

# Proportionality under International Humanitarian Law: The “Reasonable Military Commander” Standard and Reverberating Effects

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## ABSTRACT

*The principle of proportionality protects civilians and civilian objects against expected incidental harm from an attack that is excessive to the military advantage anticipated from the attack. However, despite its status as a fundamental norm of international humanitarian law (IHL), key terms are not defined in relevant treaties nor do they benefit from critical judicial explanation. This has caused challenges for both academics and military commanders alike in explaining and applying the test for proportionality.*

*The Article expands upon two points that were raised and generated interesting discussion at The Second Israel Defense Forces International Conference on the Law of Armed Conflict during a panel that dealt with contemporary issues in proportionality. Those two issues are:*

- a. What does the “reasonable military commander” standard for assessing proportionality entail?*
- b. Should “reverberating effects” (i.e., collateral effects that are only expected to materialize in the long term) be accounted for as part of the assessment of collateral damage?*

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## I. INTRODUCTION

The purpose of this Article is to expand on two points that were raised and generated interesting discussion at *The Second Israel Defense Forces International Conference on the Law of Armed Conflict* during a panel that dealt with contemporary issues in proportionality.<sup>1</sup> Those two issues are:

- a. What does the “reasonable military commander” standard for assessing proportionality entail?
- b. Should “reverberating effects” (i.e., collateral effects that are only expected to materialize in the long term) be accounted for as part of the assessment of collateral damage?

The principle of proportionality protects civilians and civilian objects against expected incidental harm from an attack that is excessive to the military advantage anticipated from the attack. Military commanders are prohibited from planning or executing such indiscriminate attacks. The principle of proportionality is accepted as a norm of customary international law applicable in both international and noninternational armed conflict.<sup>2</sup> The test for proportionality has been codified in Additional Protocol I. The relevant provisions of Additional Protocol I prohibit attacks that: “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

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1. For a comprehensive discussion on proportionality in international law, see generally MICHAEL NEWTON & LARRY MAY, *PROPORTIONALITY IN INTERNATIONAL LAW* (2014).

2. See Int’l Comm. of the Red Cross, *Rule 14. Proportionality in Attack*, CUSTOMARY IHL DATABASE, [http://www.icrc.org/customary-ihl/eng/docs/v1\\_rul\\_rule14](http://www.icrc.org/customary-ihl/eng/docs/v1_rul_rule14) (last visited Feb. 22, 2018) [<https://perma.cc/4NJV-QX86>] (archived Feb. 2, 2018); TALLINN MANUAL 2.0 ON THE INTERNATIONAL LAW APPLICABLE TO CYBER OPERATIONS 471 (Michael N. Schmitt ed., Cambridge Univ. Press 2017) [hereinafter TALLINN MANUAL 2.0].

to the concrete and direct military advantage anticipated.”<sup>3</sup>

Despite its status as a fundamental norm of IHL,<sup>4</sup> neither Additional Protocol I nor any other international treaty provides definitions for key terms such as “may be expected” or “military advantage.” This has caused challenges for both academics and military commanders alike in explaining and applying the test for proportionality.<sup>5</sup>

Unfortunately, subsequent case law has not greatly assisted in the interpretation of this test. In *Prosecutor v. Kupreškić*, the Trial Chamber held the principle of proportionality requires that “any incidental (and unintentional) damage to civilians must not be out of proportion to the direct military advantage gained by the military attack.”<sup>6</sup> The Court was not required in that case to undertake a detailed analysis. In *Prosecutor v. Galić*, the Trial Chamber held the express prohibition of indiscriminate attacks in Additional Protocol I is reflective of the customary law applicable in all conflicts.<sup>7</sup> Regrettably for commentators and practitioners, the Court did not need to engage in further legal analysis before applying the test for proportionality to the facts in that case.

Most recently in *Prosecutor v. Prlić*, the Trial Chamber found the destruction of the Old Bridge of Mostar caused “indisputable and substantial” damage to the civilian population by reducing the available supply routes for food and medical supplies and thereby resulting in serious deterioration of the humanitarian situation in the local area.<sup>8</sup> Further, the destruction of the Old Bridge was said to have “a very significant psychological impact” on the Muslim population of Mostar.<sup>9</sup> The Court then held this harm to the civilian population “was disproportionate to the concrete and direct military advantage expected by the destruction of the Old Bridge.”<sup>10</sup> With great respect, the Court’s conclusion was wrongly drawn.

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3. Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts arts. 51(5)(b), 57(2)(a)(iii), 57(2)(b), June 8, 1977, 1125 U.N.T.S. 3 [hereinafter Additional Protocol I].

4. See *Prosecutor v. Kupreškić et al.*, Case No. IT-95-16-T, Judgment, ¶ 524 (Int’l Crim. Trib. for the Former Yugoslavia Jan. 14, 2000) [hereinafter *Kupreškić*] (“Articles 57 and 58 of the First Additional Protocol of 1977 . . . are not part of customary international law[.]”).

5. See, for example, MATTHEW WAXMAN, INTERNATIONAL LAW AND THE POLITICS OF URBAN AIR OPERATIONS 8 n.14 (2000) (“[The] principle[s] . . . precise meaning remains elusive, in part because of the inherent difficulties in measuring, and then weighing, expected military gain and civilian harm.”).

6. *Kupreškić*, *supra* note 4.

7. See *Prosecutor v. Galić*, Case No. IT-98-29-T, Judgment and Opinion, ¶¶ 57–58 (Int’l Crim. Trib. for the Former Yugoslavia Dec. 5, 2003) [hereinafter *Galić*].

8. *Prosecutor v. Prlić*, Case No. IT-04-74-T, Judgment, Vol. 3 ¶¶ 1583–1584 (Int’l Crim. Trib. for the Former Yugoslavia May 29, 2013) [hereinafter *Prlić* Trial Chamber Vol. 3].

9. *Id.* ¶ 1583.

10. *Id.* ¶ 1584.

First, the test for proportionality requires consideration only of expected civilian deaths and injuries and damage to civilian objects. Other intangible effects on the civilian population, such as inconvenience, irritation, stress, or fear are not factored into collateral damage.<sup>11</sup> Accordingly, consideration of the inconvenience of being required to use alternate supply routes or the stress of observing the Old Bridge being destroyed resulted in an incorrect application of the proportionality test in *Prlić*.

Second, while a deterioration of the humanitarian situation may result in civilian deaths and injuries, that was not identified in the Court's reasoning.<sup>12</sup>

And finally, the Court did not appear to truly engage with evaluating the anticipated military advantage and the expected collateral damage. At paragraph 1582, the Court said "the Old Bridge was essential to the ABiH [Army of Bosnia and Herzegovina] for combat activities of its units on the front line" and "its destruction cut off practically all possibilities for the ABiH to continue its supply operations."<sup>13</sup> Having made only general comments about harm to the civilian population, and having made quite strong findings about the military importance of the bridge, the Court simply said:

The Chamber therefore holds that although the destruction of the Old Bridge by the HVO may have been justified by military necessity, the damage to the civilian population was indisputable and substantial. It therefore holds by a majority, with Judge Antonetti dissenting, that the impact on the Muslim civilian population of Mostar was disproportionate to the concrete and direct military advantage expected by the destruction of the Old Bridge.<sup>14</sup>

With respect, the anticipated collateral damage identified by the Court was not so obviously out of all proportion to the anticipated military advantage identified by the court so as to warrant such a perfunctory analysis.

Three of the six accused appealed their conviction with respect to the destruction of the Old Bridge on, *inter alia*, grounds related to the Trial Chamber's findings that the destruction was disproportionate.<sup>15</sup> Unfortunately for current purposes, the Appeals Chamber found it did

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11. See U.S. DEP'T OF DEF., LAW OF WAR MANUAL 261 (Dec. 2016) [hereinafter DOD LAW OF WAR MANUAL] ("Mere inconveniences or temporary disruptions to civilian life need not be considered in applying this rule."); MANUAL ON INTERNATIONAL LAW APPLICABLE TO AIR AND MISSILE WARFARE 96 (2009); TALLINN MANUAL 2.0, *supra* note 2, at 472.

12. There is no significant elaboration on this point in Volume 2 of the Court's decision concerning 'Factual Findings Regarding Crimes Committed in Municipalities and Detention Centres'. See *generally* Prosecutor v. Prlić, Case No. IT-04-74-T, Judgment, Vol. 2 (Int'l Crim. Trib. for the Former Yugoslavia May 29, 2013).

13. Prlić Trial Chamber Vol. 3, *supra* note 8, ¶ 1582.

14. *Id.* ¶ 1584.

15. See Prosecutor v. Prlić, Case No. IT-04-74-A, Judgment, Vol. 1 ¶¶ 407-08 (Int'l Crim. Trib. for the Former Yugoslavia Nov. 29, 2017) [hereinafter Prlić Appeal].

not have to address any of the proportionality arguments raised by *Stojić, Praljak, and Petković*. Rather, the Appeals Chamber upheld this aspect of the appeal on the following basis:

The Appeals Chamber recalls that the elements of wanton destruction not justified by military necessity, as a violation of the laws or customs of war, include, *inter alia*, the destruction of property that occurs on a large scale and that the destruction is not justified by military necessity. Since the Trial Chamber found that the Old Bridge was a military target at the time of the attack, and, thus, its destruction offered a definite military advantage, the Appeals Chamber, Judge Pocar dissenting, finds that it cannot be considered, in and of itself, as wanton destruction not justified by military necessity.<sup>16</sup>

An explanation of the application of the proportionality test in state practice, evidenced namely in the armed forces' manuals on the law of armed conflict, is also scarce. Most of these military manuals simply recite the law but provide limited discussion on the practical application of the test. An exception appears to be the United States Department of Defense (US DoD) *Law of War Manual*, which provides a detailed analysis of the prohibition on attacks expected to cause excessive incidental harm.<sup>17</sup>

In the absence of clarity on the application of the proportionality test, we will consider two issues which require immediate attention in light of current military operations. First, noting the test is not mechanical but requires an assessment of disparate values (i.e., expected incidental harm and anticipated military advantage), what is the standard for assessing proportionality? We will contend it is that of the "reasonable military commander."

Second, should "reverberating effects" or "indirect effects" be accounted for as part of the assessment of collateral damage? We will contend that reverberating or indirect effects are counted as part of the collateral damage assessment but only where that harm will arise as an expected consequence of the attack. While there is no definitive temporal or geographical limitation, any incidental harm to civilians or damage to civilian objects that is too remote to have been reasonably caused by the attack or is but a mere possibility does not form part of the assessment.

## II. THE "REASONABLE MILITARY COMMANDER" STANDARD

What does the "reasonable military commander" standard for assessing proportionality entail?

This was the opening question to the panel and set the parameters for the discussion that followed. Of course, as was no doubt well known

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16. *Id.* ¶ 411 (internal citations omitted).

17. See DOD LAW OF WAR MANUAL, *supra* note 11, ¶¶ 5.12–5.12.3.4.

by the very experienced panel moderator,<sup>18</sup> a whole workshop could be dedicated to this question alone. What follows addresses why the “reasonable military commander” was adopted as the standard against which the ensuing discussion was conducted.

The first point to note is that the codified principle of proportionality in Additional Protocol I, article 57(2)(a)(iii), does not refer to a “reasonable military commander” at all. The obligation to comply with the principle of proportionality lies with either “those who plan or decide upon an attack,”<sup>19</sup> or those who execute an attack.<sup>20</sup> The reference to a “reasonable military commander” does not describe who has the obligation, but rather the standard against which a decision on proportionality is to be made or judged. Determining the standard against which proportionality decisions are to be evaluated is important because:

[C]enturies of discussion by philosophers and jurists about the meanings of necessity and proportionality in human affairs do not seem to have produced general definitions capable of answering concrete issues. As with many abstract concepts, the answers to specific questions depend on the circumstances, appraised in the light of the humanitarian ends that justify the restraints. Determining the proper relation between means and ends in situations of great complexity and uncertainty is never easy. Decision makers are faced with their own inadequacies and lack of knowledge, together with the pressures inherent in conflict. They cannot forget the risks and costs of restraint, yet they must also be mindful of the legal imperative to avoid unnecessary and disproportionate force.<sup>21</sup>

As the proportionality decision requires an assessment, it is imperative to understand whether the assessment is subjective (e.g., “where a person believes”), objective but unqualified (e.g., “where a person reasonably believes”), or objective but qualified (e.g., “where a doctor reasonably believes”). By way of a short bit of history, it would seem that the term “reasonable military commander” owes its genesis to the *Final Report to the Prosecutor by the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of*

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18. See Michael A. Newton, VANDERBILT LAW SCHOOL, <https://law.vanderbilt.edu/bio/michael-newton> (last visited Feb. 22, 2018) [<https://perma.cc/3T7F-LP9D>] (archived Feb. 14, 2018).

19. Additional Protocol I, *supra* note 3, art. 57(2)(a).

20. *Id.* art. 57(2)(b). Note that art. 57(2)(b) does not directly refer to those who “execute” an attack, but it seems clear that, along with those who plan or decide upon an attack, it is primarily those who executed attack who would be in a position to comply with this requirement. See INT’L COMM. OF THE RED CROSS, COMMENTARY ON THE ADDITIONAL PROTOCOLS OF 8 JUNE 1977 ¶ 2220 (Yves Sandoz, Christophe Swinarski & Bruno Zimmermann eds., 1987) [hereinafter COMMENTARY ON THE ADDITIONAL PROTOCOLS].

21. Oscar Schachter, *Remarks*, 86 AM. SOC’Y INT’L L. PROC. 39, 39 (1992).

*Yugoslavia*.<sup>22</sup> It is worth extracting the relevant paragraphs from the report in full:

49. The questions which remain unresolved once one decides to apply the principle of proportionality include the following:

- a) What are the relative values to be assigned to the military advantage gained and the injury to non-combatants and/or the damage to civilian objects?
- b) What do you include or exclude in totalling your sums?
- c) What is the standard of measurement in time or space? and
- d) To what extent is a military commander obligated to expose his own forces to danger in order to limit civilian casualties or damage to civilian objects?

50. The answers to these questions are not simple. It may be necessary to resolve them on a case by case basis, and the answers may differ depending on the background and values of the decision maker. It is unlikely that a human rights lawyer and an experienced combat commander would assign the same relative values to military advantage and to injury to noncombatants. Further, it is unlikely that military commanders with different doctrinal backgrounds and differing degrees of combat experience or national military histories would always agree in close cases. It is suggested that **the determination of relative values must be that of the "reasonable military commander"**. Although there will be room for argument in close cases, there will be many cases where reasonable military commanders will agree that the injury to noncombatants or the damage to civilian objects was clearly disproportionate to the military advantage gained.<sup>23</sup>

As can be seen, it was a quite deliberate decision to not adopt a "reasonable person" standard but rather a "reasonable military commander" standard. Subsequently there has been some, albeit limited, judicial attention to the issue of the standard to be applied when making proportionality decisions.

At the international level, in *Galić* the International Criminal Tribunal for the former Yugoslavia (ICTY) held that:

One type of indiscriminate attack violates the principle of proportionality. . . . The basic obligation to spare civilians and civilian objects as much as possible must guide the attacking party when considering the proportionality of an attack. In determining whether an attack was proportionate it is necessary to examine whether **a reasonably well-informed person in the circumstances**

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22. Office of the Prosecutor, *International Criminal Tribunal for the Former Yugoslavia (ICTY): Final Report to the Prosecutor by the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia*, 39 INT'L LEGAL MATERIALS 1257 (2000) [hereinafter Final Report of the NATO Bombing Campaign]; see also Robert D. Sloane, *Puzzles of Proportion and the "Reasonable Military Commander": Reflections on the Law, Ethics, and Geopolitics of Proportionality*, 6 HARV. NAT'L SEC. J. 299, 302 (2015).

23. Final Report of the NATO Bombing Campaign, *supra* note 22, ¶¶ 49–50 (emphasis added).

of the actual perpetrator, making reasonable use of the information available to him or her, could have expected excessive civilian casualties to result from the attack.<sup>24</sup>

The ICTY in *Galić* was not called upon to actually decide on an issue concerning the proportionality of an attack; rather, the Tribunal was setting out general principles. Nonetheless, it is clear that the Tribunal was of the view that the standard is that of “a reasonably well-informed person in the circumstances of the actual [original decision-maker].”

There are two other ICTY cases that often arise in discussion about proportionality. As mentioned above, in *Prlić* the ICTY reviewed an attack on the Old Bridge in Mostar and said:

The Chamber therefore holds that although the destruction of the Old Bridge by the HVO may have been justified by military necessity, the damage to the civilian population was indisputable and substantial. It therefore holds by a majority, with Judge Antonetti dissenting, that the impact on the Muslim civilian population of Mostar was disproportionate to the concrete and direct military advantage expected by the destruction of the Old Bridge.<sup>25</sup>

Putting to one side for current purposes other discussion that might be made on the factors the Trial Chamber took into account in considering what amounted to civilian harm, the relevant point for this Part of the Article is that the Trial Chamber did not identify what standard was being used when determining that the attack was disproportionate. In his dissent, Judge Antonetti was of the view that proportionality did not apply to the attack,<sup>26</sup> so the question of what standard to apply did not arise.

Finally, while the ICTY briefly discussed the principle of proportionality in *Kupreskić*,<sup>27</sup> there was no discussion of the standard to be applied.

There are also two decisions of a domestic court that are of interest. The Supreme Court of Israel, sitting as the High Court, has on at least two occasions made reference to the “reasonable military commander.” The first was in *The Beit Sourik Village Council v. The Government of Israel* where President Barak referred to a “reasonable military commander” in the context of proportionality, although in that case the issue was not under the law of targeting but rather the law of

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24. *Galić*, *supra* note 7, ¶ 58 (emphasis added).

25. *Prlić* Trial Chamber Vol. 3, *supra* note 8, ¶ 1584.

26. *Prosecutor v. Prlić*, Case No. IT-04-74-T, Separate and Partially Dissenting Opinion of Presiding Judge Jean-Claude Antonetti, Vol. 6, at 325 (Int'l Crim. Trib. for the Former Yugoslavia May 29, 2013).

27. *See Kupreskić*, *supra* note 4, ¶¶ 524–26 (saying that the provision of proportionality is typically applied in conjunction with the principle that the military must take reasonable care to not injure civilians).

occupation and administrative decision making.<sup>28</sup> At paragraph 46, President Barak held:

The first question deals with the military character of the route. It examines whether the route chosen by the military commander for the separation fence achieves its stated objectives, and whether there is no route which achieves this objective better. It raises problems within the realm of military expertise. We, Justices of the Supreme Court, are not experts in military affairs. We shall not examine whether the military commander's military opinion corresponds to ours—to the extent that we have an opinion regarding the military character of the route. So we act in all questions which are matters of professional expertise, and so we act in military affairs as well. **All we can determine is whether a reasonable military commander would have set out the route as this military commander did.** President Shamgar dealt with this idea, noting:

It is obvious, that a court cannot "slip into the shoes" of the deciding military official. . . . In order to substitute the discretion of the commander with the discretion of the Court, we examine the question whether, in light of all of the facts, the employment of the means can be viewed as reasonable.<sup>29</sup>

President Barak then continued:

Similarly, in *Ajuri*<sup>30</sup> I wrote:

The Supreme Court, sitting as the High Court of Justice, reviews the legality of the military commander's discretion. Our point of departure is that the military commander, and those who obey his orders, are civil servants holding public positions. In exercising judicial review, we do not turn ourselves into experts in security affairs. We do not substitute the security considerations of the military commander with our own security considerations. We take no position regarding the way security affairs are run. Our task is to guard the borders and to maintain the boundaries of the military commander's discretion. . . . It is true, that "the security of the state" is not a "magic word" which makes judicial review disappear. Thus, we shall not be deterred from reviewing the decisions of the military commander . . . simply because of the important security considerations anchoring his decision. However, we shall not substitute the discretion of the commander with our own discretion. We shall check the legality of the discretion of the military commander and ensure that his decisions fall within the "zone of reasonableness."<sup>31</sup>

The second case is *Public Committee against Torture in Israel v. Government of Israel*,<sup>32</sup> in which President Barak referred to the "reasonable military commander" in the context of determining

28. HCJ 2056/04 Beit Sourik Vill. Council v. Gov't of Israel, 58(5) PD 817, ¶ 46 (2004) (Isr.) [hereinafter Beit Sourik].

29. *Id.* (emphasis added) (internal citations omitted).

30. See generally HCJ 7015/02 *Ajuri v. IDF Commander in West Bank* (unreported) (2002) (Isr.).

31. Beit Sourik, *supra* note 28, ¶ 46 (emphasis added) (internal citations omitted).

32. HCJ 769/02 Pub. Comm. against Torture in Israel v. Gov't of Israel 62(1) PD 507 (2006) (Isr.), *reprinted in* 46 I.L.M. 375 [hereinafter *Public Committee v. Israel*].

whether a person was a lawful target under IHL. At page 57, President Barak said:

At the other end of the spectrum of possibilities lies the professional-military decision to carry out a preventative operation which causes the deaths of terrorists in the territories. This is a decision that falls within the authority of the executive branch. It has the professional security expertise in this sphere. The court will ask itself **whether a reasonable military commander would have made the decision that was actually made.** . . . It is true that “military considerations” and “state security” are not magic words that prevent judicial scrutiny. But the question is not what I would have decided in the given circumstances, but whether the decision that the military commander made is a **decision that a reasonable military commander was entitled to make.**<sup>33</sup>

Interestingly, Barak goes on to say at paragraph 58:

The decision on a question whether the benefit that accrues from the preventative attack is commensurate with the collateral damage caused to innocent civilians who are harmed by it is a legal question, with regard to which it is the judiciary that have the expertise.

Compare this to decision of Rivlin V-P, where at paragraph 6 he said:

The principle of proportionality is easy to state, but hard to implement. When we consider it prospectively, under time constraints and on the basis of limited sources of information, the decision may be a difficult and complex one. Frequently it is necessary to consider values and principles that cannot be easily balanced. Each of the competing considerations is based upon relative variables. None of them can be considered as standing on its own. Proportionate military needs include humanitarian elements. Humanitarian considerations take into account existential military needs. As my colleague the president says, the court determines the law that governs the decision of the military commander. The professional military decision is the responsibility of the executive branch, and the court will ask itself **if a reasonable military commander could have made the decision that was actually made,** in view of the normative principles that apply to the case. (*cf.* Final Report to the Prosecutor to the Prosecutor by the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia, which was submitted to the International Criminal Tribunal for the former Yugoslavia in June 2000).<sup>34</sup>

When one reads the decision of President Barak in *The Public Committee against Torture in Israel v. The Government of Israel* in its entirety, along with his previous decision in *The Beit Sourik Village Council v. The Government of Israel*, it is a logical interpretation of his decision to conclude that his honor was making three points. The first point is that decisions of military commanders are justiciable. Second, it is for the court to determine, and authoritatively interpret, the law. Finally, when conducting judicial review against the requisite legal

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33. *Id.* ¶ 57, at 512 (emphasis added).

34. *Id.* ¶ 6, at 526.

obligation, the standard to be applied is that of a "reasonable military commander." This is in essence what Rivlin V-P held.

Noting that the Tribunal in *Galić* was dealing with general principles and, in a judgment running to 770 paragraphs (exclusive of annexes), dedicated one paragraph to explain the principle of proportionality,<sup>35</sup> we submit that the test set out by the Israeli Supreme Court is more persuasive—namely, that a person who plans, decides, or executes an attack must consider the proportionality of the attack; and in so doing, the standard to be applied, particularly on review, is that of the "reasonable military commander." First, determining the requisite standard was clearly a matter of some importance in the two Israeli Supreme Court judgments. Second, this standard has been used in publications as diverse as the aforementioned 2000 ICTY *Final Report to the Prosecutor*,<sup>36</sup> a 2014 International Law Association Study Group report,<sup>37</sup> a 2016 Human Rights Watch report,<sup>38</sup> and the 2016 US DoD *Law of War Manual*.<sup>39</sup> It speaks volumes for the usefulness of the term "reasonable military commander" that practitioners, academics, NGOs, and militaries can agree on the same standard.

Third, it is military commanders who are most likely, by dint of training and experience, to be able to foresee and assess both the anticipated military advantage and the expected collateral damage from the attack. As Colonel Fred Green, the then Counsel to the Chairman of the US Joint Chiefs of Staff, said when discussing the targeting practices adopted by the United States during the 1990–91 Gulf War: "The various mechanisms I have described are employed by commanders and planners who have been educated and trained throughout their military careers in our professional military schools. They practice this kind of decision making during their training courses and in all military exercises."<sup>40</sup>

This is not to say that a nonmilitary person could not make the proportionality decision. What it is saying is that the standard against which that decision is to be evaluated is that of a person with all the experience, training, and understanding of military operations that is

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35. See *Galić*, *supra* note 7, ¶ 58. This comment is not meant as a criticism of the Tribunal. In the context of the matter before the Tribunal, we agree, with respect, that one paragraph is all that was warranted.

36. See Final Report of the NATO Bombing Campaign, *supra* note 22, ¶ 50.

37. See generally TERRY GILL ET AL., INT'L LAW ASSOC. STUDY GRP. ON THE CONDUCT OF HOSTILITIES IN THE 21ST CENTURY, THE CONDUCT OF HOSTILITIES AND INTERNATIONAL HUMANITARIAN LAW: CHALLENGES OF 21ST CENTURY WARFARE—INTERIM REPORT (2014).

38. HUMAN RIGHTS WATCH & INTERNATIONAL HUMAN RIGHTS CLINIC, MAKING THE CASE: THE DANGERS OF KILLER ROBOTS AND THE NEED FOR A PREEMPTIVE BAN 6 (2016).

39. DOD LAW OF WAR MANUAL, *supra* note 11, ¶ 5.10.2.2.

40. Fred K. Green, Remarks, *Proportionality and Necessity in American National Security Decision Making*, 86 AM. SOC. INT'L L. PROC. 39, 64 (1992).

vested in a “reasonable military commander.” One consequence of this is that nonmilitary considerations, such as the political or diplomatic consequences of whether a particular attack did or did not occur, or that a certain amount of collateral damage was caused, are not relevant to the IHL assessment of whether the attack is proportional. Such factors can, of course, be taken into account in deciding whether or not a particular attack that is otherwise lawful will occur, but they do not affect the assessment of whether the attack would be proportional.<sup>41</sup>

Noting the importance in many states of civil control of the military, the role for senior (civilian) government figures in making a final decision on whether an attack with expected collateral damage could be appropriately accommodated through a well-worded brief that:

- a. identifies the target;
- b. outlines the anticipated military advantage and expected collateral damage;
- c. indicates that a relevant military commander has determined that as a matter of IHL the attack would be proportional; and
- d. requests advice on whether the attack is, for other non-IHL reasons, approved or not approved.

Of course, under this model, a brief would never seek a decision from a senior civilian government official on whether a target was approved for attack or not unless a military commander had determined that as a matter of IHL the attack would be proportional. If the attack is assessed as not being proportional, that is the end of the matter.<sup>42</sup>

We now turn to the second Part of this Article: Should “reverberating effects” (i.e., collateral effects that are only expected to materialize in the long term) be accounted for as part of the assessment of collateral damage?

### III. REVERBERATING EFFECTS

To enable a military commander to make a good-faith assessment of the proportionality of an attack, the commander is first required to calculate two things: (1) the anticipated military advantage of the attack, and (2) the expected collateral damage. It is only once in

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41. See Luke Whittlemore, *Proportionality Decision Making in Targeting: Heuristics, Cognitive Biases, and the Law*, 7 HARV. NAT'L SEC. J. 577 (2016) (discussing how actual proportionality decision making may occur).

42. A Noting Brief might be provided if desired to keep relevant ministers, secretaries, etc. apprised of targeting decisions made inside the military that did not require a decision from a minister, secretary, etc.

possession of those two calculations (or assessments) that the military commander can then proceed to determine if the expected collateral damage is excessive when compared to the anticipated military advantage.

Clearly, calculating the expected collateral damage is crucial to the proportionality assessment. But what, in fact, is accounted for on this side of the ledger? Incidental civilian deaths and injuries and the damage to civilian objects directly arising from the attack are clearly captured within this calculation. For example, where civilian casualties are expected within the blast area of a high explosive weapon released on an enemy command headquarters, those civilians form part of the calculation for expected collateral damage.

However, the interconnectedness of military and civilian infrastructure or the close or overlapping proximity of military objectives to the civilian population may give rise to situations where attacks cause what have been termed "reverberating," "knock-on," or "indirect" effects. Indirect effects are those effects that do not immediately materialize from the kinetic/non-kinetic force of an attack. Rather, indirect effects are often delayed by hours, days, weeks, months, or even years following the attack and can be geographically widespread. Are military commanders also under a legal obligation to take into account the indirect effects when calculating the expected collateral damage arising from the attack?

First, some consistency in use and understanding of terminology will assist in answering this question. Eric Talbot Jensen, like the authors of the Tallinn Manual 2.0, adopts the doctrinal definitions used in the United States.<sup>43</sup> These are as follows:

**Direct effects** are the immediate, first-order consequences of a military action

(weapons employment results, etc.), unaltered by intervening events or mechanisms.

...

**Indirect effects** are the delayed and/or displaced second-, third-, and higher-order consequences of action, created through intermediate events or mechanisms.<sup>44</sup>

In the last few years, the issue of accounting for indirect effects on civilians and civilian objects has been chiefly explored in relation to attacks in cyberspace and outer space given the interconnectedness of

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43. TALLINN MANUAL 2.0, *supra* note 2, at Rule 113, ¶ 6; Eric Talbot Jensen, *Cyber Attacks: Proportionality and Precautions in Attack*, 89 INT'L L. STUD. 198, 207 (2013).

44. CHAIRMAN, JOINT CHIEFS OF STAFF, JOINT TARGETING ¶ II-35 (2013). Note that the citations in Jensen and the Tallinn Manual are to the 2007 edition of this publication (CHAIRMAN, JOINT CHIEFS OF STAFF, JOINT TARGETING ¶ I-10 (2007)).

military and civilian infrastructure in these domains.<sup>45</sup> However, recent military campaigns waged in cities populated by both fighters and innocent civilians have again sensitized the international community to the reverberation of military operations on the civilian population.<sup>46</sup> We say “again,” as this is not a new issue. For example, in 1992 Frits Kalshoven said:

The other aspect concerns the long-term effects of war. In the specific case of Operation Desert Storm, the assertion is frequently heard that the totality of the attacks on military objectives in and around Baghdad has resulted in considerable effects on the conditions of life that persist or even emerge long after termination of the hostilities. The question is whether military planners could and should have included such potential aftereffects in their calculations, to the point of modifying their plans so as to avoid them?

It would be wonderful if the law provided an affirmative answer to this question, but I am not convinced that it does so. For one thing, the case is not one of straightforward causation of damage for which the attacker can be held responsible. Furthermore, and more importantly, modern warfare must be expected to cause considerable disruption of societal life in any developed society. In this light it appears highly unlikely that the law of armed conflict could require a belligerent to refrain from pursuing legitimate war aims with the legitimate means at its disposal and against legitimate military objectives, simply in order to avoid such adverse aftereffects.<sup>47</sup>

Of course, reverberating effects come in many forms, and some are more likely to be legally significant than others. By way of example, the *UK Manual of the Law of Armed Conflict* refers to a planned precision bombing attack on a military fuel storage depot, with a foreseeable risk that burning fuel will flow into a civilian residential area and cause injury to the civilian population.<sup>48</sup> The *UK Manual* says this indirect (or second-order) effect would have to be counted as part of the expected collateral damage.

Returning to the example of the attack on a command headquarters, now consider if that same high explosive weapon is also likely to damage critical water infrastructure located in the ground below the headquarters, which is expected to interrupt supply of clean water for drinking and sanitation to the city. Assume that the lack of clean water is likely to significantly increase the risk of various

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45. See, e.g., Eric Boylan, Note, *Applying the Law of Proportionality to Cyber Conflict: Suggestions for Practitioners*, 50 VAND. J. TRANSNAT'L L. 217, 232 (2017); Eric Talbot Jensen, *Unexpected Consequences from Knock-On Effects: A Different Standard for Computer Network Operations?*, 18 AM. U. INT'L L. REV. 1145, 1174–75 (2003).

46. Michael N. Schmitt, *The Principle of Discrimination in 21st Century Warfare*, 2 YALE HUM. RTS. & DEV. J. 143, 168 (1999).

47. Frits Kalshoven, *Implementing Limitations on the Use of Force: The Doctrine of Proportionality and Necessity*, 86 AM. SOC. INT'L L. PROC. 39, 45 (1992).

48. UNITED KINGDOM MINISTRY OF DEFENCE, THE MANUAL OF THE LAW OF ARMED CONFLICT ¶ 5.33.4 (2004) [hereinafter UK MANUAL OF THE LAW OF ARMED CONFLICT].

diseases such as cholera, diarrhea, dysentery, hepatitis A, typhoid, and polio.<sup>49</sup> While the destruction of the water infrastructure would be a direct (first-order) effect of the attack, and the resulting loss of access to clean water an indirect (second-order) effect, does the law of armed conflict require the reasonable military commander to consider, as part of their calculation of expected collateral damage, the indirect (third- and fourth-order) effects (i.e., the increased risk of disease and resulting ill-health and deaths) on the civilian population as a consequence of the interrupted water supply?

When one of the authors surveyed the literature in 2009, it could not even be said with confidence that second-order effects would have to be considered.<sup>50</sup> At that time, the most that could be said was:

Some disagreement exists with respect to how to calculate adverse civilian effects of attacks on military targets. One view holds that planners must consider the long term, indirect effects of attacks on a civilian population, whereas the U.S. military adheres to a narrower interpretation emphasizing direct civilian injuries or deaths.<sup>51</sup>

And the 2010 Commentary to the *Manual on International Law Applicable to Air and Missile Warfare* states:

The members of the Group of Experts could not agree as to what extent (if at all) indirect ("reverberating") effects of attacks have to be factored into the proportionality calculation. In any event, there is no dispute that indirect effects cannot be taken into account if they are too remote or cannot be reasonably foreseen. The Group of Experts could identify no conclusive State practice that settles the issue of indirect effects of attacks.<sup>52</sup>

Jump forward to today and only a few commentators argue that collateral damage is limited to death, injury, or damage caused directly by the first-order effects of the means employed in the attack (e.g., by the blast and fragmentation from a bomb). And the authors are not aware of any states that so argue. To give but a few examples, we have already seen that the United Kingdom would include, at least, second-order effects.<sup>53</sup> So would the United States. The US DoD *Law of War Manual* at one point says:

49. See generally WORLD HEALTH ORG., *Drinking—water*, <http://www.who.int/mediacentre/factsheets/fs391/en/> (last updated July 2017) [<https://perma.cc/KZ9A-APX3>] (archived Feb. 7, 2018).

50. See IAN HENDERSON, *THE CONTEMPORARY LAW OF TARGETING: MILITARY OBJECTIVES, PROPORTIONALITY AND PRECAUTIONS IN ATTACK UNDER ADDITIONAL PROTOCOL I 207–11* (2009).

51. WAXMAN, *supra* note 5, at 21 n.44.

52. PROGRAM ON HUMANITARIAN POLICY AND CONFLICT RESEARCH AT HARVARD UNIV., *Commentary on the HPCR Manual on International Law Applicable to Air and Missile Warfare*, in *HPCR MANUAL ON INTERNATIONAL LAW APPLICABLE TO AIR AND MISSILE WARFARE*, at Rule 14, ¶ 4 (2010).

53. UK MANUAL OF THE LAW OF ARMED CONFLICT, *supra* note 48, ¶ 5.33.4.

The expected loss of civilian life, injury to civilians, and damage to civilian objects is generally understood to mean such immediate or direct harms foreseeably resulting from the attack. Remote harms that could result from the attack do not need to be considered in applying this prohibition.<sup>54</sup>

However, subsequent examples make it clear that the United States does consider effects other than first-order effects that are the caused directly by the means employed in the attack. As examples of death and injury that would be counted, the US DoD *Law of War Manual* refers to:

[I]f the destruction of a power plant would be expected to cause the loss of civilian life or injury to civilians very soon after the attack due to the loss of power at a connected hospital, then such harm should be considered in assessing whether an attack is expected to cause excessive harm.<sup>55</sup>

And on a section dealing with attacks on facilities containing dangerous forces:

In light of the increased potential magnitude of incidental harm, additional precautions, such as weaponeering or timing the attack such that weather conditions would minimize dispersion of dangerous materials, may be appropriate to reduce the risk that the release of these dangerous forces may pose to the civilian population.<sup>56</sup>

And in the most recent of the “expert” manuals dealing with, among other things, IHL issues, there is the statement that “[t]he collateral damage considered in the proportionality calculation includes any indirect effects that should be expected by those individuals planning, approving, or executing an attack.”<sup>57</sup>

So while a strong argument can be made that military commanders are under a legal obligation to consider the indirect effects of an attack when calculating the expected collateral damage as part of the proportionality assessment, there is no apparent consensus as to the scope of this obligation. Are all indirect effects (second-, third-, and higher-order) to be considered? Or are some effects so remote (e.g., third- or higher-order) that they should be disregarded in the proportionality assessment?

In determining whether there is a legal obligation to take into account the indirect effects of an attack, we can start with the relevant provisions of Additional Protocol I as being a codification of the test for proportionality in both international and non-international armed conflict.<sup>58</sup> As a general rule of treaty interpretation, these provisions

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54. DOD LAW OF WAR MANUAL, *supra* note 11, ¶ 5.12.1.3.

55. *Id.*

56. *Id.* ¶ 5.13.

57. TALLINN MANUAL 2.0, *supra* note 2, at Rule 113, ¶ 6.

58. Additional Protocol I, *supra* note 3, arts. 51(5)(b), 57(2)(a)(iii), 57(2)(b).

are to be interpreted in good faith and the ordinary meaning is to be given to the terms in the context in which they appear.<sup>59</sup> The key phrase is "may be expected to cause." The ordinary meaning of *expect* is to "regard (something) as likely to happen"<sup>60</sup> or "to consider probable or certain."<sup>61</sup>

However, a literal approach to interpretation of "may be expected to cause" does not clarify whether expected collateral damage is limited to the direct effects of an attack, or whether the proportionality assessment should also include the indirect effects; and if so, of what order? There is scope for competing arguments.<sup>62</sup> The authors are unaware of any authoritative case law on point.<sup>63</sup>

As the US DoD *Law of War Manual* is one of the few military manuals to actually grapple with the issue, it is unfortunate, therefore, that the examples of two types of remote harm that the Manual says need not be considered are actually examples of consequences that are not collateral damage in the first place. The examples given are economic harm to a family caused by death of a family member who is a combatant, and loss of jobs caused by destruction of a tank factory.<sup>64</sup> Neither economic harm nor loss of employment are considered collateral damage at IHL. A more interesting example would have been the death of a child from malnutrition and lack of access to costly medical care because of the economic harm or loss of a parent's employment.

Clarity may be ascertained by considering these treaty provisions in light of the object and purpose of Additional Protocol I.<sup>65</sup> The preamble to the Protocol states that it is the High Contracting Parties'

59. Vienna Convention on the Law of Treaties art. 31, May 23, 1969, 1155 U.N.T.S. 331 [hereinafter Vienna Convention]; Case Concerning the Territorial Dispute (Libyan Arab Jamahiriya v. Chad), Judgment, 1994 I.C.J. Rep. 6, ¶ 41 (Feb. 3).

60. *Expect*, OXFORD DICTIONARY, <https://en.oxforddictionaries.com/definition/expect> (last visited Feb. 22, 2018) [<https://perma.cc/Y6G8-EA4T>] (archived Feb. 7, 2018).

61. *Expected*, MERRIAM-WEBSTER DICTIONARY, <https://www.merriam-webster.com/dictionary/expected> (last visited Feb. 22, 2018) [<https://perma.cc/55Z7-EXSQ>] (archived Feb. 7, 2018).

62. YORAM DINSTEIN, *THE CONDUCT OF HOSTILITIES UNDER THE LAW OF INTERNATIONAL ARMED CONFLICT* 159 (3d ed. 2016) ("the only consequences that count are those that occur directly: remote effects need not be counted"); cf Isabel Robinson & Ellen Nohle, *Proportionality and Precautions in Attack: The Reverberating Effects of Using Explosive Weapons in Populated Areas*, 98(1) INT'L REV. RED CROSS 107, 116 (2016) ("[I]ncidental damage is not limited to the direct effects of an attack but encompasses certain reverberating effects, which must be taken into account when assessing the lawfulness of an attack.").

63. While the issue was raised specifically by Stojić in his appeal (he submitted that "the Trial Chamber erred in basing its finding that the destruction was disproportionate entirely on indirect effects, particularly the long-term harm through isolation and the psychological impact on the civilian population."), as noted above, the Appeals Chamber upheld the appeal on a different ground and did not need to address this submission. Prlić Appeal, *supra* note 15, ¶ 407.

64. DOD LAW OF WAR MANUAL, *supra* note 11, ¶ 5.12.1.3.

65. Vienna Convention, *supra* note 59, art. 31.

belief that it is necessary to “reaffirm and develop the provisions protecting the victims of armed conflicts.”<sup>66</sup> Additionally, articles 51 and 57 are contained in Part IV titled *Civilian Population*, within section I titled “General protection against the effects of hostilities.”<sup>67</sup> Within the context of the treaty, the aim of these provisions is to provide civilians with an expansive protection against the effects of attacks in an armed conflict.<sup>68</sup> Accordingly, a purposive approach to these provisions supports an interpretation that provides “the broadest protection to civilians, including by requiring that commanders take into account the reverberation effect of an attack.”<sup>69</sup>

Following an interpretation of the relevant provisions of Additional Protocol I in light of the object and purpose of the treaty, it appears that military commanders are under a legal obligation to take into account both the direct and indirect effects of the attack when assessing the proportionality of the attack. That said, any indirect harm should only be taken into account when such harm is an *expected* consequence of the attack. Further, there appears to be no consensus as to whether there is a limit in accounting for indirect effects in the proportionality assessment.

Having contended that military commanders are under a legal obligation to take into account the expected indirect effects of an attack, we now turn to consider the content of this obligation. Are all possible indirect effects (second-, third-, and higher-order) to be taken into account? Or are some effects (e.g., third- or higher-order) too remote to be excluded from the calculation? For example, if an attack on a target is likely to cause damage to a nearby civilian fire brigade stationhouse, should the foreseeable potential of increased risk to buildings by fire be counted during the proportionality assessment during the planning of the attack?

It is clear from the text of the relevant provisions of Additional Protocol I that only collateral damage that is *expected* must be accounted for in the proportionality assessment.<sup>70</sup> Incidental harm that is not likely, probable, or certain, and therefore is only a mere possibility, is excluded from the proportionality equation.

This is further supported by the *travaux préparatoires* for Additional Protocol I. Committee discussions reveal consideration was given to inserting the words “which risks causing” incidental harm, which would have required commanders to account for all possibilities of resulting collateral damage.<sup>71</sup> However, the final adoption of the words “which may be expected to cause” indicate the intention of the

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66. Additional Protocol I, *supra* note 3, Preamble.

67. *Id.* arts. 51, 57.

68. *See id.*

69. Robinson & Nohle, *supra* note 62, at 114.

70. *See* Additional Protocol I, *supra* note 3, arts. 51(5)(b), 57(2)(a)(iii), 57(2)(b).

71. *See* COMMENTARY ON THE ADDITIONAL PROTOCOLS, *supra* note 20, ¶¶ 2209–

parties to exclude from the proportionality assessment those collateral damage effects that are speculative.<sup>72</sup>

To illustrate the distinction between collateral damage that can be expected and collateral damage that is merely speculative, recall our earlier example of the incidental destruction of critical water infrastructure. Any physical damage to the water infrastructure is a direct effect of the attack and, if the infrastructure was classed as a civilian object, the expected damage would be included in proportionality calculations.<sup>73</sup> Regardless of whether the water infrastructure is a civilian object or a military objective, the resulting destruction has the potential to indirectly affect the civilian population. The military commander must consider the indirect effects on the city's civilian population caused by the attack—that is, the death and injury to civilians as a consequence of interrupted water supply. However, only *expected* civilian deaths or injuries are accounted for in the proportionality assessment.

If there is information available to the military commander that suggests that civilians have access to sufficient supplies of bottled water while the damage to the water infrastructure is repaired, then the commander would not expect any indirect harm to the civilian population. Indirect harm is excluded from the proportionality assessment where one can reasonably expect such harm can be avoided as a result of remedial action.

However, the commander has further information that suggests that this bottled water cannot be successfully distributed to approximately 10 percent of the city's civilian population. With no water supply, it is likely some of these civilians would die of thirst in the coming weeks.

There is now scope for two possible views. One view could be that these deaths are an expected result of the attack, regardless of the anticipated timeframe for those deaths to eventuate. Accordingly, the forecast number of casualties would be factored into any proportionality assessment. The other view could be that this is speculation. Perhaps the civilians will relocate. Perhaps humanitarian aid will be provided. Perhaps the armed conflict will come to an end. Perhaps it is the rainy season and rainwater can be harvested. So while civilians dying of thirst in the coming weeks is possible, it is not necessarily inevitable. But more so, it is not even confidently predictable. Further, it might be avoided through possible remedial action.

On the second view, any risk of civilian casualties would be too remote to be reasonably considered to have been caused by the attack. Therefore, these deaths would not be considered expected indirect harm as a consequence of the attack and would not be accounted for in

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72. See Jensen, *supra* note 45, at 1180–81.

73. See Additional Protocol I, *supra* note 3, art. 52(2).

the proportionality assessment.

There is simply insufficient state practice and rulings by courts to indicate which of these two options is the better view of the law. However, it is the view of the authors that the second view makes more sense. There are limits to what can reasonably be expected of commanders while prosecuting an armed conflict. Notably, adopting the second view would not leave civilians devoid of protection.

First, there is the simple rule that if military commanders expect that indirect harm will eventuate as a result of the attack, that is civilians are *likely* to be killed or injured, or that civilian objects are *likely* to be damaged, then that expected collateral damage must be factored into the proportionality assessment. Second, civilians would also still remain under the protection afforded by Additional Protocol I, article 54 and Additional Protocol II, article 14 concerning *Protection of objects indispensable to the survival of the civilian population*, and the customary international law counterpart.<sup>74</sup>

#### IV. CONCLUSION

Quite appropriately, IHL provides various protections for civilians from the dangers inherent in armed conflict. The principal protection, of course, is that of distinction. This is closely followed by the obligation for attackers to take precautions in the planning and conduct of an attack. But ultimately, IHL recognizes that even where all the appropriate precautions are taken, there will be some circumstances in which civilians and civilian objects remain in danger of incidental harm from an attack. It is here where the principle of proportionality provides one last protection. When an attack is planned against only a legitimate military objective, and where all feasible precautions have been taken in the choice of means and methods of attack to avoid, and in any event to minimize, incidental harm to civilians and civilian objects, the attack must nonetheless not proceed if the expected incidental harm to civilians and civilian objects will be excessive to the military advantage anticipated from the attack.

As the principle of proportionality allows, in effect, an attacker to conduct an attack in the knowledge that civilians will be injured or killed, and civilian objects damaged, the importance of a clear understanding of the parameters of this principle cannot be overstated.

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74. Int'l Comm. of the Red Cross, *Rule 54. Attacks against Objects Indispensable to the Survival of the Civilian Population*, CUSTOMARY IHL DATABASE, [http://www.icrc.org/customary-ihl/eng/docs/v1\\_rul\\_rule54](http://www.icrc.org/customary-ihl/eng/docs/v1_rul_rule54) (last visited Feb. 22, 2018) [<https://perma.cc/8G8G-4KVT>] (archived Feb. 7, 2018). For state practices demonstrating that this is a principle, if not a positive rule, in international armed conflicts, see DOD LAW OF WAR MANUAL, *supra* note 11, ¶¶ 5.20.4, 19.20.1.4. The DoD Law of War Manual seems to accept it as a rule in non-international armed conflicts. *See id.* ¶¶ 17.9.2, 19.20.2.1.

In this short Article we have addressed two issues, namely: what is the standard for assessing proportionality; and whether reverberating or indirect incidental injury or death to civilians, and damage to civilian objects, need to be considered as part of the assessment of the expected collateral damage.

Based on a review of case law, state practice, and learned commentary, we concluded that the most appropriate standard for assessing a decision on the proportionality of attack is that of a "reasonable military commander." We suggested that this standard has the advantage of having gained acceptance among practicing lawyers, academics, NGOs, and militaries. It also focuses the attention of the person making or reviewing an assessment of proportionality that such an assessment requires an understanding of military operations; while conversely, political or diplomatic consequences should be disregarded when applying the legal test for proportionality. Of course, that is not to say that these last two issues, or other issues for that matter, are irrelevant to a decision to conduct an attack—they are just irrelevant to the *legal* evaluation of the proportionality of an attack.

The second issue we covered in this Article was what is considered to be *expected* collateral damage; in particular, does it include "reverberating," "knock-on," or "indirect" effects? After defining indirect effects, we reviewed the text of Additional Protocol I and its drafting history, the limited case law on this point, military manuals, and expert commentary. We concluded that indirect effects do need to be considered but with an important qualification.

To meet the legal threshold for collateral damage, the indirect effects must be, as a minimum, more than speculative or a mere possibility. To explore this point, we proceeded to consider how to deal with indirect effects that may or may not eventuate in the days, weeks, months, or years following an attack depending on variables such as whether civilians would relocate from an area, whether humanitarian aid would be provided, or even whether the armed conflict would come to an end.

We were of the view that there is insufficient state practice and case law to provide a confident view of what the law says about this situation, but the authors believe that the view that makes the most sense is that commanders cannot be reasonably expected to account for indirect effects which one would expect might be avoided through possible remedial action, or in any event, while possible, are neither inevitable nor confidently predictable. We submit such harm is too remote to be included as *expected* collateral damage. We note that if we are correct about that, civilians are not left without protection from the long-term effects of an attack due to the additional protection provided under IHL to objects indispensable to the *survival* of the civilian population.