defender's ability, and arguably responsibility, to protect the civilian population under its control. Advancing technology can have a significant impact on the understanding of relative terms such as "feasible". Boothby makes this argument with respect to Article 58 when he writes:

In considering the legal implications of futuristic new technologies, it is important to bear in mind that the law of targeting, for example, is replete with relative language ... and so is the "maximum extent feasible" in Article 58 of Additional Protocol I. Those relative notions seem likely to be capable of adaptive interpretation as technological development improves.¹¹⁴

There are several current and emerging technologies that are very capable of assisting a committed defender. For example, Corn's comparative assessment approach to individual criminal liability already takes account of the application of emerging technologies.¹¹⁵ The use of these technologies will not only allow the defender greater situational awareness as to where the civilians are, but will also increase the defender's ability to both segregate military forces from civilians and protect those who cannot be segregated. For the purposes of further analysis, these technologies will be roughly divided into the categories of sensors, communication devices and markers.

Sensors

The use of sensors is one of the areas where emerging technology's impact on the defender is most obvious. Sensor technology is currently being looked at for a number of innovative military uses, including the Squad X Core Technologies Program, which is designed to "give troops unprecedented situational awareness, the ability to sense threats more than half a mile away and to understand the location of all of their team even in environments with degraded communications and GPS".¹¹⁶

As nanotechnology¹¹⁷ develops, it will allow the creation of sensors that can detect not only people but also "a wide range of gases and volatile organic compounds".¹¹⁸ Sensors will be both stationary and mobile and will be able to

and the Law of Armed Conflict, Asser Press, The Hague, 2014, p. 22, where the author argues that it is "a matter of some difficulty to determine whether it is technology that challenges the law or the law that challenges the use of novel technologies in armed conflict".

114 *Ibid.*, p. 25.

115 See G. S. Corn, above note 39.

116 See Patrick Tucker, "Military Looking to Give Troops Super Sensing Abilities", *Defense One*, 10 February 2015, available at: www.defenseone.com/technology/2015/02/military-looking-give-troops-super-sensing-abilities/105039/, where the author writes: "By digitization, [the Defense Advanced Research Projects Agency] means collecting sensor data that would provide much more detailed and actionable real-time information about a squad's condition, surroundings and adversaries."

117 See National Nanotechnology Initiative, "Frequently Asked Questions", available at: <http://nano.gov/nanotech-101/nanotechnology-facts>; Eric Talbot Jensen, "The Future of the Law of Armed Conflict: Ostriches, Butterflies, and Nanobots", *Michigan Journal of International Law*, Vol. 35, No. 2, 2014, p. 301.

118 Lockheed Martin, "High-Performance Nanoenabled Electronics: Robust, Versatile, Affordable, Fast", Lockheed Martin Corporation, Bethesda, MD, 2013, available at: www.lockheedmartin.com/content/dam/lockheed/data/corporate/documents/nano/sensors.pdf.

provide immense amounts of information by sensing motion, sound, heat and many other pieces of information a defender might need to know to meet its “Precautions” obligations. These sensors are perfect for providing constant information from places where militaries can’t permanently position people and will allow the collection of data not only on the location of the civilian population, but also on potential dangers from ongoing hostilities. And helpfully, the sensors are being built to last significantly longer than is currently possible.¹¹⁹

As discussed earlier, the defender already has much better information on the position and security of civilians in the zone of armed conflict. That situational awareness could be magnified by the effective use of sensors. Sensors could be used by the defender to track the location and movement of the civilian population, which would then allow the defender to take appropriate actions to either segregate or protect those civilians. For example, placing sensors at heavily trafficked areas would provide extremely useful data for the defender to use to determine how best to segregate and protect the civilians in the area. Additionally, sensors could be used by a defender to anticipate enemy force movement into the area and then, using some of the technologies discussed below, provide early warning so civilians can leave the area or take appropriate shelter.

Sensors come in many varieties, many of which are fairly user-friendly and inexpensive potential uses of current technologies that will allow the defender to more easily and effectively apply his obligations against the effects of attacks. As technology advances and becomes ever more available to defenders, the international community’s understanding of what precautions are “feasible” for a defender should also increase. As defenders increasingly have access to sensors that can provide important information and data which would better allow segregation and protection, defenders ought not only to be expected to use it, but also to bear some of the responsibility for adverse effects if they fail to appropriately do so.

Communications devices

Innovation in communications devices is another area where defenders can take real, positive and “feasible” steps forward. The use of phone calls has already been documented in urban areas to help prevent civilian casualties in attack.¹²⁰ Defenders should also embrace this technology. The pervasiveness of mobile

119 Patrick Tucker, “Pentagon Seeks Sensors that Last for Years”, *Defense One*, 13 April 2015, available at: www.defenseone.com/technology/2015/04/pentagon-seeks-sensors-last-years/110044/.

120 Steven Erlanger and Fares Akram, “Israel Warns Gaza Targets by Phone and Leaflet”, *The New York Times*, 8 July 2014, available at: <http://www.nytimes.com/2014/07/09/world/middleeast/by-phone-and-leaflet-israeli-attackers-warn-gazans.html>, where the authors state: “But the events on Tuesday were another example of a contentious Israeli policy in which occupants of a building about to be bombed or shelled are given a brief warning in Arabic to evacuate. The Israelis have used such telephone calls and leaflets for years now, in a stated effort to reduce civilian casualties and avoid charges of indiscriminate killings or even of crimes against the rules of war.”

phones and local tracking and geolocation capabilities¹²¹ provides the defender with very feasible and effective methods of exercising precaution. For example, when a defender launches an attack from within an urban area, cell phone numbers of civilians living in the area could be found and calls could be made to warn nearby civilians of potential counterfire and warn them to leave the area. The same could be done when incoming attacks from the enemy are projected or even on their way.

Additionally, stationary audio sirens or signals could be used, much like the air raid warnings of World War II. These audio signals could be attached or temporarily delivered to areas in danger and programmed to send multiple messages, including to take shelter in preparation for an incoming attack, or to leave in front of an incoming foe, or even to leave in anticipation of a counterattack to an ongoing attack. Recognizing the fluid nature of a battle, these signals could also be mobile, attached to drones or other devices.

The use of webcams¹²² could also provide the defender with timely and accurate information that would help it to meet its precautionary responsibilities. Much like the sensors discussed above, placing webcams in key spots to monitor civilian traffic, including movement in response to the audio signals mentioned above, would be particularly useful in urban areas to help track the civilian population. Webcams could also be placed at the entrance of key buildings such as hospitals or displaced civilians centres, and their footage then broadcast on the web for the attacker (and potentially the international community) to monitor, ensuring that the attacker could make no mistake as to who was actually in the building and the legitimacy of the building's protections under IHL. Using webcam technology in this way should help protect civilians by providing greater situational awareness to both the defender and the attacker.

And of course, drones could make all of these capabilities mobile in a very inexpensive way. Drones are comparatively inexpensive and getting cheaper and more ubiquitous. They provide instantaneous situational awareness to a defender who is intent on effectively segregating and/or protecting the civilian population in an urban setting.

Again, these easy-to-use and already available technologies should have a significant impact on a defender's ability to meet its precautionary responsibilities – and advances in technology will only increase this ability. As nanotechnology makes communication devices smaller, faster and more durable, the understanding and expectation of the “feasible” actions that the defender can take should also dramatically increase. This should then be reflected in a

121 ISACA, *Geolocation: Risk, Issues and Strategies*, White Paper, Rolling Meadows, IL, 2011, available at: www.isaca.org/groups/professional-english/wireless/groupdocuments/geolocation_wp.pdf.

122 For example, the New York City Police Department uses an extensive camera system to provide real-time surveillance of the city. Similar cameras could be installed in key locations by the defender in order to monitor population movements and provide greater protections. See Bob Hennelly, “A Look Inside the NYPD Surveillance System”, *WNYC News*, 21 May 2010, available at: www.wnyc.org/story/71535-a-look-inside-the-nypd-surveillance-system/.

defender's criminal responsibility when the defender fails to take advantage of these accessible and beneficial options.

Marking

Finally, the use of markings will also be considerably facilitated by emerging technology. In addition to the audio signals mentioned above, visual and olfactory signals and markers should also begin to play a key role for the defender. When a defender plans to conduct an attack from an urban area, where he anticipates that he will get a counterattack in response, the use of both visual and olfactory markers could help to disperse civilians from the area. For example, a drone could deliver an explosive that was extremely loud and bright, but non-lethal, and which would encourage the civilians to depart the area before the anticipated counterfire attack had begun. Similarly, naturally occurring odours may be used to signal a dangerous area and encourage civilians to disperse. Other visual signals, such as flashing lights or brightly coloured spray paint of some pre-designated colour, could be used (possibly delivered by a drone) to warn civilians in the area.

Additionally, such markings could be used to denote protected areas,¹²³ particularly in a fluid battlefield. If displaced civilians were being gathered in an *ad hoc* building, drone-delivered markings could be used to notify an attacker of the protected nature of the building, even in a temporary way. Such actions certainly provide the defender with the opportunity to abuse the protections and deceive the attacker, but combined with some of the technologies discussed earlier, they could also provide very clear and confirmable indications of current protected status.

As with the other mentioned emerging technologies, these are readily available, even for non-State actors, and their accessibility and effectiveness will only increase with advances in technology. Defenders should recognize the value of these technologies and take affirmative steps to employ them in armed conflict. Similarly, the international community should acknowledge these capabilities and raise the expectation of what a defender can “feasibly” do with respect to precautionary measures, and then enforce those measures through criminal responsibility.

Conclusion: Feasibility reconsidered

While “feasibility” is absolutely an important standard that must be maintained in assessing the culpability of the defender, it is also an evolving standard that must

123 See US Law of War Manual, above note 12, pp. 251–252, which states: “It may be appropriate to identify protected persons and objects, as such, through the use of distinctive and visible signs. For example, it may be appropriate to identify civilian hospitals or civilian air raid shelters in order to facilitate their protection during enemy bombardment. Signs indicating civilian objects, as such, should be notified to the opposing party so that the opposing party knows to refrain from bombarding places or buildings bearing these signs.”

take account of developing technology. As increased capability to segregate and/or protect the civilian population develops, the obligation to provide that segregation and protection must concurrently expand. If the law is to continue to provide meaningful protection to civilian populations, particularly in conflicts in urban areas, defenders have to recognize and accept this evolution and adapt their tactics and procedures.

The suggestions and examples above are just illustrations of the kinds of technologies that are in development or already in use which provide important opportunities for defenders in applying their IHL obligations. The important point is that as these technologies continue to develop and become available to defenders, the understanding of the “feasibility” test needs to evolve accordingly. As access to advanced technology that could assist the defender in applying precautions becomes more pervasive, the expectation that defenders will make use of such technology should increase. In Air Commodore Boothby’s words, there should be some “adaptive interpretation” as to what the standard of feasibility really means.¹²⁴

In particular, with the technologies now available through various communications devices, a defender who fires from urban areas must take proactive responsibility to segregate the population from that firing point, knowing that counterfire attacks are likely to follow. It is no longer feasible for a defender to argue that the fluid nature of the battlefield is such that warnings cannot be provided and direction given to local civilians in order to segregate them from the military equipment used in the attack or to protect them from the effects of the anticipated counterattack.

Similarly, with technological advances, it is no longer acceptable for a defender to argue that it does not at least share responsibility for civilian deaths or damage caused by attackers when the defender knowingly establishes military firing points or stores military equipment near civilian populations. As an example, if a defender fails to discover the movement of civilians in a particular area prior to establishing a firing position near a school or other site where civilians are seeking shelter, or does not take sufficient precautions such as phone calls or the use of sirens or other advanced markings to warn the civilians and give them an opportunity to move, the defender must bear criminal responsibility for corresponding death to civilians or damage to civilian objects that comes from enemy counterfire.¹²⁵

This is also true with mobile military equipment. As defenders manoeuvre military equipment in response to developments in the battle, they must embrace the obligation to notify the civilian population of areas that are likely to be attacked due to the military presence. Phone calls and auditory signals are two ways in which this can easily be accomplished, and the international community should expect as much.

124 W. H. Boothby, above note 113, p. 25.

125 See G. S. Corn, above note 39.

Despite the inherent difficulty of protecting civilian populations in urban areas, Article 58 remains an important and achievable standard. While appropriately limited to those measures which are “feasible”, precautions in defence must be more than just recommendations to be either accepted or refused with no corresponding responsibility. Just as those obligations were meant to be limited to those things which were practicable when States embraced the obligation, those measures which are feasible should carry with them an expectation that they be applied in order to better protect the civilian population. Emerging technologies provide important capabilities which defenders should utilize in an effort to meet the obligations of precautions against the effects of attacks.

Sensors, communications devices and markers are examples of existing and developing technologies that can be applied now by defenders in current armed conflicts that will have a significant benefit to the local civilian population. As the international community recognizes these capabilities, it should also begin to hold defenders at least partially accountable for civilian deaths and damage that occur from attacks where defenders did not take advantage of these options. Encouraging and conducting prosecution of defenders who fail to take these kinds of steps to fulfil their “Precautions” obligations will send a vital message to defenders in the age of urban warfare – individual criminal responsibility for protection of civilians in modern armed conflicts is shared by both the attacker and the defender, and both must take “feasible” precautions or accept the consequences. By embracing a defender’s criminal liability, the law will achieve greater clarity and the protections afforded to the civilian population will steadily increase.