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Exploring the Applicability of *Force Majeure* for AI Mistakes in Armed Conflict

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## INTRODUCTION

With the fast-evolving and increasing reliance on artificial intelligence (AI) technology in armed conflict, the question of when a state may be held responsible for AI mistakes is no longer a question for science fiction. Today, every sector – public or private – displays some dependency on AI. The healthcare industry utilizes AI to perform surgical tasks.<sup>2</sup> The education sector uses AI to provide individualized education to students.<sup>3</sup> On the more controversial front, AI is being developed to fuel the next generation of combatants, otherwise known as lethal autonomous weapons systems (LAWS). LAWS have the potential to be fully autonomous: once deployed, they would require no human intervention.

With states now having the technology to develop fully autonomous weapons systems, the international community must resolve the question of when states may be held responsible for AI mistakes. Intentional violations of the Law of Armed Conflict (LOAC) are distinguishable from unintentional harm caused by LAWS which, in any event, is attributable to the state, thereby resulting in LOAC violations. It is clear that where the state is intentionally violating the LOAC, the state will be held responsible. With unintentional harm not caused directly by the state, however, it becomes less clear whether the state should be held responsible.

Take, for example, the situation where a state misuses LAWS to violate laws of war or human rights. In that instance, it is clear that the state should be held responsible because the state caused the violations to occur. Thus, the state must be held accountable for LOAC violations. Yet, in other situations, states deem it unclear who should be held responsible for the actions of LAWS that autonomously make unanticipated decisions without any meaningful human control. For example, where an autonomous weapons system is deployed in armed conflict to save human lives, but as soon as it is deployed, to the horror of the government deploying it, it begins to malfunction and attack everyone, including civilians, the question of government responsibility arises.

In such situations, the state may resort to several options. First, it could argue that the state is not responsible under the law of state responsibility, but that is a weak argument. As with any other weapons that are not prohibited per se, where malfunctions lead to international law violations, the state cannot escape liability because the state is always responsible under international humanitarian law for its own weapon malfunctions. Under Article 4 of the Responsibility of States for Internationally Wrongful Acts (ARSIWA), the conduct of any state organ is attributable to the state.<sup>4</sup> The same is true where states instruct, direct, or control others to manufacture, use and deploy the weapons system.<sup>5</sup> Thus, where the state itself – through its armed forces – deploys the weapons system or such conduct is carried out by non-state actors on behalf of the state, there are always grounds for attribution. If there is also an alleged breach of an

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<sup>2</sup> Vasiliy Andreevich Laptev, Inna Vladimirovna Ershova & Daria Rinatovna Feyzrakhmanova, *Medical Applications of Artificial Intelligence (Legal Aspects and Future Prospects)*, 11 LAWS 3, 3 (2021).

<sup>3</sup> Hussan Munir, Bahtijar Vogel & Andreas Jacobsson, *Artificial Intelligence and Machine Learning Approaches in Digital Education: A Systematic Revision*, 13 INFORMATION 203, 203 (2022).

<sup>4</sup> Int'l Law Comm'n, Rep. on the Work of its Fifty-Third Session, U.N. Doc. A/56/10, at 26, art. 4 (2001) (hereinafter ARSIWA).

<sup>5</sup> *Id.* at 26, art. 8.

international law obligation, the state might invoke circumstances precluding wrongfulness, such as *force majeure*, to shield against any potential breaches of international law obligations.

The defense of *force majeure* poses a significant challenge to state responsibility for the conduct of LAWS. This article considers whether *force majeure* could ever be invoked to justify breach of international humanitarian law obligations due to unintended injury or damage caused by LAWS. This article argues that it cannot, and proceeds in three main sections. The article first provides an overview on the law of state responsibility as it currently stands, with particular focus on *force majeure* and its relation to the law of armed conflict. Next, the article discusses LAWS and how their use in armed conflict may give rise to state responsibility. Finally, the article analyzes whether the defense of *force majeure* could apply to autonomous systems, concluding that *force majeure* should not be relied on to shield states from violations resulting from LAWS.

### I. STATE RESPONSIBILITY AND *FORCE MAJEURE* IN ARMED CONFLICT

The law of state responsibility holds each state responsible for its failure to comply with international law. The leading authority on the law of state responsibility is the International Law Commission's Draft Articles on State Responsibility for Internationally Wrongful Acts (ARSIWA). Though ARSIWA itself is not a binding agreement, many of its provisions reflect customary international law. For example, the International Court of Justice has regarded Articles 4 and 8 of ARSIWA as custom.<sup>6</sup> ARSIWA is therefore made up of a combination of binding provisions – those which are established as custom, or as general principles of law – and nonbinding provisions which provide evidence of the International Law Commission's understanding of state responsibility (albeit nonbinding). This Article refers to ARSIWA as a persuasive authority on the status of international law, and it attempts to address alternative perspectives where they exist.

Under ARSIWA, a state is responsible if there is both attribution of the action to the state and breach of an international law obligation.<sup>7</sup> In some situations, there may be circumstances that preclude the wrongfulness of the conduct. The wrongfulness of an act can be excused by circumstances laid out in ARSIWA, which, in large part, reflect customary international law. *Force majeure*, considered to be customary international law,<sup>8</sup> is an example of circumstances that excuse the wrongfulness of an act.<sup>9</sup> Article 23(1) of ARSIWA provides the three elements that must be met for *force majeure* to apply. It states: “The wrongfulness of an act of a State not in conformity with an international obligation of that State is precluded if the act is due to *force majeure*, that is [1] the occurrence of an irresistible force or of an unforeseen event, [2] beyond the control of the State, [3] making it materially impossible in the circumstances to perform the obligation.”<sup>10</sup> In essence, the defense of *force majeure* is available where the state had no control over the internationally wrongful act and no way to avoid its commission. As soon as these circumstances

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<sup>6</sup> MARTIN DIXON, TEXTBOOK ON INTERNATIONAL LAW 253 (Oxford University Press, 7th ed. 2013).

<sup>7</sup> ARSIWA, *supra* note 3, at 34, art. 2.

<sup>8</sup> DIXON, *supra* note 5, at 265.

<sup>9</sup> JAMES CRAWFORD, STATE RESPONSIBILITY: THE GENERAL PART 295 (2013); Romain Piéri & Andrew Willcocks, *Force Majeure*, JUS MUNDI, (last updated Mar. 21, 2022) <https://jusmundi.com/en/document/wiki/en-force-majeure#:~:text=Customary%20international%20law,-6.&text=Force%20majeure%20is%20recognised%20by,to%20which%20international%20tribunals%20refer.>

<sup>10</sup> ARSIWA, *supra* note 3, at 27, art. 23(1).

no longer exists, however, the state has a duty to return to its international law obligations.<sup>11</sup> Moreover, the defense of *force majeure* is unavailable if “(a) the situation of *force majeure* is due, either alone or in combination with other factors, to the conduct of the State invoking it; or (b) the State has assumed the risk of that situation occurring.”<sup>12</sup> In accordance with Article 26 of ARSIWA, none of the circumstances precluding wrongfulness can be relied on to justify breach of an international obligation if doing so would conflict with a peremptory norm of international law.<sup>13</sup>

The commentaries to ARSIWA make clear that the defense of *force majeure*, a general principle of law,<sup>14</sup> may arise from natural events, such as hurricanes and earthquakes,<sup>15</sup> as well as in cases of man-made events, such as war.<sup>16</sup> *Force majeure* will not excuse a wrongful act because of mere difficulty of performing an international law obligation. Rather, it must be materially impossible to perform the obligation.<sup>17</sup> In addition, the defense does not apply due to a state’s neglect even if the resulting injury was accidental.<sup>18</sup> To demonstrate these two principles, consider the following examples.

In the first example, concerning France’s responsibility for injury done to an American passenger onboard a separate vessel, neither the fact that the injury was unintended nor that it would be difficult to plan for such a possibility excused France’s responsibility. In 1906, French officers engaging in firing practice onboard a warship killed an American citizen onboard an American ship passing through a public waterway. While the injury was unintended, France was still held responsible for its neglect and accordingly paid reparation.<sup>19</sup> Thus, the defense of *force majeure* was not successful.

In a different context, the International Law Commission recognized that accidents may result from the use of weapons and that such accidents may constitute *force majeure* where, for example, bombs are accidentally released from a military aircraft in distress.<sup>20</sup> This is only true, however, where the aircraft could not possibly have avoided being in distress, such that it should not be held responsible because there would exist neither neglect in taking precautions nor mistake. In this second example, the *force majeure* would be due not to neglect but to an intervening and otherwise unavoidable and uncontrollable force, thereby potentially qualifying for the defense.

Generally, states cannot invoke war as *force majeure* to evade international humanitarian law obligations. Whether or not the defense of *force majeure* applies in special situations in armed

<sup>11</sup> CRAWFORD, *supra* note 8, at 283.

<sup>12</sup> ARSIWA, *supra* note 3, at 27, art. 23(2).

<sup>13</sup> *Id.* at 28, art. 26.

<sup>14</sup> U.N. Secretariat, “*Force majeure*” and “*Fortuitous event*” as circumstances precluding wrongfulness: *Survey of State practice, international judicial decisions and doctrine - study prepared by the Secretariat*, ¶ 9, U.N. Doc. A/CN.4/315 (June 27, 1977) (hereinafter Secretariat Study), [https://legal.un.org/ilc/documentation/english/a\\_cn4\\_315.pdf](https://legal.un.org/ilc/documentation/english/a_cn4_315.pdf).

<sup>15</sup> ARSIWA, *supra* note 3, at 76, art. 23 commentary ¶ 3.

<sup>16</sup> *Id.*

<sup>17</sup> CRAWFORD, *supra* note 8, at 298.

<sup>18</sup> ARSIWA, *supra* note 3, at 76-77, art 23 commentary ¶ 3.

<sup>19</sup> Secretariat Study, *supra* note 13, ¶¶ 130-131; ARSIWA, *supra* note 3, at 76-77, art 23 commentary ¶ 3; CRAWFORD, *supra* note 8, at 298.

<sup>20</sup> Secretariat Study, *supra* note 13, ¶ 50.

conflict is debated. Those who argue that it does not apply under any circumstances rely on Article 3 of the 1907 Hague Convention IV, which states: “A belligerent party which violates the provisions of the ... Regulations [respecting the laws and customs of war on land] shall be responsible for *all* acts committed by persons forming part of its armed forces.”<sup>21</sup> Similarly, Article 91 of the 1977 Additional Protocol I states that: “[A State Party violating the Convention] shall be responsible for all acts committed by persons forming part of its armed forces.”<sup>22</sup> To proponents, these provisions provide for absolute responsibility, and therefore *force majeure* could not apply.<sup>23</sup> However, some state practice indicates that states understand *force majeure* to be available as a defense in certain situations arising from armed conflict.<sup>24</sup> Germany’s Manual on the Law of Armed Conflict provides that *force majeure* may apply to justify non-performance of an international humanitarian law obligation: it bars confiscation of ships belonging to a belligerent party located in enemy ports when they are unable to leave due to circumstances satisfying *force majeure* requirements.<sup>25</sup>

Additionally, the International Committee of the Red Cross (ICRC) seems to have singled out various circumstances precluding wrongfulness that would not apply in the armed conflict context but has remained silent on the appropriateness of the defense of *force majeure*.<sup>26</sup> The ICRC has interpreted Common Article I of the Four Geneva Conventions of 12 August 1949 as excluding certain circumstances precluding wrongfulness. The wording of Article I indicates that states Parties must respect and ensure respect for the Four Geneva Conventions “in all circumstances.”<sup>27</sup> For the most part, the ICRC agrees that the phrase “in all circumstances” is there to exclude specific circumstances precluding wrongfulness but not all of them. The ICRC has expressly stated that, of the six circumstances precluding wrongfulness, five of them potentially do not apply to excuse violations of international humanitarian law. First, the defense of consent cannot apply because the Four Geneva Conventions prohibit renunciation of rights of protected persons.<sup>28</sup> International humanitarian law therefore also prohibits states from relinquishing rights on behalf of its citizens. The circumstance of self-defense does not apply due to the strict separation of *Jus ad Bellum*, the body of law that deals with whether states had a right to go to war, and *Jus in Bello*, the body of law that regulates the conduct of war. Moreover, according to the ARSIWA commentaries discussing the defense’s application to obligations under international humanitarian law, “self-defense does not preclude the wrongfulness of conduct.”<sup>29</sup> Next, the defenses of necessity and distress should not apply because situations resulting from military necessity and distress have

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<sup>21</sup> Hague Convention (IV) respecting the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land art. 3, Oct. 18, 1907, 36 Stat. 2277; *Force Majeure*, MEDECINS SANS FRONTIERES: THE PRAC. GUIDE TO HUMANITARIAN L., <https://guide-humanitarian-law.org/content/article/3/force-majeure-1/> (last visited Mar. 26, 2022); Quincy Wright, *Effect of the War on International Law*, 5 MINN. L. REV. 515, 535 (1921).

<sup>22</sup> Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I) art. 91, June 8, 1997, 1125 U.N.T.S. 3 (hereinafter Protocol I).

<sup>23</sup> Secretariat Study, *supra* note 13, at ¶ 97.

<sup>24</sup> *Id.* ¶ 98.

<sup>25</sup> GERMAN MINISTRY OF DEFENCE, HUMANITARIAN LAW IN ARMED CONFLICTS, at ¶ 1024. (1992)

<sup>26</sup> *Commentary of 2017 Article I: Respect for the Convention*, ICRC IHL DATABASE, <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Comment.xsp?action=openDocument&documentId=76AB35F0B510E070C1258115003B9413> (last visited July 20, 2021) [hereinafter ICRC Commentary].

<sup>27</sup> Geneva Conventions (I-IV), Aug. 12, 1949, 75 U.N.T.S. 135, art 1 [hereinafter Geneva Conventions].

<sup>28</sup> ICRC Commentary, *supra* note 25; Geneva Conventions, *supra* note 26, at art. 7 (art. 8 in Geneva Convention IV).

<sup>29</sup> ARSIWA, *supra* note 3, at 74, art. 21, section 3.



already been considered within the formulation of the provisions of the Conventions.<sup>30</sup> ARSIWA also prohibits countermeasures that take the form of reprisals against protected persons in international humanitarian law.<sup>31</sup> No mention, however, is made by the ICRC as to the applicability of the defense of *force majeure*. Experts in international humanitarian law appear to support the proposition that *force majeure* could apply to bar state responsibility when all the required elements are met.<sup>32</sup> It seems, then, that situations might arise that would justify application of the defense. The above discussion of authoritative sources reveals a divide over whether the defense of *force majeure* would apply to bar state responsibility in armed conflict. Nonetheless, there is no outright prohibition preventing the defense from applying. It is the contention of this author that the defense could potentially apply so long as the elements of *force majeure* are met. Accordingly, whether the defense would be justified in response to mistakes caused by fully autonomous weapons systems will be considered in the following sections.

## II. LETHAL AUTONOMOUS WEAPONS SYSTEMS AND THE INTERNATIONAL HUMANITARIAN LAW FRAMEWORK

The availability of fully autonomous weapons systems that require no human intervention will inevitably result in their proliferation in armed conflict. The use of such weapons is challenged on the grounds that it may result in severe violations of international humanitarian law. In times of armed conflict, a combatant may be subject to attack at all times unless rendered *hors de combat*.<sup>33</sup> Civilians may not be made the subject of an attack unless they take direct part in the hostilities.<sup>34</sup> Recognizing that war is not absolute, the law of armed conflict requires adherence to four basic principles: the principles of humanity, distinction, military necessity and proportionality.<sup>35</sup> All four principles may be at issue with the deployment of LAWS.

First, the principle of humanity requires that belligerents to a conflict refrain from attacks that would result in unnecessary suffering. With LAWS, one could imagine a situation where the system does not recognize a gesture for surrender, accidentally killing a combatant who has surrendered, thereby violating the principle of humanity. Next, the principle of distinction requires that belligerents use only the means and methods of warfare that are able to distinguish between civilians and combatants, and between civilian objects and military objectives.<sup>36</sup> Again, where LAWS are deployed, the principle of distinction would be violated if they accidentally target an innocent civilian through pre-programmed instructions that lead the weapons systems to believe the civilian is a combatant. The same is true where LAWS malfunction and begin to target combatants and civilians alike. The principle of military necessity dictates that belligerents should use the least amount of force required to obtain the partial or complete surrender of the enemy. Thus, if a combatant has surrendered, then capture, not wounding or killing, is appropriate. Again,

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<sup>30</sup> ICRC Commentary, *supra* note 25.

<sup>31</sup> ARSIWA, *supra* note 3, at 131, art. 50(1)(c), section 8.

<sup>32</sup> See Marco Sassòli, *State Responsibility For Violations Of International Humanitarian Law*, 84 INT'L REV. RED CROSS 401, 413 (2002). See also DIXON, *supra* note 5, at 265.

<sup>33</sup> Geneva Conventions, *supra* note 26, at art. 3.; TALLINN MANUAL 2.0 ON THE INTERNATIONAL LAW APPLICABLE TO CYBER OPERATIONS (Michael N. Schmitt ed., 2017), Rule 86; INTERNATIONAL LEGAL PROTECTION OF HUMAN RIGHTS IN ARMED CONFLICT 20 (UN OHCHR 2011); *Practice Relating to Rule 3. Definition of Combatants*, ICRC IHL DATABASE, [https://ihl-databases.icrc.org/customary-ihl/eng/docindex/v2\\_rul\\_rule3](https://ihl-databases.icrc.org/customary-ihl/eng/docindex/v2_rul_rule3) (last visited Feb. 19, 2022).

<sup>34</sup> *Id.*

<sup>35</sup> DEPARTMENT OF DEFENSE LAW OF WAR MANUAL 50 (Office of General Counsel Department of Defense 2016).

<sup>36</sup> Protocol I, *supra* note 21, at art. 48.

if the autonomous weapons system misses a gesture of surrender then, by inflicting force on a surrendered combatant, there has been a violation of the principle of military necessity. Finally, the principle of proportionality requires that belligerents balance the expected civilian casualties with the anticipated military advantage to be gained. If collateral damage is more excessive than the anticipated military advantage to be gained, the attack is prohibited.<sup>37</sup> It is already difficult enough to apply the principles, especially the principle of proportionality, with accuracy in the context of armed conflict. It is even more difficult in the context of LAWS because the principles require analysis before an action is taken. Therefore, LAWS, especially those that are not within the state's control, negatively impact the carrying out of these principles because the state may not be able to attempt to minimize risk of harm until after deployment.

Thus, the use of LAWS would only complicate matters since, after all, LAWS are not neutral but are preprogrammed by humans, and are thereby subject to the same human errors arising from unanticipated situations. The use of LAWS could also lead to more complex errors because LAWS lack the human ability to act quickly and in real time as required to satisfy the principle of proportionality during rapidly changing circumstances.

Experts supporting LAWS argue that these autonomous weapons can take more complex and more precise calculations in real time.<sup>38</sup> It is argued that LAWS “can be equipped with the latest in precision-guided munitions and can rapidly engage a target in multiple scenarios.”<sup>39</sup> Moreover, target planners spend many hours performing test evaluations on LAWS to ensure precision.<sup>40</sup> However, this does not respond to the dilemma potentially caused by a LAWS malfunction or where a LAWS is faced with a new situation, especially one that was not previously ascertained and/or tested. Accordingly, it could be argued that, absent human direction, LAWS will not be able to take calculated determinations in accordance with these rapidly changing circumstances. The argument furthered by proponents of LAWS becomes even more difficult when factoring in the substantial time-sensitivity and subjective context-dependency required in carrying out the proportionality analysis.<sup>41</sup> Moreover, in the event that LAWS malfunction during the carrying out of any of the four principles of IHL, without a human operator to abort the mission, violations can be expected. This is recognized even by the same experts who advocate for the use of LAWS, stating that whether or not these autonomous weapons will make mistakes lies “with the military and the methods in which the operational commanders choose to employ [them].”<sup>42</sup> Even if LAWS were made to adhere to the principles of international humanitarian law, and to take every possible precaution, mistakes such as those described herein will occur. When they do, the question of whether the defense of *force majeure* could apply to shield a state from international responsibility of AI mistakes will arise.

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<sup>37</sup> *Id.* art. 51(5)(b).

<sup>38</sup> MICHAEL A. GUETLEIN, *LETHAL AUTONOMOUS WEAPONS – ETHICAL AND DOCTRINAL IMPLICATIONS* 5 (Department of Joint Military Operations 2005).

<sup>39</sup> *Id.*

<sup>40</sup> *Id.*

<sup>41</sup> Jeroen van den Boogaard, *Proportionality and Autonomous Weapons Systems*, 6(2) J. INT'L HUMANITARIAN LEGAL STUD. 247, 283 (2015).

<sup>42</sup> GUETLEIN, *supra* note 37, at 11.

### III. FORCE MAJEURE AND LETHAL AUTONOMOUS WEAPONS SYSTEMS

States are now working to strengthen the legal framework for AI use in the military. The Legal Affairs Committee of the European Parliament is currently working on issues related to military uses of AI.<sup>43</sup> Naturally, the European Parliament will consider issues of accountability, including state responsibility. Assuming that there is state responsibility over an internationally wrongful act, the probability that states will invoke circumstances precluding wrongfulness, most probably *force majeure*, to bar responsibility for mistakes caused by military uses of AI is high.

#### A. Irresistible Force or Unforeseeability

For *force majeure* to apply to violations caused by autonomous systems deployed in combat by states (or by those whose actions are attributable to states), there must occur either an irresistible force or an unforeseen event. The state does not have to show the existence of an irresistible force. ARSIWA requires *either* an irresistible force *or* an unforeseeable event, neither of which exist in the context of LAWS.

The occurrence of an irresistible force requires that the state be under an exceptional constraint, one that it is “unable to avoid or oppose by its own means.”<sup>44</sup> According to Article 19 of the United Nations Charter, this would amount to a condition that is ultimately “beyond the control of the [state].”<sup>45</sup> In 1964, an explosion occurred while receiving postal packages from a ship in Algiers, leading to loss of parcels and letters as well as human injury.<sup>46</sup> The situation was deemed as one deserving of *force majeure* protection because the situation was unavoidable, essentially deemed irresistible (and unforeseeable).<sup>47</sup>

In the case of LAWS, states will potentially claim *force majeure* where the deployment of autonomous weapons systems result in violations of international humanitarian law. It is not probable, however, that states would argue that there was an irresistible force that could not have otherwise been prevented if LAWS malfunction, because the deployment of the weapons systems in armed conflict would require continuous examination and testing in order to ensure its safety and to comply with the law of armed conflict. Given the significant discourse available with respect to the negative harms associated with using LAWS, any arguments relying on the existence of an irresistible force would potentially fail. However, there may be a stronger argument in cases where LAWS are hacked and hijacked by adversaries resulting in AI mistakes. In these cases, states may very well argue that the hijacking of its weapons systems was, although foreseeable, unavoidable. That is especially true because no autonomous system can ever be entirely protected against possible hacking.<sup>48</sup> Nonetheless, the choice to deploy autonomous weapons systems should itself give rise to state responsibility in the case of hacking. States understand the risk they take in

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<sup>43</sup> *AI Rules: What The European Parliament Wants*, EUR. PARLIAMENT, <https://www.europarl.europa.eu/news/en/headlines/society/20201015STO89417/ai-rules-what-the-european-parliament-wants> (May 20, 2021).

<sup>44</sup> ARSIWA, *supra* note 3, at 76, art. 23, section 2; Secretariat Study, *supra* note 13, at ¶ 11.

<sup>45</sup> U.N. Charter art. 19.

<sup>46</sup> Secretariat Study, *supra* note 13, at ¶ 246.

<sup>47</sup> *Id.*

<sup>48</sup> Sunniva F. Meyer et al., *Risk analysis for forecasting cyberattacks against connected and autonomous vehicles*, 14 J. TRANSP. SEC. 227, 244 (2021).

deploying autonomous weapons systems. If states were allowed to claim *force majeure* due to irresistible force where their weapons systems are overtaken, states would be able to escape liability every time any weapon utilizing technology is hacked. International humanitarian law would not tolerate such a dangerous precedent. Thus, if states choose to deploy LAWS, and those LAWS are subsequently hacked resulting in law of war violations, the state must not be able to claim *force majeure* due to irresistible force. The situation, after all, could have been avoidable if human-created LAWS were not deployed in the first place, or if LAWS were not deployed unless and until technology had advanced such that weapon systems were effectively unable to be hacked. As it stands now, the defense of *force majeure* cannot shield a state from being held responsible on the basis of an irresistible force.

To establish unforeseeability, the event must have been neither foreseen nor easily foreseeable.<sup>49</sup> Accordingly, the defense applied to bar a restoration claim by France for a destroyed lighthouse that was once owned by France and requisitioned by Greece due to unforeseeable enemy action.<sup>50</sup>

In the *Lighthouses Concession* case between France and Greece, France's lighthouses had been requisitioned by Greece in 1915 and later destroyed by enemies in war.<sup>51</sup> France requested restitution, but the arbitral tribunal denied the claim on the basis of *force majeure*.<sup>52</sup> Interestingly, the tribunal accepted the defense of *force majeure* despite wartime conditions, thereby strengthening the proposition that the defense can apply in armed conflict.

In order to assess foreseeability, risk assessments must be conducted. These assessments may only be undertaken when balancing foreseeable benefits with foreseeable risks.<sup>53</sup> Foreseeability is a major consideration in determining the legality of lethal autonomous weapons. In 2015, the Convention on certain Conventional Weapons (CCW) Meeting of Experts focused on whether LAWS may or may not constitute a *force majeure*.<sup>54</sup> During the meeting, the ICRC stressed that the more autonomous the weapon, the lower the likelihood that the system will comply predictably with principles of humanitarian law.<sup>55</sup> It may be very difficult to predict how weapons systems will function, despite rigorous legal review. If an autonomous weapon system suddenly starts firing at civilians, states will most certainly claim that the system's actions were not foreseeable, given extensive testing. Similarly, if an autonomous weapon system is hijacked by non-state actors, the state will potentially claim *force majeure* based on unforeseeability.

In both situations, the defense should not apply. First, when an autonomous weapon system starts to malfunction, the state should be held responsible as with all other weapons in international humanitarian law. If the state knowingly deploys an autonomous weapon system despite knowing

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<sup>49</sup> ARSIWA, *supra* note 3, at 76, art. 23, section 2.

<sup>50</sup> *Id.* section 7.

<sup>51</sup> *Id.*

<sup>52</sup> *Id.*

<sup>53</sup> See WENDELL WALLACH & COLIN ALLEN, MORAL MACHINES: TEACHING ROBOTS RIGHT FROM WRONG 50 (2009).

<sup>54</sup> Liran Antebi, *The UN and Autonomous Weapons Systems: A Missed Opportunity?*, INST. NAT'L SEC. STUD. (June 9, 2015), <https://www.inss.org.il/publication/the-un-and-autonomous-weapons-systems-a-missed-opportunity/>.

<sup>55</sup> See INT'L COMM. RED CROSS, *Statement of the International Committee of the Red Cross in Convention on Certain Conventional Weapons (CCW) Meeting of Experts on Lethal Autonomous Weapons Systems (LAWS)* (Apr. 13, 2015), [https://www.reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2015/meeting-experts-laws/statements/13April\\_ICRC.pdf](https://www.reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2015/meeting-experts-laws/statements/13April_ICRC.pdf).

it to be unpredictable, it cannot claim unforeseeability. Past events demonstrate that possible malfunctions of autonomous weapons are foreseeable. For example, in 2007, a semiautonomous weapon deployed by the South African armed forces malfunctioned, killing and wounding several South African soldiers.<sup>56</sup> Events like these put states on notice that weapons, even when semiautonomous, are subject to malfunction. The risk of malfunction only increases with fully autonomous weapons.<sup>57</sup> Still, it is difficult to ascertain whether a state knows of the unpredictability of its weapons systems. Because of this, the state must not be able to plead unforeseeability for weapon malfunction.

Second, in the case of hijack by non-state actors, states cannot claim unforeseeability because concerns have already been expressed that the proliferation of LAWS will eventually lead to non-state agents acquiring the technology to develop LAWS as well.<sup>58</sup> For example, during an informal meeting in 2016 consisting of experts on LAWS, many delegations expressed concern over the risk that the research, development, and deployment of LAWS might result in LAWS being obtained by non-state actors.<sup>59</sup> Moreover, the Foreign Affairs Committee of the European Parliament has stressed that the use of autonomous weapons could result in malfunction or hijack, thereby extinguishing any arguments relying on unforeseeability.<sup>60</sup> Allowing a state to escape responsibility by claiming unforeseeability where the actions of LAWS are attributable to the state would appear to be baseless, as the negative effects of the proliferation of LAWS have already been foreseen.

This approach to unforeseeability is consistent with Common Article I of the Four Geneva Conventions of 12 August 1949, where states Parties “undertake to respect and to ensure respect for the present Convention in all circumstances.”<sup>61</sup> Necessarily, this means that states must ensure that the rights of the Geneva Conventions are respected by all legally interested parties.<sup>62</sup> Accordingly, the ICRC has interpreted Article I to mean that the state has a duty not only to ensure respect of the Geneva Conventions by the armed forces, but also by private actors whose actions are not otherwise attributable to the state so long as their actions were reasonably foreseeable.<sup>63</sup>

### *B. Beyond the Control of the State*

Even if the international humanitarian law violations associated with LAWS are due to an irresistible force or unforeseeable event, the second element for *force majeure*, which requires that

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<sup>56</sup> WALLACH & ALLEN, *supra* note 52, at 4.

<sup>57</sup> *Id.*

<sup>58</sup> Kenneth Anderson & Matthew C. Waxman, *Law and Ethics for Robot Soldiers*, POLICY REVIEW (2012); AMERICAN UNIVERSITY, WCL RESEARCH PAPER No. 2013-32; COLUMBIA PUBLIC LAW RESEARCH PAPER No. 12-313, 4-5 (2012).

<sup>59</sup> HIGH CONTRACTING PARTIES TO THE GENEVA CONVENTION, *Report of the 2016 Informal Meeting of Experts on Lethal Autonomous Weapons Systems (LAWS)*, ¶ 19 (2016).

<sup>60</sup> EUR. PARLIAMENT COMM. FOREIGN AFF., *On Artificial Intelligence: Questions of Interpretation and Application of International Law Insofar as the EU is Affected in the Areas of Civil and Military Uses and of State Authority Outside the Scope of Criminal Justice*, 2020/2013(INI) ¶ 12 (July 7, 2020), [https://www.europarl.europa.eu/doceo/document/AFET-AD-650702\\_EN.pdf](https://www.europarl.europa.eu/doceo/document/AFET-AD-650702_EN.pdf).

<sup>61</sup> Geneva Conventions, *supra* note 26, at art. 1.

<sup>62</sup> ICRC Commentary, *supra* note 25, at ¶¶ 140-43.

<sup>63</sup> *Id.* at ¶ 166.

the act in question be beyond the control of the state invoking the defense,<sup>64</sup> cannot be satisfied. Where a state claims that a malfunction of a weapon used by the state was beyond the control of the state, that argument must always fail because the state chose to deploy that weapon and, therefore, it was not beyond the control of the state.

A state might have an easier time pleading that an external event was beyond its control in the case of armed insurrection. After the Cuban Insurrection of 1895, the American commission charged with settling claims of its citizens adopted several principles, most notably: “[w]here an armed insurrection has gone beyond the control of the parent government, the general rule is that such a government is not responsible for damages done to foreigners by the insurgents.”<sup>65</sup> This principle has been reaffirmed in later cases.<sup>66</sup> The rules of attribution would apply similarly to private individuals. If the situation is such that it has exceeded the limits of what reasonably could remain within the control of the state, then the state may plead the *force majeure* defense. Thus, if insurgents or other non-state actors use LAWS to commit violations of international humanitarian law where the law of armed conflict is applicable, and the attributable situation that is beyond the control of the state is covered under *force majeure*, the state may invoke the defense. However, as discussed above, the predicted proliferation of LAWS to non-state actors necessarily should bar the ability of states to invoke *force majeure* as even if the situation was beyond the control of the state, it certainly would not be unforeseeable nor irresistible that insurgents would one day use the technology to develop their own fully autonomous weapons.

### C. Material Impossibility

The third and critical element for a state to invoke *force majeure* is that the situation makes it materially impossible for the state to perform its international law obligations under the circumstances.<sup>67</sup> Assuming the state has been successful thus far in pleading *force majeure*, material impossibility requires that the state had no way to avoid the commission of the wrongful act. Material impossibility may be due to naturally occurring events, such as storm or earthquake, and/or to human intervention, such as an insurgency.<sup>68</sup> However, situations where state avoidance is made more difficult but remains possible are not materially impossible to perform.<sup>69</sup> Further, if the situation has become impossible due to a state’s neglect, even if accidental or unintended, the situation will not be covered by the defense.<sup>70</sup>

If the state has successfully proven the first two elements, the state may be able to successfully prove the third element in certain situations. Whether the defense applies or not would hinge on the particulars of every given case. Where LAWS are hijacked and the state cannot regain control to prevent the weapons systems from committing law of war violations, the state could probably claim it was materially impossible to prevent the situation. Moreover, where LAWS malfunction beyond repair due to unforeseen circumstances, again the state could claim material impossibility. It is not probable that the material impossibility would be due to the state’s neglect

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<sup>64</sup> ARSIWA, *supra* note 3, at art. 23.

<sup>65</sup> Secretariat Study, *supra* note 13, at ¶ 226.

<sup>66</sup> *Id.* at ¶ 235; Ottoman Empire Lighthouses Concession (Argentina vs. Chile), XII R.I.A.A. 219–20 (1956).

<sup>67</sup> ARSIWA, *supra* note 3, at art. 23(1).

<sup>68</sup> *Id.* at art. 23(3).

<sup>69</sup> *Id.*; Rainbow Warrior (New Zealand vs. France), XX R.I.A.A. 253 (1990).

<sup>70</sup> ARSIWA, *supra* note 3, at art. 23(3).

since states are under strict requirements to ensure that all weapons not prohibited per se comply with international humanitarian law. Of course, if the state did not take all necessary precautions to ensure that the weapons systems do not violate international humanitarian law obligations, the state cannot plead material impossibility. Otherwise, assuming that the state has proven unforeseeable or irresistible force beyond the control of the state, the state may be able to prove material impossibility as well, especially since the material impossibility element is causally linked to the unforeseeable or irresistible event.

#### *D. Due to the Conduct of the State Invoking It*

Even if the state were able to successfully prove all elements of *force majeure*, the defense is unavailable where it is due, either in whole or in part, to the conduct of the state invoking it.<sup>71</sup> A plea for *force majeure* was rejected by an arbitral tribunal where the impossibility was due, not to an unforeseen or irresistible force, but to a unilateral decision of the state invoking it.<sup>72</sup> In that case, the Republic of Burundi severed diplomatic ties with Libya, subsequently expelling Libyans residing in Burundi and prohibiting further Libyan nationals from entering its territory.<sup>73</sup> In finding that the expulsion of all Libyan nationals and not just those posing a threat to international peace and security was a breach of international law, the arbitral tribunal ruled that *force majeure* could not apply to excuse Burundi from responsibility because Burundi unilaterally engaged in the action.<sup>74</sup> Thus, if the state causes the *force majeure*, it cannot invoke the defense. Moreover, the defense “cannot excuse accidental, unintended or undesired injury if it was brought about by neglect or fault of the operating State.”<sup>75</sup> However, if the state, in good faith, merely contributed to the issue, the defense may still be available. It is difficult to ascertain whether or not the malfunction of an autonomous weapons system is due to the conduct of the state deploying it or to some external circumstance. Moreover, the hijacking of an autonomous weapons system may arguably be classified as an external event to which the state did not at all contribute. Thus, if the defense has survived thus far, it may be probable that the defense was not due, whether in whole or in part, to the state invoking it. That would depend on the facts of each particular case. Regardless, even in situations where the unforeseeable or irresistible force is truly due to an external event, the state must show that it did not assume the risk posed by the use and deployment of LAWS. This is the point where all LAWS-related claims to *force majeure* will fail.

#### *E. State has Assumed the Risk*

The ARSIWA commentaries make clear that the defense cannot excuse performance where “the State has undertaken to prevent the particular situation arising or has otherwise assumed that risk.”<sup>76</sup> A state may assume the risk by “[doing] so expressly, by agreement, or by clear implication.”<sup>77</sup> A state deploying LAWS arguably assumes the risk that the weapon system might

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<sup>71</sup> *Id.* at art. 23(2).

<sup>72</sup> Takuhei Yamada, *State of Necessity in International Law: A Study of International Judicial Cases*, 34 *KOBE GAKUIN L. J.* 107, 140 (2005).

<sup>73</sup> *Id.*

<sup>74</sup> *Id.* at 141-42.

<sup>75</sup> EUROPEAN UNION DIRECTORATE-GENERAL FOR EXTERNAL POLICIES, *HUMAN RIGHTS IMPLICATIONS OF THE USAGE OF DRONES AND UNMANNED ROBOTS IN WARFARE* 39 (2013).

<sup>76</sup> ARSIWA, *supra* note 3, at art. 23(2), section 10.

<sup>77</sup> CRAWFORD, *supra* note 8, at 301.

malfunction or be hijacked for the mere reason that the state took every precaution to prevent its malfunction but nonetheless chose to deploy the weapon. Moreover, hacking is a well-known risk if cyberspace is to provide any indication. Consequently, assuming that it has succeeded thus far, it is at this point of the analysis that the *force majeure* defense must always fail. This concept is not unique to LAWS. Article II of the Convention on International Liability for Damage Caused by Space Objects states: “[a] launching state shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the earth or to aircraft in flight.”<sup>78</sup> Thus, launching states assume the risk in that particular instance.

In the case of LAWS, if the international community is to accept the argument that weapons manufacturers cannot foresee every possible consequence of the deployment of LAWS, the state must nonetheless assume the risk. If states do not assume the risks associated with LAWS, a gap of unaccountability will result. States would be able to evade responsibility for their use of the autonomous weapons systems, thereby setting a dangerous precedent. This leaves open the possibility that states will always be able to plead *force majeure* for all LAWS-associated misconduct by describing the situation as an event that could not have otherwise been prevented.<sup>79</sup>

The potential for unforeseeability is further exacerbated by the use of adaptive algorithms where the AI changes its behavior due to information available at any given time, making it more difficult to perceive in advance how LAWS will behave.<sup>80</sup> There is high risk that liability will decrease as autonomy increases.<sup>81</sup> Thus, where regulations may be lacking, states should create proper frameworks to address state accountability for their use of fully autonomous weapons systems, making clear that they must assume all risks associated with the research, development, and deployment of LAWS in all circumstances where the actions of LAWS are otherwise attributable to the state.

In adopting such a framework, the draft report of the European Parliament’s Committee on Legal Affairs and resulting opinion of the Parliament’s Committee on Foreign Affairs can be used as a model paving the way for a framework that deals with AI governance. In the draft report, the Committee on Legal Affairs requires that military uses of AI always be subject to human control so that in the case of an unforeseeable event a human may disable them.<sup>82</sup> Thus, if states choose to forego meaningful human control, states assume the risk that may be caused by unforeseeable events. In addition, the European Parliament Foreign Affairs Committee highlights the importance that states and other international actors remain liable at all times for violations resulting from AI uses in warfare.<sup>83</sup> While the Committee stresses the importance of banning LAWS that operate without meaningful human control, if fully autonomous weapons are used in the future, there is an

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<sup>78</sup> Convention on International Liability for Damage Caused by Space Objects art. 2, Mar. 29 1972, 961 U.N.T.S. 13810.

<sup>79</sup> ROBIN GEISS, THE INTERNATIONAL-LAW DIMENSION OF AUTONOMOUS WEAPONS SYSTEMS 20–21 (2015).

<sup>80</sup> *Id.* at 21.

<sup>81</sup> *Id.*

<sup>82</sup> *Draft Report On Artificial Intelligence: Questions Of Interpretation And Application Of International Law In So Far As The EU Is Affected In The Areas Of Civil And Military Uses And Of State Authority Outside The Scope Of Criminal Justice (2020/2013(INI))*, EUR. PARLIAMENT LEGAL AFF. ¶ 2 (2020), <https://oeil.secure.europarl.europa.eu/oeil/popups/printficheglobal.pdf?id=710011&l=en> European Parliament.

<sup>83</sup> EUR. PARLIAMENT COMM. FOREIGN AFF., *supra* note 59, at ¶ 6.



even stronger argument that states must at all times be held accountable for all mistakes resulting from the use of such systems.

#### *F. Peremptory Norm*

The defense of *force majeure* is never permitted to derogate from obligations arising under peremptory norms of general international law, or *Jus Cogens*.<sup>84</sup> State practice has established that the four cardinal principles of international humanitarian law are considered *Jus Cogens*. For example, Colombia has confirmed the principles' status as *Jus Cogens* "based on the fact that the international community as a whole has recognized their peremptory and imperative nature."<sup>85</sup> The International Court of Justice has also referred to these principles in its judgments. For example, in its advisory opinion on the *Threat or Use of Nuclear Weapons*, the International Court of Justice refers to the most fundamental principles that affect its ruling, namely the principles of distinction and humanity, which make up the essence of international humanitarian law.<sup>86</sup> Moreover, the Court has stated that these rules have reached such a status that they must "be observed by all States whether or not they have ratified the conventions that contain them, because they constitute intransgressible principles of international customary law."<sup>87</sup> Thus, these are peremptory international norms to which no derogation is permitted.

### IV. CONCLUSION

It is already difficult for *force majeure* to be invoked successfully in international law.<sup>88</sup> It is even more difficult in the context of armed conflict.<sup>89</sup> In the context of applying the doctrine of *force majeure*, if states choose to deploy fully autonomous weapons that act without any meaningful human control, the least required of states is to assume the risk, whether foreseeable or not, that something might go awry with the weapons systems. The situations where states could successfully argue that the violations caused by LAWS are due to an irresistible force or unforeseeable event, while possible, are rare. "The greater the uncertainty and unpredictability, the greater the risk that [international humanitarian law] will be violated."<sup>90</sup> States cannot then claim that it was unforeseeable that LAWS malfunctioned leading to violations of international law obligations. But in the event that states successfully prove this, the defense should fail where *force majeure* requires that states claiming the defense did not assume the risk.

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<sup>84</sup> ARSIWA, *supra* note 3, at art. 26.

<sup>85</sup> *Colombia: Practice Relating to Rule 7. The Principle of Distinction Between Civilian Objects And Military Objectives*, ICRC IHL DATABASE, [https://ihl-databases.icrc.org/customary-ihl/eng/docs/v2\\_cou\\_co\\_rule7](https://ihl-databases.icrc.org/customary-ihl/eng/docs/v2_cou_co_rule7) (last visited July 21, 2021).

<sup>86</sup> Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. 679 (July 8), at ¶ 78.

<sup>87</sup> *Id.* at ¶ 79.

<sup>88</sup> Jure Zrilič, *Armed Conflict as Force Majeure in International Investment Law*, 16(1) MANCHESTER J. INT'L ECON. L. 28, 30 (2019).

<sup>89</sup> *Id.*

<sup>90</sup> Neil Davison, *A Legal Perspective: Autonomous Weapon Systems Under International Humanitarian Law*, in PERSPECTIVES ON LETHAL AUTOMATED WEAPON SYSTEMS 5, 15 (UNODA Occasional Papers 2017).

Given the potential for proliferation of LAWS in the not-so-distant future,<sup>91</sup> a proper framework must be drafted to deal with issues of accountability and to affirm the presumption that states must assume the risk associated with violations caused by LAWS that would otherwise be attributable to states. Not doing so would set a dangerous precedent where states will always be able to evade responsibility by claiming that the violations resulting from the autonomous weapon systems were due to an unforeseeable event or an irresistible force. To ensure accountability for LAWS-associated mistakes, the defense must be prohibited in this context. However, for LAWS that are used to cause violations of international humanitarian law, where those actions are not attributable to the state, the defense is not needed since the law of state responsibility would not apply. Still, given the wording of Article I common to all Four Geneva Conventions, states must nonetheless undertake to ensure respect for international humanitarian law obligations among all international actors. Otherwise, states may be susceptible to responsibility in that regard.

In any event, states will find it difficult to claim that mistakes resulting from military uses of AI, especially LAWS, are due to an irresistible force or unforeseen event. LAWS are not a *force majeure* and should not be considered as such under any circumstance. In the slight chance that states are successful in proving that element of *force majeure*, the defense must always fail at the assumption of risk analysis. States must always assume the risks associated with the development and use of AI such as lethal autonomous weapons systems. To hold otherwise would lead to unaccountability, a gap that has the potential to expand as AI technologies advance. Moreover, LAWS pose a significant threat to the four cardinal principles of international humanitarian law and, if the defense has succeeded thus far, it would be barred due to conflict with these peremptory norms. Accordingly, states must never be allowed to claim *force majeure* for AI-related mistakes in armed conflict.

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<sup>91</sup> Jean-Francois Podevin, *The U.S. says humans will always be in control of AI weapons. But the age of autonomous war is already here*, WASH. POST (July 7, 2021), <https://www.washingtonpost.com/technology/2021/07/07/ai-weapons-us-military/>.

