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# International Law and the Regulation of Autonomous Military Capabilities

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## Abstract

*There is a dissonance between principled consensus and operational dissensus in the emerging regulatory framework for autonomous military capabilities (AMCs). This framework is based on the application of international humanitarian law (IHL) and the maintenance of human control and responsibility, but it remains unclear whether and how IHL might apply to AMCs and how human control and responsibility can be maintained. The emergence of a regulatory framework in the face of this dissonance raises questions about how alternative regulatory possibilities have been excluded and how the possibility of regulation has been assumed. This article explores the mechanics of this exclusion and assumption. It sheds light on the conditions of possibilities and trajectories of development of the regulatory regime for AMCs, and also provides insights into international regulatory frameworks more broadly, especially in relation to new technologies. Using the example of the everywhere-forever war on terror, this article points to the role of a failure of politics and a consequently amorphous and expanding ideal of security in excluding the possibility of prohibition or restrictive regulation of the military promise of AMCs. The article then turns to four discursive strategies that sustain the assumption that AMCs are amenable to regulation. Through conflation, different types of AMCs are subsumed within an imaginary that is more easily accommodated within the regulatory consensus. Deferral creates a façade of consensus while shifting contentious issues to the national sphere. Normalization operates to de-emphasize the novelty of AMCs, while valorization pulls in the opposite direction by exaggerating the virtues of AMCs.*

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## 1 Introduction

For nine years, a Group of Governmental Experts (GGE) has been discussing the regulation of ‘emerging technologies in the area of lethal autonomous weapons systems (LAWS)’.<sup>1</sup> (Instead of this rather unwieldy formulation, in this article I will use the term autonomous military capabilities [AMCs] to emphasize the breadth of military applications of autonomous technologies beyond the autonomous weapon systems that the GGE is focusing on.) These discussions have yielded consensus on, *inter alia*, the subjection of AMCs to international humanitarian law (IHL) and human control and responsibility. Yet it remains unclear how IHL might apply to AMCs and how human control and responsibility might be maintained. Indeed, even defining AMCs is proving difficult.

The dissonance between the GGE’s principled consensus and operational dissensus provides the premise for this article. I will explore how the regulatory framework for AMCs has emerged in the face of this dissonance. By understanding the mechanics of this emergence, we may understand the conditions of possibility and development of this regulatory framework. In turn, this inquiry may shed light on international regulatory frameworks more broadly, especially in relation to new technologies.

I will start, in section 2, by outlining the emerging regulatory framework for AMCs and then defending, in section 3, its regulatory significance. Dissonance between principled consensus and operational dissensus and the GGE’s failure to produce a legally binding outcome call into question the existence of a regulatory regime, emerging or otherwise. I will suggest looking past the superficial uncertainties of this framework to recognize that important regulatory decisions have already been made and that potential regulatory outcomes have been foreclosed. Prohibition or restrictive regulation

<sup>1</sup> ‘Background on LAWS in the CCW’, *United Nations Office of Disarmament Affairs*, available at [www.un.org/disarmament/the-convention-on-certain-conventional-weapons/background-on-laws-in-the-ccw/](http://www.un.org/disarmament/the-convention-on-certain-conventional-weapons/background-on-laws-in-the-ccw/). From 2014 to 2016, the Group of Governmental Experts (GGE) met as an informal meeting of experts and, from 2017, as a group of governmental experts. In this article, GGE is used as shorthand for the work of both bodies. This work is summarized in GGE, Report of the 2014 Session (GGE 2014), Doc. CCW/MSP/2014/3 (2014), available at <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G14/048/96/PDF/G1404896.pdf?OpenElement>; GGE, Report of the 2015 Session (GGE 2015), Doc. CCW/MSP/2015/3 (2015), available at <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G14/048/96/PDF/G1404896.pdf?OpenElement>; GGE, Report of the 2016 Session (GGE 2016), Doc. CCW/CONF.V/2 (2016), available at <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G16/117/16/PDF/G1611716.pdf?OpenElement>; GGE, Report of the 2017 Session (GGE 2017), Doc. CCW/GGE.1/2017/3 (2017), available at <http://undocs.org/CCW/GGE.1/2017/3>; GGE, Report of the 2018 Session (GGE 2018), Doc. CCW/GGE.1/2018/3 (2018), available at <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G18/323/29/PDF/G1832329.pdf?OpenElement>; GGE, Report of the 2019 Session (GGE 2019), Doc. CCW/GGE.1/2019/3 (2019), available at <https://undocs.org/en/CCW/GGE.1/2019/3>; GGE, Chair’s Summary of the 2019 Session (GGE 2019 Chair’s Summary), Doc. CCW/GGE.1/2019/3/Add.1 (2019), available at <https://documents.unoda.org/wp-content/uploads/2020/09/1919338E.pdf>; GGE, Chair’s Summary of the 2020 Session (GGE 2020 Chair’s Summary), Doc. CCW/GGE.1/2020/WP.7 (2021), available at [https://documents.unoda.org/wp-content/uploads/2020/07/CCW\\_GGE1\\_2020\\_WP\\_7-ADVANCE.pdf](https://documents.unoda.org/wp-content/uploads/2020/07/CCW_GGE1_2020_WP_7-ADVANCE.pdf); GGE, Report of the 2021 Session (GGE 2021), Doc. CCW/GGE.1/2021/CRP.1 (2021), available at <https://reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2021/gge/documents/draft-report-final.pdf>; GGE, Report of the 2022 Session (GGE 2022), Doc. CCW/GGE.1/2022/CRP.1/Rev.1 (2022), available at <https://reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2022/gge/documents/crp1-rev1.pdf>.

has been excluded, and the possibility of regulation has been assumed, even though the details of that regulation – IHL compliance and human control and responsibility – remain uncertain. The mechanics of this exclusion (of alternative regulatory possibilities) and assumption (of the possibility of regulation) demand closer scrutiny.

In section 4, I will consider the exclusion of alternative regulatory possibilities. I will restrict my inquiry to one set of alternative outcomes – prohibition or restrictive regulation, which is presumptively impossible on account of the military utility of AMCs. I will unpack this presumption using the example of the everywhere-forever war on terror: the failure of politics that produces the war on terror secures its degeneration into the everywhere-forever war and renders the omniscient infallibility of AMCs presumptively irresistible. Building on this example, I will suggest that this failure of politics is not restricted to armed non-state actors and extends to a broader, amorphous and expanding ideal of security. Within a rationality that defines threats expansively and fetishizes their elimination, the post/super-human promise of AMCs to predict, intercept and prevent threats cannot be ignored, and prohibition or restrictive regulation is implausible.

If prohibition is impossible, we default to regulation, but the impossibility of prohibition does not substantiate the possibility of regulation. When the technological landscape remains uncertain and the principled agreement remains operationally hollow, the possibility of regulation is far from certain. Yet this possibility has been assumed. How? This is the question I will take up in section 5, where I will outline four discursive strategies that sustain the assumption that AMCs are amenable to regulation. Through conflation, different types of AMCs are subsumed within a single imaginary that is more easily accommodated within the emerging regulatory framework. Deferral creates a façade of consensus while shifting contentious issues from the international to the national sphere, where their piecemeal resolution creates vested interests that constrain the possibilities of international regulation. Normalization operates to de-emphasize the novelty of AMCs, while valorization pulls in the opposite direction by exaggerating their virtues. Conflation and deferral obscure regulatory challenges, while normalization and valorization produce a sympathetic regulatory object. Together, these strategies grind down the awkward edges of both the regulatory object and framework to produce an interlocking fit.

The study that I have sketched above is evidently limited in its scope. I will not set out a comprehensive account of the GGE's regulatory framework. In exploring the exclusion of alternative regulatory possibilities, I will restrict myself to a vignette on the improbability of prohibition or restrictive regulation. In explaining the assumed possibility of regulating AMCs, I will focus on discursive strategies to the exclusion of the agency which animates them and my exposition of these strategies will be illustrative rather than exhaustive. The analysis presented here falls short of a critique of the emerging regulatory framework for AMCs. Any such effort would require contextualization against the broader political economy of resort to force<sup>2</sup> and attention to the

<sup>2</sup> S. Weil, *Formative Writings, 1929–1941* (1987), at 241.

agentive actions and interactions that shape the regulatory process.<sup>3</sup> A study along these lines is beyond the present scope. My objective in this article is more modest – to excavate and develop some elements of a critique<sup>4</sup> and, thereby, to gain insight into the conditions of possibility for the regulatory framework for AMCs and for new technologies more broadly.

In this vein, in concluding in section 6, I will sketch the broader implications of the analysis presented here, specifically the concealed necessity (false contingency) of the extant regulatory framework for AMCs. Acknowledging these structural constraints allows for better appreciation of what is entailed in resisting the emerging regulatory framework for AMCs and for shaping international law's engagement with other new technologies.

## 2 AMCs at the GGE

In this section, I will set out a brief overview of the GGE's discussions, beginning with a justification of my focus on the GGE as the site of the international regulation of AMCs.

The GGE has been convened within the framework of the Convention on Certain Conventional Weapons to produce consensus recommendations on the regulation of AMCs for consideration by the convention's high contracting parties.<sup>5</sup> After nine years, the most tangible product is a set of 11 guiding principles.<sup>6</sup> These principles are ambiguous and lack legal effect, but building upon this meagre consensus has proven difficult. Confounding expectations, the 2021 session of the GGE failed to produce a legally binding outcome.<sup>7</sup> Disagreement on the form of regulatory outcome and underlying substantive issues were used by a small group of states to obstruct consensus.<sup>8</sup>

<sup>3</sup> Without this, the resulting critique could only be one that subtracts from reality. Latour, 'Why Has Critique Run Out of Steam? From Matters of Fact to Matters of Concern', 30 *Critical Inquiry* (2004) 225.

<sup>4</sup> The number '42' remains the only satisfactorily comprehensive answer to any question. This reference to Douglas Adams' *The Hitchhiker's Guide to the Galaxy* (1979) is only partly frivolous. In that book, the supercomputer Deep Thought is asked for the answer to the ultimate question of life, the universe and everything. After 7.5 million years, it provides the answer: '42.' When asked what the answer means, Deep Thought points out that understanding the answer requires, first, understanding what the question is. I draw from this an injunction to reconsider the question being asked – explaining or revising the regulatory regime for autonomous military capabilities (AMCs) may need to start from an understanding of how and why that regime has emerged. See also Johns, 'Governance by Data', 17 *Annual Review of Law and Social Science* (2021) 53, at 66.

<sup>5</sup> 'Background on LAWS', *supra* note 1; Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May be Deemed to be Excessively Injurious or to Have Indiscriminate Effects 1980, 1342 UNTS 137.

<sup>6</sup> GGE 2019, *supra* note 1, Annex IV.

<sup>7</sup> The 2021 session report took the form of a summary issued under the authority of the chair. GGE 2021, *supra* note 1, paras 17–18.

<sup>8</sup> Detailed accounts of the December 2021 meeting of the GGE are set out in Reaching Critical Will (RCW) and Women's International League for Peace and Freedom (WILPF), CCW Report (RCW and WILPF 9/8), vol. 9, no. 8, 4 December 2021; RCW and WILPF, CCW Report (RCW and WILPF 9/9), vol. 9, no. 9, 9 December 2021.

The same disagreements obstructed the 2022 session.<sup>9</sup> While many states continued to demand a legally binding instrument,<sup>10</sup> some preferred principles and practices<sup>11</sup> and manuals on the application of IHL to AMCs.<sup>12</sup>

The seeming impossibility of a legally binding instrument at the GGE has prompted calls for shifting to a different forum that is unhindered by consensus requirements and negative vetoes.<sup>13</sup> However, the obstructive states are the ones who are most actively developing AMCs, so the immediate practical utility of this shift is unclear. Thus, for the time being, it is the GGE that remains at the centre of international discussions and the GGE's framework that I will use as a proxy for the regulation of AMCs.

To outline this framework, I will describe four key elements.<sup>14</sup> My objective in this description is to highlight the uncertainties that undermine the GGE's efforts, the consequent evolution of the GGE's approach and the emergence of a principled consensus. Consequently, the focus is on the consensus positions outlined in the GGE's reports rather than on the diverse positions reflected in its discussions.

The first of these elements concerns the characterization of the object of regulation.

The GGE has struggled to define the technology<sup>15</sup> and with the question of whether a definition is required at all.<sup>16</sup> These difficulties arise, in part, from technicalities such

<sup>9</sup> Much of the substantive detail from the draft report was removed from the final version. Compare GGE 2022, *supra* note 1; GGE, Draft Report of the 2022 Session, Doc. CCW/GGE.1/2022/CRP.1 (2022), available at <https://reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2022/gge/documents/chair-draft-report1.pdf>. Detailed accounts of the 2022 session are available at <https://reachingcriticalwill.org/disarmament-fora/ccw/2022/laws/ccwreport>.

<sup>10</sup> Argentina, Costa Rica, Guatemala, Kazakhstan, Nigeria, Panama, Palestine, Philippines, Sierra Leone and Uruguay, Proposal: Roadmap Towards New Protocol on Autonomous Weapons Systems (2022), available at [https://reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2022/gge/documents/G13\\_March2022.pdf](https://reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2022/gge/documents/G13_March2022.pdf). China proposed a ban on a narrowly defined group of AMCs. China, Working Paper on Lethal Autonomous Weapons Systems, July 2022, available at [https://reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2022/gge/documents/China\\_July2022\\_english.pdf](https://reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2022/gge/documents/China_July2022_english.pdf).

<sup>11</sup> Australia, Canada, Japan, South Korea, United Kingdom (UK) and USA, Principles and Good Practices on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, 7 March 2022, available at [https://reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2022/gge/documents/USgroup\\_March2022.pdf](https://reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2022/gge/documents/USgroup_March2022.pdf).

<sup>12</sup> Russia, Application of International Law to Lethal Autonomous Weapon Systems (LAWS), 18 July 2022, available at [https://reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2022/gge/documents/Russia\\_July2022.pdf](https://reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2022/gge/documents/Russia_July2022.pdf); UK, Proposal for a GGE Document on the Application of International Humanitarian Law to Emerging Technologies in the Area of Lethal Autonomous Weapon Systems (LAWS) (2022), available at [https://reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2022/gge/documents/UK\\_March2022.pdf](https://reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2022/gge/documents/UK_March2022.pdf).

<sup>13</sup> E. Minor, R. Moyes and U. Sohrabi, CCW Review Conference Special: Part III, vol. 8 (2022); RCW and WILPF 9/9, *supra* note 8, at 1–2.

<sup>14</sup> Important elements that I am excluding are concerns with the security of AMCs, safeguards against proliferation and national weapon reviews. GGE 2021, *supra* note 1, paras 31–41 (Annex III).

<sup>15</sup> GGE 2021, *supra* note 1, para. 43(c), Annex III; GGE 2020 Chair's Summary, *supra* note 1, para. 3; GGE 2019 Chair's Summary, *supra* note 1, para 5.

<sup>16</sup> GGE 2020 Chair's Summary, *supra* note 1, para. 19; GGE 2019 Chair's Summary, *supra* note 1, para. 14; GGE 2018, *supra* note 1, para. 22.

as whether existing technologies are included in the GGE's mandate<sup>17</sup> and whether the mandate is restricted to 'lethal' weapon systems.<sup>18</sup> Concerns that the regulation of AMCs should not hinder civilian applications of autonomous technologies may have made the question of definition more significant and difficult.<sup>19</sup>

But definitional difficulties also reflect technological uncertainties. To begin with, there are significant and unresolved concerns about the functioning of AMCs – the extent to which they will be compromised by bias<sup>20</sup> and poor data quality;<sup>21</sup> whether their functioning will be explainable, predictable and reliable;<sup>22</sup> and whether they will be able to develop common sense<sup>23</sup> – that is, adapt their learning across contexts.<sup>24</sup>

Then there is the range of technologies encompassed within AMCs. One extreme end of that spectrum is the controversial trope of the killer robot that makes and executes lethal decisions without human involvement.<sup>25</sup> At the other end, there are mundane applications of autonomy in military processes for translation, logistics and so on. Between these extremes, autonomous technologies are used broadly in targeting processes to support human actions and decisions<sup>26</sup> – to process intelligence,<sup>27</sup> identify

<sup>17</sup> RCW and WILPF 9/9, *supra* note 8; GGE 2018, *supra* note 1, at 11; GGE 2016, *supra* note 1, para. 37.

<sup>18</sup> RCW and WILPF 9/9, *supra* note 8, at 38–39; GGE 2020 Chair's Summary, *supra* note 1, para. 20; GGE 2019 Chair's Summary, *supra* note 1, para. 16.

<sup>19</sup> GGE 2021, *supra* note 1, para. 11, Annex III; GGE 2020 Chair's Summary, *supra* note 1, para. 23; GGE 2019 Chair's Summary, *supra* note 1, para. 24; GGE 2019, *supra* note 1, Guiding Principle (j).

<sup>20</sup> GGE 2021, *supra* note 1, para. 43(b) (Annex III); GGE 2020 Chair's Summary, *supra* note 1, para. 21; GGE 2019, *supra* note 1, para. 20.

<sup>21</sup> A. Holland Michel, *Known Unknowns: Data Issues and Military Autonomous Systems* (2021), available at <https://unidir.org/publication/known-unknowns>, at 1.

<sup>22</sup> GGE 2021, *supra* note 1, para. 43(c) (Annex III); GGE 2020 Chair's Summary, *supra* note 1, para. 18; GGE 2019, *supra* note 1, para. 20.

<sup>23</sup> Stanford Institute for Human-Centered Artificial Intelligence, *Artificial Intelligence Index Report 2022* (2022), at 73, available at [https://aiindex.stanford.edu/wp-content/uploads/2022/03/2022-AI-Index-Report\\_Master.pdf](https://aiindex.stanford.edu/wp-content/uploads/2022/03/2022-AI-Index-Report_Master.pdf). In the absence of common sense, artificial intelligence reproduces the outcomes of human behaviours rather than its processes. This difference is at the heart of the questions raised by Searle's Chinese room thought experiment.

<sup>24</sup> Parisi *et al.*, 'Continual Lifelong Learning with Neural Networks: A Review', 113 *Neural Networks* (2019) 54.

<sup>25</sup> An instance of the deployment of such systems is described in Final Report of the Panel of Experts on Libya Established Pursuant to Security Council Resolution 1973 (2011), UN Doc. S/2021/229 (2021), para. 63, available at <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N21/037/72/PDF/N2103772.pdf?OpenElement>. US military forces are considering freeing AMCs from human control. Knight, 'The Pentagon Inches toward Letting AI Control Weapons', *Wired* (2021), available at [www.wired.com/story/pentagon-inches-toward-letting-ai-control-weapons/](http://www.wired.com/story/pentagon-inches-toward-letting-ai-control-weapons/).

<sup>26</sup> Kahn, 'A.I. Is on the Front Lines of the War in Ukraine', *Fortune* (1 March 2022), available at <https://fortune.com/2022/03/01/russia-ukraine-invasion-war-a-i-artificial-intelligence/>; Rooke, 'Shortening the Kill Chain with Artificial Intelligence', *AutoNorms* (2021), available at [www.autonorms.eu/shortening-the-kill-chain-with-artificial-intelligence/](http://www.autonorms.eu/shortening-the-kill-chain-with-artificial-intelligence/).

<sup>27</sup> Ahronheim, 'Israel's Operation against Hamas Was the World's First AI War', *Jerusalem Post* (27 May 2021), available at [www.jpost.com/arab-israeli-conflict/gaza-news/guardian-of-the-walls-the-first-ai-war-669371](http://www.jpost.com/arab-israeli-conflict/gaza-news/guardian-of-the-walls-the-first-ai-war-669371); US Deputy Secretary of Defense, Establishment of an Algorithmic Warfare Cross-Functional Team (Project Maven), 26 April 2017, available at [www.govexec.com/media/gbc/docs/pdfs\\_edit/establishment\\_of\\_the\\_awcft\\_project\\_maven.pdf](http://www.govexec.com/media/gbc/docs/pdfs_edit/establishment_of_the_awcft_project_maven.pdf).

targets<sup>28</sup> or assess collateral damage.<sup>29</sup> Acknowledging this diversity has led the GGE to shift its focus from autonomous weapons systems to autonomy as an attribute of weapons systems<sup>30</sup> and to replace references to ‘lethal autonomous weapons systems’ with references to ‘emerging technologies in the area of lethal autonomous weapons systems’.<sup>31</sup>

Finally, autonomy – which refers simply to the ability to function independently and may be achieved through human instruction or through artificial intelligence<sup>32</sup> – is difficult to distinguish from automation. This makes it difficult to draw a line between controversial AMCs and mundane existing technologies. Consequently, the GGE has recognized that autonomy is a spectrum without a clear line between automation and autonomy<sup>33</sup> and that autonomous technologies are already in use in existing weapons systems.<sup>34</sup>

Confronted with this array of technological difficulties, the GGE’s understanding of its regulatory object has evolved to define autonomy by reference to the sufficiency of human control,<sup>35</sup> especially in critical functions of target selection and engagement.<sup>36</sup> Despite the diversity of AMCs, it is weapon systems operating without human control that remain at the centre of the GGE’s concerns<sup>37</sup> and of civil society concerns.<sup>38</sup> The broader military applications of autonomous technologies are relegated to the sidelines.

A second regulatory element is the applicability of IHL and the possibility and manner of IHL compliance.

<sup>28</sup> Miller, ‘AI Algorithms Deployed in Kill Chain Target Recognition’, *Air Force Magazine* (21 September 2021), available at [www.airforcemag.com/ai-algorithms-deployed-in-kill-chain-target-recognition/](http://www.airforcemag.com/ai-algorithms-deployed-in-kill-chain-target-recognition/).

<sup>29</sup> Maathuis, Pieters and van den Berg, ‘Decision Support Model for Effects Estimation and Proportionality Assessment for Targeting in Cyber Operations’, 17 *Defence Technology* (2021) 352.

<sup>30</sup> GGE 2020 Chair’s Summary, *supra* note 1, paras 3, 22; GGE 2019 Chair’s Summary, *supra* note 1, paras 5, 16; GGE 2018, *supra* note 1, para. 22.

<sup>31</sup> The shift seems to have started with the 2017 session, and by the 2021 session there are only isolated references to lethal autonomous weapons systems as a general category. The GGE’s mandate has always referred to ‘emerging technologies in the area of lethal autonomous weapons systems’.

<sup>32</sup> For an account of the technological underpinnings of autonomy, see T. McFarland, *Autonomous Weapon Systems and the Law of Armed Conflict: Compatibility with International Humanitarian Law* (2020), ch 3.

<sup>33</sup> GGE 2020 Chair’s Summary, *supra* note 1, para. 3; GGE 2019 Chair’s Summary, *supra* note 1, para. 5; GGE 2018, *supra* note 1, para. 22.

<sup>34</sup> GGE 2018, *supra* note 1, at 11; GGE 2017, *supra* note 1, para. 3, Annex II; GGE 2016, *supra* note 1, para. 37.

<sup>35</sup> GGE 2021, *supra* note 1, paras 25–26, Annex III; GGE 2020 Chair’s Summary, *supra* note 1, para. 19; GGE 2019 Chair’s Summary, *supra* note 1, para. 14.

<sup>36</sup> GGE 2021, *supra* note 1, paras 25–26, Annex III; GGE 2019 Chair’s Summary, *supra* note 1, para. 16; GGE 2018, *supra* note 1, at 11. The focus on critical functions has been criticized, and it has been suggested that the focus should be on operation without human control more generally. RCW and WILPF 9/9, *supra* note 8, at 23–24, 36.

<sup>37</sup> GGE 2021, *supra* note 1, paras 25–26, Annex III.

<sup>38</sup> International Committee of the Red Cross (ICRC), Position and Background Paper: Autonomous Weapon Systems (2021), available at [www.icrc.org/en/document/icrc-position-autonomous-weapon-systems](http://www.icrc.org/en/document/icrc-position-autonomous-weapon-systems); ‘The Story So Far’, *Campaign to Stop Killer Robots*, available at <https://www.stopkillerrobots.org/the-story-so-far/>.

The subjection of AMCs to IHL has been at the centre of the GGE's discussions from the outset,<sup>39</sup> and the GGE has also frequently taken note of their potential to enhance IHL compliance.<sup>40</sup> But, despite consensus as to the applicability of IHL, disagreement persists as to the adequacy of IHL<sup>41</sup> and the possibility of IHL compliance.<sup>42</sup> Some states have argued that existing IHL is sufficient to regulate AMCs or that all that is required is clarification of existing rules in this context,<sup>43</sup> while others query the adequacy of existing IHL.<sup>44</sup>

This disagreement draws on the nature of IHL obligations, which involve context-specific inquiries such as whether a person is participating directly in hostilities and whether an attack is proportionate or a precaution is feasible. Compliance hinges on considerations such as the value of the military objective, available resources, security of the attacking force and so on. This variability raises questions about whether and how AMCs can navigate these indeterminate, contextual obligations.<sup>45</sup>

These questions are exacerbated by the fact that IHL rules prioritize process over result. For instance, civilian harm by itself does not constitute a breach of distinction: breach requires deliberate targeting or unreasonable error.<sup>46</sup> Compliance requires reasonable measures to follow these rules, and post-facto assessment examines the process of attack rather than its results.<sup>47</sup> There is an 'epistemic disconnect' between the process focus of the law and the conceptual logic of algorithms that

<sup>39</sup> GGE 2021, *supra* note 1, para. 12, Annex III; GGE 2020 Chair's Summary, *supra* note 1, para. 6; GGE 2019 Chair's Summary, *supra* note 1, para. 9; GGE 2019, *supra* note 1, Guiding Principle (a).

<sup>40</sup> GGE 2021, *supra* note 1, para. 9, Annex III; GGE 2020 Chair's Summary, *supra* note 1, para. 12; GGE 2019 Chair's Summary, *supra* note 1, para. 12; GGE 2019, *supra* note 1, Guiding Principle (h).

<sup>41</sup> GGE 2020 Chair's Summary, *supra* note 1, paras 7–8, Annex II; GGE 2019 Chair's Summary, *supra* note 1, para. 9; GGE 2018, *supra* note 1, at 20.

<sup>42</sup> GGE 2021, *supra* note 1, para. 7; GGE 2020 Chair's Summary, *supra* note 1, para. 6; GGE 2019 Chair's Summary, *supra* note 1, para. 9.

<sup>43</sup> Russia, Considerations for the Report of the Group of Governmental Experts of the High Contracting Parties to the Convention on Certain Conventional Weapons on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems on the Outcomes of the Work Undertaken in 2017–2021 (2021), at 1, available at <https://reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2021/gge/documents/Russia.pdf>; GGE 2020 Chair's Summary, *supra* note 1, at 19–20 (Australia), 32 (China), 44 (France), 51 (Israel), 60 (Netherlands), 91 (UK), 94–96 (USA).

<sup>44</sup> RCW and WILPF 9/8, *supra* note 8, at 3–4 (Brazil, Chile and Mexico), 11 (Philippines); GGE 2020 Chair's Summary, *supra* note 1, at 23 (Austria, Belgium, Brazil, Chile, Ireland, Germany, Luxembourg, Mexico and New Zealand), 39 (Ecuador), 50 (Guatemala), 54 (Italy), 70 (Portugal), 83 (Sweden). This position is supported by the ICRC, *supra* note 38, at 11.

<sup>45</sup> GGE 2021, *supra* note 1, paras 15–17, Annex III; GGE 2020 Chair's Summary, *supra* note 1, para. 6; GGE 2019, *supra* note 1, para. 17; M. Sassòli, *International Humanitarian Law: Rules, Controversies, and Solutions to Problems Arising in Warfare* (2019), at 523.

<sup>46</sup> This is reflected in the text of these rules and in the agreement that compliance with these rules is to be assessed on the basis of the commander's assessment of the information reasonably available to them. See, e.g., the declarations issued by Australia, Canada, Germany, Ireland, Italy, Netherlands, New Zealand and Spain at the time of ratification of the 1977 Additional Protocol I to the 1949 Geneva Conventions, available at <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/States.xsp?xpviewStates=XPagesNORMStatesParties&xptreatySelected=470>.

<sup>47</sup> See the reasoning in Eritrea-Ethiopia Claims Commission, *Partial Award: Central Front – Ethiopia's Claim 2*, 28 April 2004, paras 101–113; Situation of Human Rights in Yemen, Including Violations and Abuses since September 2014, Doc. A/HRC/39/43 (2018), paras 38–39, available at <https://documents-dds-ny.un.org/doc/UNDOC/GEN/G18/252/79/PDF/G1825279.pdf?OpenElement>.



abstract from process to results.<sup>48</sup> If IHL required a specific process with limited contextual variations or a specific result, this could be translated into an algorithm. But the indeterminacy of IHL obligations raises difficult challenges for programming compliance by AMCs.<sup>49</sup>

This tension between the consensus that IHL applies to AMCs and the disagreement regarding the possibility of IHL compliance has been resolved by an insistence on human control to secure IHL compliance.<sup>50</sup> But this is not entirely convincing. For instance, the US 'Project Maven' seeks to use big data and machine learning 'to turn the enormous volume of data available ... into actionable intelligence and insights at speed'.<sup>51</sup> Similarly, the US Air Force has recently deployed algorithms to 'significantly reduce the manpower-intensive tasks of manually identifying targets – shortening the kill chain and accelerating the speed of decision-making'.<sup>52</sup> In these examples, how would human control secure IHL compliance? Human control would either nullify the speed and capabilities of AMCs or be restricted to the development and deployment (as opposed to operation) stages, bringing us back to the difficult question of whether AMCs can comply with IHL.

A third regulatory element is the maintenance of responsibility and accountability, of both belligerents and individuals, for the use of AMCs.<sup>53</sup>

The possibility of human responsibility is complicated, however, by the spectre of the 'responsibility gap' – the possibility that AMCs may produce civilian harm in contravention of IHL, but there may not be any person who can be held responsible.<sup>54</sup> Under the Rome Statute of the International Criminal Court and many municipal war crime statutes, the default *mens rea* or mental element requirement is intention and knowledge.<sup>55</sup> In the event of AMC-related breaches of IHL, this poses a barrier to criminal responsibility. Given the complexity of the technology and the possibility of unforeseen and undesired outcomes, it is unlikely that the implicated human will meet this requirement. At best, that human will have acted with negligence, recklessness or *dolus eventualis*, which does not meet the requirements for culpability. The GGE has recognized this challenge<sup>56</sup> and responded by emphasizing the necessity of deploying

<sup>48</sup> S. Venkatasubramanian, 'Structural Disconnects between Algorithmic Decision-Making and the Law', *Humanitarian Law and Policy*, 25 April 2019, available at <https://blogs.icrc.org/law-and-policy/2019/04/25/structural-disconnects-algorithmic-decision-making-law/>.

<sup>49</sup> On the difficulties encountered by artificial intelligence in legal reasoning, see Stanford Institute for Human-Centered Artificial Intelligence, *supra* note 23, at 76–77.

<sup>50</sup> GGE 2021, *supra* note 1, paras 15–16, Annex III; GGE 2020 Chair's Summary, *supra* note 1, para. 7; GGE 2019, *supra* note 1, paras 17(d)–(f); GGE 2019, *supra* note 1, Guiding Principle (c).

<sup>51</sup> US Deputy Secretary of Defense, *supra* note 27.

<sup>52</sup> Miller, *supra* note 28.

<sup>53</sup> GGE 2021, *supra* note 1, para. 18; GGE 2020 Chair's Summary, *supra* note 1, para. 7; GGE 2019 Chair's Summary, *supra* note 1, para. 10; GGE 2019, *supra* note 1, Guiding Principle (b).

<sup>54</sup> George Jain, 'Autonomous Cyber Capabilities and Individual Criminal Responsibility for War Crimes', in R. Liivoja and A. Väljataga (eds), *Autonomous Cyber Capabilities under International Law* (2021) 291.

<sup>55</sup> Art. 30, Rome Statute of the International Criminal Court 1998, 2187 UNTS 90.

<sup>56</sup> GGE 2021, *supra* note 1, para. 8, Annex III; GGE 2020 Chair's Summary, *supra* note 1, para. 18; GGE 2019 Chair's Summary, *supra* note 1, para. 10.

AMCs within a responsible chain of human command and control<sup>57</sup> and by emphasizing the responsibility of belligerents.<sup>58</sup>

For the three regulatory elements surveyed so far – definition, IHL compliance and human responsibility – the GGE ultimately falls back to human control. Human control secures IHL compliance and responsibility, and its absence renders AMCs impermissible. This requirement of human control is the fourth, and perhaps most important, element of the emerging regulatory framework for AMCs.

The appropriate label for the human control requirement remains contested,<sup>59</sup> but there is consensus as to the requirement itself,<sup>60</sup> extending across the life cycle of the weapon system.<sup>61</sup> However, the substantive content of the requirement remains unsettled. The GGE has produced indicative criteria and practices, including restrictions on the development and deployment of AMCs<sup>62</sup> and requirements of human–machine interaction – for instance, that human operators should understand the operation and effects of the AMC, should be trained in its use, should be able to ensure compliance with IHL and so on.<sup>63</sup>

These practices describe the ends of human control rather than explaining how they can be achieved. In interactions between humans and technologies perceived as omniscient and infallible, human control is challenged by both technological complications and human limitations. The GGE does not engage with these challenges.

The technological complications arise from the complexity of AMCs and concerns as to whether their operation will be explainable, predictable and reliable.<sup>64</sup> For instance, in the context of medical applications of machine learning, the US Food and Drug Administration has decided that predictability and reliability require the adaptive and learning capabilities of algorithms to be disabled.<sup>65</sup> Similarly, explainability may require trade-offs between the comprehensibility and trustworthiness of the explanation and its accuracy.<sup>66</sup> The GGE simply assumes that AMCs will be rendered transparent to human understanding, legislating these technological challenges out of existence.

<sup>57</sup> GGE 2021, *supra* note 1, paras 21, 23, Annex III; GGE 2020 Chair's Summary, *supra* note 1, paras 7, 15; GGE 2019 Chair's Summary, *supra* note 1, para. 19; GGE 2019, *supra* note 1, Guiding Principle (d).

<sup>58</sup> GGE 2021, *supra* note 1, para. 19, Annex III; GGE 2020 Chair's Summary, *supra* note 1, para. 15; GGE 2018, *supra* note 1, para. 23.

<sup>59</sup> The various suggested formulations have been catalogued in GGE 2018, *supra* note 1, at 16.

<sup>60</sup> GGE 2021, *supra* note 1, paras 17, 21, 26, Annex III; GGE 2020 Chair's Summary, *supra* note 1, para. 7; GGE 2019, *supra* note 1, para. 17(e); GGE 2019, *supra* note 1, Guiding Principle (c).

<sup>61</sup> GGE 2021, *supra* note 1, para. 28, Annex III; GGE 2020 Chair's Summary, *supra* note 1, para. 29; GGE 2019, *supra* note 1, para. 21. Relatedly, the GGE has also noted that autonomy is itself a form of human control in that AMCs operate within human-designated parameters. GGE 2018, *supra* note 1, at 13–16; GGE 2016, *supra* note 1, para. 28; GGE 2015, *supra* note 1, para. 63.

<sup>62</sup> GGE 2021, *supra* note 1, para. 26, Annex III; GGE 2020 Chair's Summary, *supra* note 1, paras 28–30.

<sup>63</sup> GGE 2021, *supra* note 1, para. 29, Annex III. More detailed proposals along these lines are set out in V. Boulanin *et al.*, *Limits on Autonomy in Weapon Systems: Identifying Practical Elements of Human Control* (2020), available at [www.icrc.org/en/document/limits-autonomous-weapons](http://www.icrc.org/en/document/limits-autonomous-weapons).

<sup>64</sup> See note 22 above and accompanying text.

<sup>65</sup> Babic *et al.*, 'Algorithms on Regulatory Lockdown in Medicine', 366 *Science* (2019) 1202.

<sup>66</sup> Ramon *et al.*, 'Can Metafeatures Help Improve Explanations of Prediction Models When Using Behavioral and Textual Data?', *Machine Learning* (2021).

The human limitations that challenge the control requirement are cognitive limitations such as biases of over- or under-reliance and neurological limitations of speed and capacity.<sup>67</sup> These limitations problematize the very possibility of meaningful human control, particularly in the fog of war.<sup>68</sup> Exercising human control has been demonstrated to be difficult even in relation to existing automated weapon systems.<sup>69</sup> These difficulties will only be exacerbated by autonomous technologies and will be particularly significant for some specific types of AMCs. For instance, in the context of autonomous cyber capabilities, the need for speed may render meaningful human control impractical.<sup>70</sup> Similarly, robotic swarms may develop complicated and unpredictable forms of self-organization, challenging human control.<sup>71</sup>

The point here is not simply that the GGE's elaboration of human control is vague or indeterminate. The point is that the GGE's hypothetical ideal of control ignores the myriad difficulties that undermine its possibility. It remains unclear whether humans will be able to control AMCs, whether because of their limitations or the complexity of the technology.<sup>72</sup> The GGE's failure to engage with these challenges means that the human control requirement it asserts, although central to its regulatory framework, is operationally hollow and potentially unattainable.

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To summarize this exposition of the emerging regulatory framework for AMCs, the GGE has achieved principled consensus based on IHL compliance and the maintenance of human control and responsibility, even though that consensus remains operationally hollow.<sup>73</sup> This operational disagreement feeds into a broader disagreement as to the form of regulatory outcome and the desirability of a legally binding instrument.<sup>74</sup>

<sup>67</sup> Schwarz, 'Delegating Moral Responsibility in War: Lethal Autonomous Weapons Systems and the Responsibility Gap', in H. Hansen-Magnusson and A. Vetterlein (eds), *The Routledge Handbook on Responsibility in International Relations* (2021) 177.

<sup>68</sup> Cummings, 'Lethal Autonomous Weapons: Meaningful Human Control or Meaningful Human Certification?', 38 *IEEE Technology and Society Magazine* (2019) 20.

<sup>69</sup> I. Bode and T. Watts, *Meaning-Less Human Control: Lessons From Air Defence Systems on Meaningful Human Control for the Debate on AWS* (2021), available at <https://dronewars.net/wp-content/uploads/2021/02/DW-Control-WEB.pdf>.

<sup>70</sup> Tammet, 'Autonomous Cyber Defence Capabilities', in Liivoja and Väljataga, *supra* note 54, 36, at 37.

<sup>71</sup> M. Verbruggen, *The Question of Swarms Control: Challenges to Ensuring Human Control over Military Swarms* (2019), available at [www.sipri.org/publications/2019/eu-non-proliferation-and-disarmament-papers/question-swarms-control-challenges-ensuring-human-control-over-military-swarms](http://www.sipri.org/publications/2019/eu-non-proliferation-and-disarmament-papers/question-swarms-control-challenges-ensuring-human-control-over-military-swarms).

<sup>72</sup> Indeed, it remains unclear what agency and control mean in this context. The GGE assumes the passivity of the technology, denying the possibility that the technology may reciprocally affect the conception of human control. In a different context, see Johns, 'From Planning to Prototypes: New Ways of Seeing Like a State', 82 *Modern Law Review* (2019) 833. The crux of the challenge to human control of AMCs is that the interaction between cognitively and neurologically limited humans and (allegedly) omniscient and infallible technologies entails a destabilization of the very concept of human control and agency.

<sup>73</sup> See the national commentaries to the Guiding Principles and the chair's assessment of commonalities in GGE 2020 Chair's Summary, *supra* note 1.

<sup>74</sup> RCW and WILPF 9/9, *supra* note 8, at 29–31, 37–41; RCW and WILPF 8/9, *supra* note 8, at 21–25. This disagreement may also simply suggest a desire to avoid regulatory constraints on the development of AMCs. RCW and WILPF 9/9, *supra* note 8, at 1–2.

### 3 The Emerging Regulatory Framework for AMCs

Given the dissonance between principled consensus and operational dissensus in relation to each of the four regulatory elements discussed in the previous section, it may seem euphemistic to point to an ‘emerging regulatory framework’ for AMCs. Nonetheless, that is what I will do in this section, drawing out the regulatory significance of the GGE’s deliberations and their coherence into a regulatory framework.

To begin with, dissonance between principled consensus and operational dissensus – the indeterminacy of legal rules – is far from unusual. It may even be unavoidable – the tension between principle and detail is an inevitable source of indeterminacy within both positivist<sup>75</sup> and realist<sup>76</sup> traditions.

Moreover, given the significant changes portended by these technologies and their nascent stage of development, it would be surprising if the GGE’s deliberations produced a more concrete outcome. So much remains unknown that it is difficult to define regulatory detail. It may be more useful to focus instead on key values that we want to preserve in the face of the changes posed by this technology. This is the approach that has been followed in recent Chinese legislation concerning algorithmic recommendation<sup>77</sup> as well as in a draft European Union regulation on artificial intelligence.<sup>78</sup> And this seems to be the approach adopted by the GGE in enshrining the principles of IHL compliance and human control and responsibility while leaving their operationalization to a later stage. This arguably pragmatic choice may even have secured the possibility of regulation by uniting states in principled agreement without allowing operational disagreement to deter participation in the regulatory process.<sup>79</sup>

Thus, the dissonance between principled consensus and operational dissensus in the GGE’s emerging regulatory framework is not unusual or even undesirable. But it is nonetheless a field of disagreement interspersed with operationally hollow islands of consensus. What is its regulatory significance beyond securing a future regulatory possibility? To understand this, let us start from the central idea of human control where the absence of operational detail is most evident and significant.

Human control stars as a regulatory shibboleth in the GGE’s deliberations – a marker of the line between permissible and impermissible AMCs and a guarantor of IHL compliance and human responsibility. But beyond this ambitious catalogue of the goals that human control is intended to secure, there is little understanding of what it entails and whether and how it is practicable. The result is a persistent circularity

<sup>75</sup> H.L.A. Hart, *The Concept of Law* (2nd edn, 1994), at 124–136.

<sup>76</sup> A. Orford, *International Law and the Politics of History* (2021), ch 5.

<sup>77</sup> China, Internet Information Service Algorithmic Recommendation Management Provisions, 1 March 2022, available at <https://digichina.stanford.edu/work/translation-internet-information-service-algorithmic-recommendation-management-provisions-effective-march-1-2022/>.

<sup>78</sup> European Commission, Proposal for a Regulation of the European Parliament and of the Council Laying down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Union Legislative Acts, 21 April 2021, available at <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021PC0206>.

<sup>79</sup> See further notes 150–160 below and accompanying text.

between the means and ends of regulation: regulation is secured through human control, and human control is that which secures regulation.

There is a certain irony to circling between a fundamentally post-human technology and an irredeemably anthropomorphic regulatory response. Human control has become the regulatory touchstone for an innovation that seeks to transcend human limitations, including those of human control. But, while ironic, this is not surprising. Within an anthropocentric episteme, the usurping of human agency by technological assemblages is inevitably threatening, and so the impossibility of any response other than the assertion of human control is unsurprising.

Yet it is in this instinctive and futile assertion that the regulatory force of the GGE's deliberations becomes visible. The idea of human control operates to domesticate autonomy, to make the redistribution of agency less threatening and to make it possible to engage with AMCs and their possibilities. In this capacity, the lack of operational detail does not detract from regulatory significance. It is the ideal of human control that is important, and not its details, because the fantasy of that control suffices as an enabling fiction to legitimize the embrace of an unknown and unsettling post-human technology. The regulatory significance of the assertion of human control over AMCs lies not in the minutiae of control but, rather, in inaugurating the idea of AMCs as an object of regulation.

Consider the analogous example of the proportionality rule in IHL – we could not define proportionate collateral damage when the rule was codified,<sup>80</sup> and we cannot define it now.<sup>81</sup> This stubborn indeterminacy has not interfered with the centrality of proportionality to the regulation of military violence. Nor has it interfered with the legitimating effect of purported compliance – proportionality makes civilian deaths lawful and acceptable even though we do not know what proportionality is.<sup>82</sup> In the same way that proportionality stands for a commitment to minimizing collateral harm in armed conflict, human control over AMCs is a commitment to anthropomorphizing the post-human and an assertion of the possibility of regulation. The proportionality rule embodies the balancing of military necessity and humanity, which makes war less threatening by subjecting it to humanitarian regulation. In the same way, the requirement of human control diminishes the threat of AMCs by establishing them as an object that can be governed.

If regulatory significance inheres in the inauguration of AMCs as an object of governance, we can discern a similar facet of regulatory force at work in the GGE's deliberations more broadly. Regulation can take many forms, including the foreclosure of other regulatory possibilities. The GGE's failures possess a regulatory salience that is more clearly visible in relief – in counterfactual context by reference to what could or should have been but is not. In assuming the possibility of IHL compliance and human

<sup>80</sup> M. Bothe *et al.*, *New Rules for Victims of Armed Conflicts: Commentary on the Two 1977 Protocols Additional to the Geneva Conventions of 1949* (2nd edn, 2013), at 350–351.

<sup>81</sup> Statman *et al.*, 'Unreliable Protection: An Experimental Study of Experts' *In Bello* Proportionality Decisions', 31 *European Journal of International Law (EJIL)* (2020) 429.

<sup>82</sup> D. Kennedy, *Of War and Law* (2006), at 39–45.

control and responsibility, the GGE is excluding other regulatory options, ranging from outright prohibition to enthusiastic acceptance, with many variations in between, including a moratorium on development until more information is available.<sup>83</sup> This foreclosure has the effect of permitting or even encouraging the development of AMC's within principled, but operationally hollow, constraints.

Further, not only is the GGE's lack of operational detail regulatorily significant, but the tension between principled consensus and operational dissensus is itself regulatorily productive. Operational dissensus may suggest an inability to transcend indeterminacy in the principled agreement or an intention to leverage that indeterminacy strategically. But the principled consensus itself suggests acceptance of a shared 'grammar',<sup>84</sup> a commitment to a broadly shared epistemic framework. IHL compliance and human control and responsibility do not mean any one thing, they can mean very many things, but they cannot mean just anything. In agreeing to these principled requirements, states are committing themselves – with varying degrees of good and bad faith – to a framework defined by IHL compliance and human control and responsibility and to limits as to what these ideas can mean.

In committing to this framework and these elements, the question of their appropriateness is ignored. Instead, the regulatory terrain is monopolized by questions of how IHL compliance can be ensured and how human control and responsibility can be maintained. The shift from 'whether' human control and responsibility are appropriate regulatory elements to 'how' to secure human control and responsibility is significant. It entails a curtailing of regulatory ambition from a desired ideal of control and responsibility to a practically attainable version. For instance, perhaps it would be better to abandon a quixotic quest for human control in favour of no-fault responsibility. But that possibility is excluded *ab initio* in a framework defined by human agency and IHL compliance. Similarly, in shifting from whether IHL is the most appropriate regime to how to comply with IHL, we exclude other possibilities such as ethics or human rights law and, with them, the possibility of more stringent restrictions on AMC's.<sup>85</sup>

Thus, even though the GGE's regulatory framework for AMC's is evolving, operationally hollow and lacking in legal enforceability, it bears regulatory significance. This significance inheres in the exclusion of other regulatory outcomes and in assuming that AMC's can be regulated. The mechanism of this exclusion and assumption demands further consideration and that is what I will explore over the remainder of this article.

## 4 Excluding Prohibition and Restrictive Regulation

As discussed above, one aspect of the regulatory significance of the GGE's deliberations lies in the exclusion of other possible regulatory outcomes. In this section, I will explore the exclusion of one set of outcomes – prohibition or restrictive regulation.

<sup>83</sup> GGE 2020 Chair's Summary, *supra* note 1, para. 39.

<sup>84</sup> M. Koskeniemi, *From Apology to Utopia: The Structure of International Legal Argument* (2005), at 589 (grammar delimits what can be said but does not determine what is said).

<sup>85</sup> States frequently refer to the relevance of international human rights law and ethics in the GGE's deliberations, but in the reports, these norms are consistently side-lined in favour of IHL.

I have pointed out that the GGE's regulatory framework can be explained by how little we currently know about AMCs and by the threat posed by a post-human technology in an anthropomorphic episteme. But these arguments could also justify prohibition or more restrictive regulation. Why, then, were AMCs not prohibited or subjected to more restrictive regulation? The answer may seem self-evident – their military promise is difficult to resist.<sup>86</sup> But why is that the case? In this section, I will unpack this irresistibility using the example of the everywhere-forever war on terror, which sustains and is sustained by the promise of AMCs. In concluding, I will highlight continuities between this example and the broader prevailing conceptualization of 'security', which, equally, cannot resist the promise of AMCs.

Let me start with the doctrinal basis for the war on terror – an expansive right of self-defence against non-state actors. The pinprick doctrine<sup>87</sup> broadens the concept of armed attack – condition precedent to self-defence – to encompass the existence of a hostile non-state actor.<sup>88</sup> Defensive force is justified not by an imminent attack but, rather, by the existence of an antagonist with the ability and desire to harm the defender.<sup>89</sup> This expansive conceptualization of self-defence, which is doctrinally indistinguishable from the broader historical right of self-preservation,<sup>90</sup> is freed from the constraints of sovereign boundaries through the 'unable or unwilling' doctrine.<sup>91</sup>

This interpretation of self-defence is questionable.<sup>92</sup> It is adduced here not in endorsement, but rather, in recognition of its invocation by several militarily promiscuous states engaged in the war on terror.<sup>93</sup> These are also the states racing to develop AMCs. Consequently, despite its questionable merits, this interpretation supplies the context within which the regulatory fate of AMCs is being determined.

At the heart of this expansive right of self-defence is a conflation of threat and attack. But in a society that mandates the peaceful resolution of disputes and restricts unilateral force, such conflation is possible only in relation to an adversary that can be cast as an other<sup>94</sup> who is outside the society.<sup>95</sup> This adversary is transformed into

<sup>86</sup> Watts, 'Autonomous Weapons: Regulation-Tolerant or Regulation-Resistant', 30 *Temple International and Comparative Law Journal* (2016) 177.

<sup>87</sup> Bethlehem, 'Self-Defense against an Imminent or Actual Armed Attack by Nonstate Actors', 106 *American Journal of International Law* (2012) 770, at 775 (principles 4–8).

<sup>88</sup> Bhuta and Mignot-Mahdavi, 'Dangerous Proportions: Means and Ends in Non-Finite War', in N. Bhuta et al. (eds), *The Struggle for Human Rights: Essays in Honour of Philip Alston* (2021) 301, at 319–320.

<sup>89</sup> *Ibid.*, at 320.

<sup>90</sup> I. Brownlie, *International Law and the Use of Force by States* (1981), at 231.

<sup>91</sup> Bethlehem, *supra* note 87, at 776 (principles 9–12).

<sup>92</sup> Multiple symposia and books have debated this interpretation. See, e.g., volume 77 of the *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht*; volume 29(1) of the *Leiden Journal of International Law (LJIL)*; A. Peters and C. Marxsen (eds), *Self-Defence against Non-State Actors* (2019).

<sup>93</sup> See the practice of Australia, France, UK and USA cited in Bhuta and Mignot-Mahdavi, *supra* note 88, at 318–319, n. 103. Further practice, supporting and opposing, is available in the sources cited in note 92 above.

<sup>94</sup> A. Anghie, *Imperialism, Sovereignty, and the Making of International Law* (2007), at 278.

<sup>95</sup> T. Asad, *On Suicide Bombing* (2007), at 32–38; J. Butler, *Frames of War: When Is Life Grievable?* (2009), at 37–43.

an intractable foe who is irrational and malevolent and whose very existence consequently triggers the right of self-defence.<sup>96</sup>

For instance, US President Barack Obama framed the challenge of terrorism in the following terms: ‘We will never erase the evil that lies in the hearts of some human beings, nor stamp out every danger to our open society.’ And so, he continued: ‘[W]hat we must do – is dismantle networks that pose a direct danger to us, and make it less likely for new groups to gain a foothold.’<sup>97</sup> They will never like us, and so we must ensure that they cannot harm us. The intractable foe is always subject to violence precisely because of their intractability, giving rise to the expansive right of self-defence and the war on terror.

In the idea of the terrorist as an intractable foe, which sustains the doctrinal basis of the war on terror, there lies a failure of politics. To draw out this failure of politics, I will first explain the concept of ‘politics’ that I am invoking, which is based on Chantal Mouffe’s idea of the ‘political’ as ineradicable antagonism.<sup>98</sup>

In this conceptualization, conflicts of interests between members of a society are unavoidable, and this ever-present possibility of antagonism defines the political. In liberal conceptualizations, antagonism can be eliminated by recourse to a consensus-producing universal reason.<sup>99</sup> Mouffe rejects the idea of ‘universal reason’, ‘natural order’ or ‘common sense’ as products of contingent hegemonic practices. Every ‘rationality’ is an expression of contingent power relations that favours some and excludes others. The antagonism that constitutes the political is a hegemonic contest between competing rationalities: ‘One side’s law is not the other side’s justice, and the appeal to the legal form will simply be seen as an attempt to exercise power in another form.’<sup>100</sup> Consequently, antagonism cannot be rationally resolved or eradicated.

Within this conception of the political, the task of politics is to allow for the harmonious coexistence of irreducible difference. To achieve this, politics must be agonistic rather than antagonistic: ‘While antagonism is a we/they relation in which the two sides are enemies who do not share any common ground, agonism is a we/they relation where the conflicting parties, although acknowledging that there is no rational solution to their conflict, nevertheless recognize the legitimacy of their opponents.’<sup>101</sup> A failure to channel political antagonism into agonistic politics moves enmity from the political to the moral sphere, allowing for politics to be played out in the moral register.<sup>102</sup> Denial of the opponent’s legitimacy allows the conflict to be recast in terms

<sup>96</sup> For a critique of this pre-emptive logic, see J.K. Puar, *Terrorist Assemblages: Homonationalism in Queer Times* (2017), at 183–191.

<sup>97</sup> B. Obama, Remarks at the National Defense University, 23 May 2013, available at <https://obamawhitehouse.archives.gov/photos-and-video/video/2013/05/23/president-obama-speaks-us-counterterrorism-strategy#transcript>.

<sup>98</sup> C. Mouffe, *On the Political* (2005).

<sup>99</sup> This is a critique of liberal rationalism rather than liberal values. *Ibid.*, at 10. Non-liberal societies may equally be hostage to a universal reason, but it is the hegemonic – seemingly inevitable – quality of that reason in liberal societies that is particularly interesting in the context of the war on terror.

<sup>100</sup> Steuer, ‘Prolegomena to Any Future Attempt to Understand Our Emerging World of War’, in M. Liljefors, G. Noll and D. Steuer (eds), *War and Algorithm* (2019) 9, at 14.

<sup>101</sup> Mouffe, *supra* note 98, at 20.

<sup>102</sup> *Ibid.*, at 75.



of good and evil and for the opponent to be reduced to an enemy whose destruction is necessary.

Armed with this conceptualization of politics, let us return to the war on terror's casting of the terrorist as an intractable foe and to the now evident failure of politics. The intractable foe and Manichean conflict, which sustain the expansive right of self-defence and the war on terror, suggest a failure to channel antagonism into agonism.<sup>103</sup> The terrorist's violence renders their demands unacceptable, places them outside the purview of 'rationality', ignoring the fact that their resort to violence is frequently preceded and motivated by repeated denial of their demands.<sup>104</sup> This is not an argument in favour of the agendas or actions of terrorist groups.<sup>105</sup> But we do not need to sympathize to be able to empathize – the fact that their rationality is different from ours does not mean that they are not rational.<sup>106</sup> It should not be so hard to acknowledge that there must be a significant grievance at the heart of a quixotic campaign against the might of the state(s).<sup>107</sup>

But this acknowledgement is extraordinarily difficult – to expect it is naïve – because of the strength of the idea that terrorism itself is always indefensible. This conviction is remarkable. It persists despite the impossibility of defining terrorism<sup>108</sup> and obstinately excludes state terrorism.<sup>109</sup> This suggests that what is indefensible, and, therefore, impermissible, is not terrorism but, instead, the terrorist who challenges the state's monopoly over violent force.

Thus, what is at stake in the war on terror is, by definition, not resolvable by reference to an external rationality because what is at stake is a contest for hegemony between 'their' rationality and 'ours'. The war on terror represents a failure to channel this political antagonism into agonistic politics,<sup>110</sup> producing military

<sup>103</sup> Mouffe explicitly diagnoses a failure of politics in the war on terror. *Ibid.*, at 76–83. See, similarly from different theoretical premises, Falk and Strauss, 'The Deeper Challenges of Global Terrorism: A Democratizing Response', in D. Archibugi (ed.), *Debating Cosmopolitics* (2003) 203, at 206.

<sup>104</sup> Asad, *supra* note 95, at 22–26.

<sup>105</sup> On the ritual necessity of such disclaimers, see F. Johns, *Non-Legality in International Law: Unruly Law* (2013), at 61–62.

<sup>106</sup> J. Baudrillard, *The Spirit of Terrorism* (2003), at 44–46. This idea recurs in critical engagements with the idea of the suicide bomber. Asad, *supra* note 95, at 2; Mbembe, 'Necropolitics', 15 *Public Culture* (2003) 11. For analyses of specific terrorist groups that engage in good faith with their programmes, see G. Navlakha, *War and Politics: Understanding Revolutionary Warfare* (2014); M.-M. Ould Mohamedou, *Understanding Al Qaeda: The Transformation of War* (2007).

<sup>107</sup> Or to recognize that asymmetric tactics derive from asymmetry in military capabilities rather than moral values. In this regard, it is interesting to note that Brazil, a state and not a feckless non-state actor, explicitly embraces the possibility of asymmetric tactics 'against a military enemy with a far superior power'. Ministry of Defense of the Government of Brazil, *National Strategy of Defense* (18 December 2008), at 26–27, available at [www.files.ethz.ch/isn/154868/Brazil\\_English2008.pdf](http://www.files.ethz.ch/isn/154868/Brazil_English2008.pdf).

<sup>108</sup> Asad, *supra* note 95, at 26–29.

<sup>109</sup> Jackson, 'The Ghosts of State Terror: Knowledge, Politics and Terrorism Studies', 1 *Critical Studies on Terrorism* (2008) 377.

<sup>110</sup> Mouffe's account of agonistic politics is based in national parliamentary democracies. The task of adapting this concept to international society is beyond the present scope, but it is important to emphasize that there is no reason to dismiss the possibility of this adaptation. On the possibility and potential of agonistic politics in international law, see G. Simpson, *The Sentimental Life of International Law: Literature, Language, and Longing in World Politics* (2021), ch vi.

misadventures better characterized as ‘war as continuation of the absence of politics by other means’.<sup>111</sup>

The failure of politics, which produces the intractable terrorist foe and the war against them, also secures the degeneration of the war on terror into the everywhere-forever war: “‘We do not negotiate with terrorists’” is the key phrase in radically nonstrategic thought’.<sup>112</sup> We can ‘not negotiate with terrorists’, forsake agonism for antagonism, only if we can eliminate the foe. This is a tall order. Conceptually, if oppression has manifested in resort to armed violence against the might of the state(s), it stands to reason that resistance cannot be suppressed easily.<sup>113</sup> The historical record of state failure speaks volumes.

Consider, for instance, US President Joe Biden’s speech announcing the withdrawal of American troops from Afghanistan. He acknowledged that the terrorist threat that prompted the American invasion of Afghanistan ‘has become more dispersed, metastasizing around the globe’; that, in Afghanistan, the Taliban might ‘attack us as we draw down’ and that there is a need to hold the Taliban and the Afghan government to their ‘commitment not to allow any terrorists to threaten the United States or its allies from Afghan soil’.<sup>114</sup> The reason for withdrawal, thus, was not that the terrorist threat from Afghanistan had been eradicated – as is also evident in the almost immediate return to the Taliban-controlled *status quo* following the Western withdrawal. The reason for withdrawal was that the war was expensive – it cost 2,448 American lives – and that the battlefield had shifted: ‘We have to track and disrupt terrorist networks and operations that spread far beyond Afghanistan since 9/11.’

Perhaps a purely military suppression remains possible. But it requires an absolute war, which entails considerable financial, human (soldiers’ lives) and humanitarian (civilians’ lives) costs and runs up against the constraints of international law and, perhaps more importantly, international opinion.<sup>115</sup> Unless this war can be waged on an absolute basis, and, perhaps even then, it is an interminable ‘forever war’.

And from forever war to ‘everywhere war’ is a simple step: an intractable foe may be out of sight, but never out of mind. The expansive right of self-defence must follow the threat that it constructs and seeks to eliminate.

If the war on terror that is produced by failures of politics is inevitably an everywhere-forever war, for the architects of such a war, the military appeal of AMCs is inescapable. The success of the war on terror in circumventing the *jus ad bellum* does not leave it without constraint. Financial, human and humanitarian cost still threaten

<sup>111</sup> Baudrillard, *supra* note 106, at 26.

<sup>112</sup> G. Chamayou, *Drone Theory* (2015), at 69.

<sup>113</sup> On the ‘systematic error’ in seeking to destroy an intractable foe to survive, see Butler, *supra* note 95, at 41–44.

<sup>114</sup> J. Biden, ‘Remarks on the Way Forward in Afghanistan’, *White House* (14 April 2021), available at <https://www.whitehouse.gov/briefing-room/speeches-remarks/2021/04/14/remarks-by-president-biden-on-the-way-forward-in-afghanistan/>.

<sup>115</sup> E. Simpson, *War From the Ground Up: Twenty-First-Century Combat as Politics* (2013), at 2.

to force recourse to politics. If a quixotic quest to eliminate the intractable foe is unsustainable, presumably one must shift focus from the foe to their intractability – that is, channel antagonism into agonism. It is at this climactic juncture that AMCs (and their predecessor drones) ride in on a white horse to rescue the everywhere-forever war from politics.

The promise of AMCs lies in efficiency and effectiveness – for instance, by turning ‘the enormous volume of data available to DoD [Department of Defense] into actionable intelligence and insights at speed’<sup>116</sup> or ‘shortening the kill chain and accelerating the speed of decision-making’,<sup>117</sup> they sustain a fantasy not only of prosecuting the everywhere-forever war but also of winning it. As Ioannis Kalpouzos explains, AMCs promise a ‘double elevation’, mutually reinforcing promises of superiority over the enemy and self-improvement.<sup>118</sup> At one level, AMCs allow ‘military superiority, guaranteeing the physical safety and invulnerability of one’s forces; the asymmetry achieved reflects an already assumed civilizational distance which allows a moral dissociation from the act of killing’.<sup>119</sup> At another level, they hold out hope for ‘overcoming one’s own imperfections in the wielding of violence... a process of progress, improvement, rationalization, optimization, ultimately the civilization of war-fighting’.<sup>120</sup>

In sustaining the possibility of the everywhere-forever war, AMCs sustain the underlying failure of politics.<sup>121</sup> In the absence of AMCs, the war on terror might not be able to degenerate into the everywhere-forever war; it might have to revert to politics. But why engage in agonistic politics when AMCs provide a cheap and effective way to project precise and humane force across the world without endangering soldiers?<sup>122</sup> In this sense, the everywhere-forever war is an affordance<sup>123</sup> of AMCs and renders their prohibition or restrictive regulation implausible.

The events of the last 20 years in Afghanistan provide an unfortunately precise substantiation of this argument. The Taliban was cast as an intractable foe that was outside the purview of rationality and had to be eliminated. Elimination was the goal – an early attempt to surrender by the Taliban was rejected.<sup>124</sup> Indeed, elimination was the only goal: the humanitarian gloss upon the intervention – the ‘weaponization of

<sup>116</sup> US Deputy Secretary of Defense, *supra* note 27.

<sup>117</sup> Miller, *supra* note 28.

<sup>118</sup> Kalpouzos, ‘Double Elevation: Autonomous Weapons and the Search for an Irreducible Law of War’, 33 *LJIL* (2020) 289.

<sup>119</sup> *Ibid.*, at 298.

<sup>120</sup> *Ibid.*, at 300.

<sup>121</sup> Chamayou, *supra* note 112, at 68–72.

<sup>122</sup> In this framing, AMCs become recognizable as a replacement of politics with a technocratic solution, highlighting the underlying neo-liberal logic.

<sup>123</sup> I borrow this usage from M. Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (2015).

<sup>124</sup> B. Rubin, ‘Did the War in Afghanistan Have to Happen?’, *New York Times* (23 August 2021), available at <https://www.nytimes.com/2021/08/23/world/middleeast/afghanistan-taliban-deal-united-states.html>.

women'<sup>125</sup> and the 'neoliberal civilisation'<sup>126</sup> of the Afghan state – has been shredded by the appalling abandonment of Afghan allies to the Taliban's depredations.<sup>127</sup> Yet, predictably, military elimination has failed, and the irrational, malevolent Taliban has regained control of Afghanistan. The singular achievement of the last 20 years seems to be the refinement of remote war-fighting technologies in the laboratory of Afghan civilian harm.

This refinement has enabled the next stage of the everywhere-forever war. The withdrawal from Afghanistan is not the end of the everywhere-forever war; it is a prioritization of drones and AMCs in the continuation of that war.<sup>128</sup> It is the perpetuation of a failure of politics that is sustained by the promise of AMCs and, in turn, makes the prohibition or restrictive regulation of AMCs implausible. Even as President Biden announced the end of the forever war, he announced his intention to 'monitor and disrupt significant terrorist threats not only in Afghanistan, but anywhere they may arise', without 'having boots in harm's way'.<sup>129</sup> The attack by the Islamic State – Khorasan Province on Kabul airport on 26 August 2021 killed 13 American soldiers, one of the highest single-day American tolls during the entire campaign.<sup>130</sup> President Biden responded: 'We will not forgive. ... We will not forget. We will hunt you down and make you pay.'<sup>131</sup> And American forces did exactly that three days later, with an erroneous drone strike that killed 10 civilians.<sup>132</sup>

<sup>125</sup> J. Fluri and S. McEvoy, 'The Gender Politics of the US Withdrawal from Afghanistan', *Signs Journal* (2019), available at [http://signsjournal.org/fluri/?utm\\_source=Signs%3A+Journal+of+Women+in+Culture+and+Society&utm\\_campaign=efa1f7dec4-EMAIL\\_CAMPAIGN\\_2019\\_10\\_09\\_05\\_21\\_COPY\\_01&utm\\_medium=email&utm\\_term=0\\_7541abe6ea-efa1f7dec4-433644054](http://signsjournal.org/fluri/?utm_source=Signs%3A+Journal+of+Women+in+Culture+and+Society&utm_campaign=efa1f7dec4-EMAIL_CAMPAIGN_2019_10_09_05_21_COPY_01&utm_medium=email&utm_term=0_7541abe6ea-efa1f7dec4-433644054).

<sup>126</sup> I am extending Tzouvala's analysis of the 'comprehensive neoliberal reform which was deemed essential for the rehabilitation of Iraq from a "rogue state" to a "normal" sovereign with equal rights and duties' to the development and reconstruction of Afghanistan under Western forces. N. Tzouvala, *Capitalism as Civilisation: A History of International Law* (2020), at 171 (and section 5.1 more broadly); Dodge, 'Intervention and Dreams of Exogenous Statebuilding: The Application of Liberal Peacebuilding in Afghanistan and Iraq', 39 *Review of International Studies* (2013) 1189.

<sup>127</sup> Human Rights Watch, 'No Forgiveness for People Like You': Executions and Enforced Disappearances in Afghanistan Under the Taliban (2021), available at [www.hrw.org/sites/default/files/media\\_2021/11/afghanistan1121\\_web.pdf](http://www.hrw.org/sites/default/files/media_2021/11/afghanistan1121_web.pdf).

<sup>128</sup> S. Moyn, 'Biden Pulled Troops Out of Afghanistan. He Didn't End the "Forever War"', *Washington Post* (17 August 2021), available at [www.washingtonpost.com/gdpr-consent/?next\\_url=https%3a%2f%2fwww.washingtonpost.com%2foutlook%2f2021%2f08%2f17%2fafghanistan-troop-withdrawal-war-on-terror%2f](https://www.washingtonpost.com/gdpr-consent/?next_url=https%3a%2f%2fwww.washingtonpost.com%2foutlook%2f2021%2f08%2f17%2fafghanistan-troop-withdrawal-war-on-terror%2f).

<sup>129</sup> Biden, *supra* note 114. AMCs sustain failures of politics not only at the international level but also at the national level. The promised diminution of the financial, human and humanitarian costs of military misadventures diminishes key bases of civilian interest in controlling military force. Chamayou, *supra* note 112, at 177–194; Steuer, *supra* note 100, at 16–17.

<sup>130</sup> M. Shear, 'President Biden Condemns Terrorist Attack and Vows to Hunt Down Those Responsible', *New York Times* (26 August 2021), available at [www.nytimes.com/2021/08/26/world/biden-afghanistan-kabul-airport-attack.html](https://www.nytimes.com/2021/08/26/world/biden-afghanistan-kabul-airport-attack.html).

<sup>131</sup> *Ibid.*

<sup>132</sup> E. Schmitt and H. Cooper, 'Pentagon Acknowledges Aug. 29 Drone Strike in Afghanistan Was a Tragic Mistake That Killed 10 Civilians', *New York Times* (17 September 2021), available at [www.nytimes.com/2021/09/17/us/politics/pentagon-drone-strike-afghanistan.html](https://www.nytimes.com/2021/09/17/us/politics/pentagon-drone-strike-afghanistan.html).

As these events illustrate, in relation to AMCs' promise of a better, cheaper war that sustains the failure of politics at the heart of the everywhere-forever war, it is the promise that is important, not its materialization. Whether AMCs produce enhanced humanitarian protection is immaterial compared to the promise that they will. In other words, the inevitable failures of AMCs will not force a return to politics.<sup>133</sup> Until we question the premises of the everywhere-forever war, the insidious logic of the lesser evil will exaggerate the promise of AMCs into insurmountable arguments.<sup>134</sup> If resort to violence against the intractable foe is unavoidable, there is a seeming humanitarian gain if AMCs deliver even a fraction of what they promise.

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In this section, I have unpacked the irresistible military promise of AMCs, which makes their prohibition or restrictive regulation improbable, using the example of the everywhere-forever war. In concluding, I want to highlight that this example does not exhaust the argument. The failure of politics that sits at the heart of the symbiosis between the war on terror and AMCs is a broader phenomenon, and it is this broader failure that excludes the prohibition or restrictive regulation of AMCs.

To begin with, failures of politics are not restricted to relations between states and non-state actors. They are equally present in interstate relations, especially between 'great powers and outlaw states'.<sup>135</sup> The logic of the intractable foe who is always subject to violence is evident in the American assassination of Iranian General Qasem Soleimani.<sup>136</sup> It is visible in the recent Russian aggression against Ukraine<sup>137</sup> and, equally, in the Western response. Instead of placing the Russian breach in a broader context that could form the basis for channelling antagonism into agonism,<sup>138</sup> the

<sup>133</sup> See further notes 187–192 below and accompanying text.

<sup>134</sup> S. Žižek, *Violence: Six Sideways Reflections* (2009), at 5–7.

<sup>135</sup> G.J. Simpson, *Great Powers and Outlaw States: Unequal Sovereigns in the International Legal Order* (2004); Anghie, *supra* note 94, at 277–279.

<sup>136</sup> US President, 'Notice on the Legal and Policy Frameworks Guiding the United States' Use of Military Force and Related National Security Operations', *Just Security* (14 February 2020), at 1, available at [www.justsecurity.org/wp-content/uploads/2020/02/notice-on-the-legal-and-policy-frameworks-guiding-the-united-states-use-of-military-force-and-related-national-security-operations.pdf](http://www.justsecurity.org/wp-content/uploads/2020/02/notice-on-the-legal-and-policy-frameworks-guiding-the-united-states-use-of-military-force-and-related-national-security-operations.pdf) ('[t]he purposes of this action were to protect United States personnel, to deter Iran from conducting or supporting further attacks against United States forces and interests, to degrade Iran's and Qods Force-backed militias' ability to conduct attacks, and to end Iran's strategic escalation of attacks on, and threats to United States interests').

<sup>137</sup> 'Transcript: Vladimir Putin's Televised Address on Ukraine', *Bloomberg News* (24 February 2022), available at [www.bloomberg.com/news/articles/2022-02-24/full-transcript-vladimir-putin-s-televised-address-to-russia-on-ukraine-feb-24](http://www.bloomberg.com/news/articles/2022-02-24/full-transcript-vladimir-putin-s-televised-address-to-russia-on-ukraine-feb-24) ('[f]or the United States and its allies, it is a policy of containing Russia, with obvious geopolitical dividends. For our country, it is a matter of life and death, a matter of our historical future as a nation').

<sup>138</sup> N. Krisch, 'After Hegemony: The Law on the Use of Force and the Ukraine Crisis', *EJIL: Talk!* (2 March 2022), available at [www.ejiltalk.org/after-hegemony-the-law-on-the-use-of-force-and-the-ukraine-crisis/](http://www.ejiltalk.org/after-hegemony-the-law-on-the-use-of-force-and-the-ukraine-crisis/); R. Wilde, 'Hamster in a Wheel: International Law, Crisis, Exceptionalism, Whataboutery, Speaking Truth to Power, and Sociopathic, Racist Gaslighting', *Opinio Juris* (17 March 2022), available at <http://opiniojuris.org/2022/03/17/hamster-in-a-wheel-international-law-crisis-exceptionalism-whataboutery-speaking-truth-to-power-and-sociopathic-racist-gaslighting/>.

breach has been invoked to cast Russia as irrational and malevolent and to herald a revival of historical contests of competing hegemonic rationalities.

The failure of politics that produces the expansive right of self-defence against states and non-state actors alike, and which makes the military promise of AMCs irresistible, is rooted in the broader contradictions of an amorphous and expanding ideal of security. Security is not merely an end goal but also an exception-justifying mode of doing politics,<sup>139</sup> and one which has, moreover, an ever-expanding scope.<sup>140</sup> If security is an incontrovertible imperative and if the facets of security are infinite, there is no end either to the threats that must be secured against, or to the demands made and exceptions justified by, security.<sup>141</sup> Politics haunted by the spectre of security cannot channel antagonism into agonism: an existential threat cannot be recognized as legitimate, and it cannot be reasoned with – it can only be eliminated. The amorphous security imperative is a failure of politics that cannot resist the prescience and omniscience of AMCs. Within a hegemonic rationality that prioritizes threat identification and defence, how can we turn away the post-/super-human promise of AMCs to predict, intercept and prevent?

## 5 Assuming the Possibility of Regulation

I have suggested that the regulatory significance of the GGE's deliberations lies in the exclusion of other possible regulatory outcomes and in the assumption that AMCs are amenable to regulation. Understanding the emerging regulatory framework requires understanding the mechanics of this exclusion and assumption. In the previous section, I outlined some of the mechanics of exclusion.

In this section, I will explore the ensuing default to the assumption that AMCs can be effectively regulated. To this end, I will outline four discursive strategies that contribute to sustaining this assumption: conflation, deferral, normalization and valorization. The failure of politics and security imperatives that render the military promise of AMCs irresistible, which I discussed in the last section, constitute a structural constraint upon the possibilities of regulating AMCs. But that constraint does not simply exist 'out there'. It is sustained and perpetuated by agentive work, which operates within and in support of its hegemony – its seeming inevitability. That agentive and interactive work is accomplished, in part, through the strategies I will discuss in this section. By sustaining the assumption that AMCs can be regulated, these strategies distract from the presumptive impossibility of prohibition or restrictive regulation, obscuring the significance and contingency of that regulatory foreclosure.

<sup>139</sup> B. Buzan, O. Wæver and J. de Wilde, *Security: A New Framework for Analysis* (1998).

<sup>140</sup> F. Gros, *The Security Principle: From Serenity to Regulation* (2019).

<sup>141</sup> In this vein, Moses' reframing of genocide characterizes it as an imperative of 'permanent security', and it is the quest for permanent security whose criminalization he advocates. A.D. Moses, *The Problems of Genocide: Permanent Security and the Language of Transgression* (2021).

The first of these strategies is conflation, through which different types of AMCs are subsumed within a single imaginary that is more easily accommodated within the emerging regulatory framework.

As discussed above, AMCs encompass a broad range of technologies. A broad, but important, difference within the general category of AMCs is the difference between agents and assistants – between AMCs interpreting and implementing a human decision and AMCs supporting human decision-making.<sup>142</sup> An example of an agent-AMC is the Israel Aerospace Industries' *Harpy*, which can be deployed to locate and destroy radar-emitting targets within a defined area, without human involvement.<sup>143</sup> Examples of assistant AMCs include autonomous technologies used to generate target lists or assess collateral damage.<sup>144</sup>

The difference between agent-AMCs and assistant-AMCs is important because the possibility of human responsibility and control, which is central to the GGE's regulatory framework, varies across these types of AMCs. Consider, for instance, the responsibility gap discussed above.<sup>145</sup> In relation to agent-AMCs, the conduct that constitutes a breach of IHL is effectuated by the AMC, and the proximate human conduct is the decision of deployment or a failure of supervision. The culpability of this deployment and/or supervision forms the basis of criminal responsibility. In relation to assistant-AMCs, the conduct that constitutes a breach of IHL is human authored but in reliance on an AMC, and it is the culpability of this reliance that determines criminal responsibility. The difference between agent- and assistant-AMCs changes the nature of the responsibility gap and the requirements of successful prosecution.

Conflating these different forms of AMCs similarly obscures differences in relation to human control. In deploying agent-AMCs, the challenge to human control lies in maintaining alertness in a situation where the human controller is relegated to a supervisory capacity. In relying on assistant-AMCs, the challenge stems from over- or under-reliance on the AMCs or being overwhelmed by too much information. The difference is between '23 hours and 59 minutes of boredom followed by one minute of panic'<sup>146</sup> and inadvertently bombing a civilian target because of flawed intelligence.<sup>147</sup>

<sup>142</sup> As with the difference between automation and autonomy – see note 33 above and accompanying text – this difference is a spectrum rather than a bright line. But, as will be discussed in relation to the shifting line between automation and autonomy (see notes 161–166 below and accompanying text), the principled distinction is meaningful despite operational challenges.

<sup>143</sup> 'Harpy', *Israel Aerospace Industries*, available at <https://www.iai.co.il/p/harpy>.

<sup>144</sup> See notes 26–29 above and accompanying text.

<sup>145</sup> See note 54 above and accompanying text.

<sup>146</sup> US Major General Michael Vane, in relation to a friendly fire incident involving Patriot missiles operating in automatic mode. Quoted in J.K. Hawley, *Patriot Wars: Automation and the Patriot Air and Missile Defense System* (2017), available at <https://s3.us-east-1.amazonaws.com/files.cnas.org/documents/CNAS-Report-EthicalAutonomy5-PatriotWars-FINAL.pdf?mtime=20170106135013&focal=none>.

<sup>147</sup> This was the explanation for the American bombing of the Chinese embassy in Belgrade during NATO's 1999 intervention in Kosovo. Committee Established to Review the NATO Bombing Campaign against the Federal Republic of Yugoslavia, Final Report to the Prosecutor (2000), paras 80–85, available at [www.icty.org/en/press/final-report-prosecutor-committee-established-review-nato-bombing-campaign-against-federal](http://www.icty.org/en/press/final-report-prosecutor-committee-established-review-nato-bombing-campaign-against-federal).

The GGE distinguishes between AMCs operating outside human control and those subject to human control, but it does not acknowledge the diversity within AMCs that are subject to human control.<sup>148</sup> It focuses on agent-AMCs to the exclusion of assistant-AMCs. By failing (or refusing) to acknowledge the different, but equally difficult, challenges posed by assistant-AMCs, the GGE effectively conflates agent- and assistant-AMCs into a single category. This conflation sustains the GGE's regulatory framework.

Once agent- and assistant-AMCs are conflated into a monolithic category, agent-AMCs understandably attract more attention. Assistant-AMCs represent important, but incremental, developments of existing technologies, while agent-AMCs, in the form of (potentially unsupervised) killing machines, constitute a radical departure. It is the possible removal of the human from the largely anthropic enterprise of organized killing that sparks concern. For instance, it is variations of agent-AMCs that are at the centre of civil society campaigns regarding AMCs.<sup>149</sup> Similarly, the GGE focuses on agent-AMCs to the exclusion of assistant-AMCs. This prioritisation is facilitated by the conflation of agent- and assistant-AMCs into a single, undifferentiated category.

Moreover, this focus on agent-AMCs to the exclusion of assistant-AMCs has the effect of obscuring the flaws in the GGE's regulatory framework. In relation to agent-AMCs, the maintenance of human responsibility and control represents a significant regulatory achievement because it alleviates the primary concern – the removal of the human from the loop. Further, the largely hypothetical nature of these technologies, notwithstanding isolated examples, diminishes the significance of operational uncertainties regarding human control and responsibility. This does not work so well with assistant-AMCs, where the mere fact of human control and responsibility is less comforting, because the concern is not the retention of a human in the loop but, rather, the limitations upon the capacities of that human to effect control and responsibility. And these limitations are more significant on account of the already widespread use of these technologies.

This is the crux of the strategy of conflation. Focusing attention on a particular form of AMCs that is more easily compatible with the GGE's framework obscures other forms of AMCs and the extent of their incompatibility with the framework and diminishes the operational challenges of the framework.

A second strategy that contributes to the assumed amenability of AMCs to regulation is deferral. Deferral creates a façade of consensus while shifting contentious issues from the international to the national sphere. There, their piecemeal resolution creates vested interests that constrain the possibilities of international regulation.

By deferral, I mean a strategy of acknowledging concerns without engaging with them. Many of the uncertainties that undermine the GGE's regulatory consensus are explicitly acknowledged. But acknowledgement does not lead to the qualification of the GGE's conclusions. In mandating IHL compliance and human control and

<sup>148</sup> See notes 36–37 above and accompanying text.

<sup>149</sup> See note 38 above and accompanying text.



responsibility, the GGE sees operational uncertainties as challenges that will be overcome rather than as threats to the regulatory framework.

This deferral is not without merit. For now, there are no answers to these open questions, and the nature of the technology suggests that any answers that emerge may well be short-lived. Against this context, it makes sense to focus on identifiable, technologically neutral points of agreement rather than on unknown unknowns and thereby to secure the possibility of agreement and regulation.

But deferral has consequences. It encourages the fragmented resolution of open questions in accordance with national interests by the states who lead the development of these technologies. Once developed, these national-level resolutions acquire inertia and impede the possibilities of international regulation. In this way, what seems as if it is simply temporarily incomplete constrains the possibilities of future regulation. From this perspective, questions as to whether the GGE's mandate includes already existing weapons systems take on a very different complexion.<sup>150</sup> The possibility that existing AMCs will be grandparented into a prospective regulatory framework and will define the limits of that framework provides an extreme illustration of the consequences of deferral as a strategy for securing agreement.

A more concrete example of this strategy of deferral is provided by a regulatory element that we have not yet considered – national weapon reviews to verify IHL compliance and human control and responsibility.<sup>151</sup> In response to concerns regarding the inadequacy and lack of uniformity of national processes,<sup>152</sup> the GGE has encouraged the sharing of national processes with a view towards harmonization and development of best practices.<sup>153</sup> However, it has also emphasized that such sharing is not required and that states are free to determine their own processes.<sup>154</sup>

A key concern in relation to these reviews has been accounting for the possibility of learning in AMCs.<sup>155</sup> How frequently should the review process be undertaken, and how should the possibility of different instances of the same algorithm learning differently from different environments be dealt with?<sup>156</sup> The chair's summary of the 2021 session suggests a requirement to conduct reviews following modifications that

<sup>150</sup> See note 17 above and accompanying text.

<sup>151</sup> GGE 2021, *supra* note 1, para. 31, Annex III; GGE 2020 Chair's Summary, *supra* note 1, para. 10; GGE 2019, *supra* note 1, para. 17(h); GGE 2019, *supra* note 1, Guiding Principle (e).

<sup>152</sup> GGE 2020 Chair's Summary, *supra* note 1, para. 10; GGE 2018, *supra* note 1, at 18; GGE 2017, *supra* note 1, para. 7, Annex II.

<sup>153</sup> GGE 2021, *supra* note 1, paras 32, 35, Annex III; GGE 2020 Chair's Summary, *supra* note 1, para. 11; GGE 2019, *supra* note 1, para. 17(h).

<sup>154</sup> GGE 2021, *supra* note 1, para. 32, Annex III; GGE 2020 Chair's Summary, *supra* note 1, para. 11; GGE 2019, *supra* note 1, para. 17(h).

<sup>155</sup> GGE 2021, *supra* note 1, para. 34, Annex III; GGE 2020 Chair's Summary, *supra* note 1, para. 10; GGE 2019 Chair's Summary, *supra* note 1, para. 11. It is quite possible that autonomous learning will be disabled or supervised. However, AMCs learning and adapting to their contexts is a technological possibility with significant military potential and, consequently, an important regulatory question.

<sup>156</sup> Farrant and Ford, 'Autonomous Weapons and Weapon Reviews: The UK Second International Weapon Review Forum', 93 *International Law Studies* (2017) 389, at 406–407; see also note 65 above and accompanying text.

change the use or effects of existing weapons systems.<sup>157</sup> Israel, Sweden and the USA have characterized this as good practice rather than as a legal obligation.<sup>158</sup> A supplementary obligation to conduct reviews in relation to changed operational contexts did not make it to the final report in 2021 and nor did acknowledgement of the challenges raised by self-learning and consequent unpredictability.<sup>159</sup> Emerging national positions seem to suggest that fresh reviews are only required when AMCs are modified or adapted to new tasks as opposed to being conducted on a periodic basis to account for learning.<sup>160</sup> In other words, these questions are already being resolved in national practice, and these practices are not constrained by international regulation but, instead, will define that regulation.

Thus, superficially, deferral works to bridge the dissonance between the GGE's principled consensus and operational dissensus by treating these uncertainties as temporary constraints and by setting them aside to achieve agreement. At a deeper level, it resolves the dissonance by shifting these questions to the national sphere.

A third strategy that sustains the assumed possibility of regulation is normalization, through which novel characteristics of AMCs are de-emphasized, and AMCs are made to seem unexceptional. While conflation and deferral operate on the uncertainties that undermine the GGE's regulatory consensus, normalization works on the technology. Trivializing the technology makes the regulation of AMCs less urgent and the shortcomings of the regulatory framework less significant.

Normalization has several facets. One oft-heard argument problematizes the novelty of autonomy by pointing to the absence of a clear demarcation between automation and autonomy.<sup>161</sup> This is supplemented by examples of widely used technologies that blur the line between automation and autonomy and of the already widespread use of autonomous technologies.<sup>162</sup> A related argument draws on the fact that autonomous technologies remain constrained by human design to conclude that autonomy is a different form of control rather than the absence of control.<sup>163</sup>

Technological change is frequently incremental, so it is hardly surprising that there are continuities between AMCs and preceding technologies. Indeed, it is important to recognize these continuities.<sup>164</sup> But to allow this recognition to cloud our appreciation of the radical changes portended by AMCs, as the normalizing argument seems to do,

<sup>157</sup> GGE 2021, *supra* note 1, para. 34, Annex III.

<sup>158</sup> RCW and WILPF 9/9, *supra* note 8, at 11.

<sup>159</sup> RCW and WILPF 9/9, *supra* note 8, at 10–11.

<sup>160</sup> See, e.g., Australia, Canada, Japan, South Korea, the UK and the USA, *supra* note 11, at 23.

<sup>161</sup> See note 33 above and accompanying text.

<sup>162</sup> Anderson, 'Why the Hurry to Regulate Autonomous Weapon Systems – But Not Cyber-Weapons?', 30 *Temple International and Comparative Law Journal* (2016) 17, at 18–26.

<sup>163</sup> McFarland, *supra* note 32, at 31–40; see note 61 above.

<sup>164</sup> For an account of this importance from outside the normalizing argument, see Arvidsson, 'Targeting, Gender, and International Posthumanitarian Law and Practice: Framing the Question of the Human in International Humanitarian Law', 44 *Australian Feminist Law Journal* (2018) 9; Jones, 'A Posthuman-Xenofeminist Analysis of the Discourse on Autonomous Weapons Systems and Other Killing Machines', 44 *Australian Feminist Law Journal* (2018) 93.

is pedantic. The fact that existing or previous technologies had similar characteristics does not mean that those characteristics are immunized from the possibility of mutation or from concern. Paeans to the revolutionary potential of AMCs suggest a significant qualitative difference between AMCs and existing technologies. The difference may be ineffable, but it is undeniable.<sup>165</sup> One way of explaining it is in terms of the displacement of agency from humans to machines.<sup>166</sup> This displacement is clearly at the heart of fears about killer robots, but it applies equally to the most mundane AMCs already in existence. It is this fear that the normalizing argument seeks to assuage.

Another aspect of normalization is reflected in the assertion of regulatory control: AMCs will be subject to IHL and human control and responsibility, and so the threats that they pose are diminished. But this pretence of control and responsibility is compromised by the uncertainties discussed above. And the subjection of AMCs to IHL is not a product of the regulatory efforts of the GGE but of international law as it stands<sup>167</sup> – it is a truism that is presented as a regulatory framework. A similar example of an overstated assertion of control is the emphasis on predictability and reliability as a means of ensuring IHL compliance. This constitutes a regulatory achievement only if we first assume that the advanced military forces that are leading the race to develop AMCs would deploy unpredictable and unreliable weapons.

A final, very interesting example of asserting control and facilitating normalization is found in the GGE's ninth guiding principle: 'In crafting potential policy measures, emerging technologies in the area of lethal autonomous weapons systems should not be anthropomorphized.'<sup>168</sup> Anthropomorphism is a well-recognized and widely prevalent phenomenon across cultures, perhaps even necessary for meaningful engagement with non-human entities.<sup>169</sup> And, undeniably, the very idea of artificial intelligence – from its human intelligence point of reference to the adoption of a humanoid interface (Alexa, Siri and so on) – is intrinsically anthropomorphic. Against this background, it is understandable that the question of anthropomorphism came up on the GGE's radar.

Nonetheless, it is surprising that it is such a significant cause of concern for the GGE – to the point of being included as one of the 11 guiding principles. A possible explanation is that this is intended to avoid the conflation of agent- and assistant-AMCs. But given that this distinction is not very prominent in the GGE's discourse, this explanation seems implausible. One part of the stated rationale for this concern is preventing 'confusion and misguided expectations'.<sup>170</sup> But there is no shortage of other, more significant sources of confusion in the regulation of AMCs. Another stated reason

<sup>165</sup> Cummings, *supra* note 68, at 20.

<sup>166</sup> Lieblich and Benvenisti, 'The Obligation to Exercise Discretion in Warfare: Why Autonomous Weapons Are Unlawful', in N. Bhuta *et al.* (eds), *Autonomous Weapons Systems: Law, Ethics, Policy* (2016) 245.

<sup>167</sup> *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, 8 July 1996, ICJ Reports (1996) 226, para 86.

<sup>168</sup> GGE 2019, *supra* note 1.

<sup>169</sup> Wittkower, 'What Is It Like to Be a Bot?', in S. Vallor (ed.), *The Oxford Handbook of Philosophy of Technology* (2021) 358, at 360.

<sup>170</sup> GGE 2015, *supra* note 1, para. 59(c)(ii).

is the risk of ‘dehumanising human beings by equating them with objects’.<sup>171</sup> This is somewhat hard to reconcile with the quiet discarding of concerns for the human rights of the potential victims of AMCs.<sup>172</sup> A final reason is to emphasize that weapons are ‘tools lacking agency and legal personality’ and that ‘policy measures must always address humans’.<sup>173</sup> Again, this seems to be covered by the requirement to maintain human responsibility and control.

There is another possible explanation. In 1970, roboticist Masahiro Mori identified an ‘uncanny valley’ in graphical representations of the relationship between human attitudes towards robots and the human likeness of the robot.<sup>174</sup> As robots grow more human-like, there is an increase in acceptability, but acceptability drops sharply as the robot approaches a nearly human state, as the diminishing contrast between robot and human calls into question the observer’s humanity.<sup>175</sup> It seems at least plausible that the concern with anthropomorphizing AMCs stems from fears that humanizing them will provoke greater concern, as the idea of killer robots in fact did. From this perspective, the admonition against anthropomorphism is simply another means of asserting human control over and normalizing AMCs.

These examples of the normalization strategy demonstrate the myriad ways in which it works to trivialize the technology. In doing so, it makes the need for regulation less urgent and its flaws less significant, bridging the dissonance between the GGE’s principled consensus and operational dissensus.

A fourth strategy implicated in sustaining the assumed possibility of regulation is valorization, extolling the benefits of AMCs to enhance their appeal and diminish concerns. This strategy works in the same way as normalization, but in the opposite direction. By emphasizing the positive aspects of AMCs, it works to diminish concerns as to the need for regulation and problems in the regulatory framework. And, like normalization, it has multiple facets.

Some efforts at valorization draw on the potential of autonomous technologies more broadly, which seems to be at play in the concern that the regulation of AMCs should not hinder civilian applications of autonomous technologies.<sup>176</sup> Restrictions on military uses of technology, including dual-use technologies, have not historically,<sup>177</sup> and need not necessarily be,<sup>178</sup> translated into restrictions on civilian uses.

<sup>171</sup> *Ibid.*, para. 59(c)(iii).

<sup>172</sup> See note 85 above and accompanying text.

<sup>173</sup> GGE 2020 Chair’s Summary, *supra* note 1, at 17.

<sup>174</sup> Mori, ‘The Uncanny Valley’, *IEEE Spectrum* (2012), available at <https://spectrum.ieee.org/automaton/robotics/humanoids/the-uncanny-valley>.

<sup>175</sup> Aydin, ‘The Technological Uncanny as a Permanent Dimension of Selfhood’, in S. Vallor (ed.), *The Oxford Handbook of Philosophy of Technology* (2021) 299.

<sup>176</sup> See note 19 above and accompanying text.

<sup>177</sup> ‘Critical Commentary on the “Guiding Principles”’, *Article 36*, November 2019, at 4, available at [www.article36.org/wp-content/uploads/2019/11/Commentary-on-the-guiding-principles.pdf](http://www.article36.org/wp-content/uploads/2019/11/Commentary-on-the-guiding-principles.pdf).

<sup>178</sup> In relation to cyber and nuclear technologies, there are well-established mechanisms to regulate military uses without restricting civilian applications.

A more immediate explanation for the priority accorded to this concern may be an effort to insulate AMCs from criticism by reference to the broader benefits of autonomous technologies.

Other efforts at valorization emphasize the promise and potential of AMCs themselves: in performance and detachment, they exceed human soldiers, they insulate human soldiers from risk and they enhance IHL compliance and humanitarian protection.<sup>179</sup> While superficially appealing, these claims do not withstand closer scrutiny. Consider the claim of emotional superiority: AMCs do not feel fear or seek vengeance, and they do not make mistakes. This may be true,<sup>180</sup> but they have other weaknesses instead: they may not be able to show mercy,<sup>181</sup> and they might find it difficult to recognize surrender.<sup>182</sup> One might also ask whether the concerns of soldiers breaching IHL out of fear, anger or incompetence are being exaggerated to embellish the virtues of AMCs or whether there is a systemic issue that suggests the failure of command responsibility and challenges the project of humanitarian regulation of armed conflict. The limitations of human soldiers are well recognized and are possibly inescapable or even desired outcomes of military training and requirements.<sup>183</sup> But these limitations find little recognition in the broader IHL discourse, where the self-regulatory potential of military professionalism is extolled<sup>184</sup> and the 'reasonable commander' is the benchmark for IHL compliance.<sup>185</sup> In this context, it is difficult not to be sceptical of the sudden rediscovery of the human failings of professional soldiers.

Valorization efforts more broadly rely on the promise of AMCs for making the conduct of warfare more efficient, including their potential to minimize human transaction costs and surpass human performance. Again, they overstate their case.<sup>186</sup> AMCs make errors and are compromised by biases and by the failures of the humans operating them.<sup>187</sup> But, more importantly, the proclaimed wonders of AMCs obscure the old shortcomings that persist and the new shortcomings that AMCs produce.<sup>188</sup>

<sup>179</sup> See note 40 above and accompanying text; Kalpouzos, *supra* note 118, at 298–300; Sassòli, *supra* note 45, at 522.

<sup>180</sup> Andrejevic argues that our emphasis on the efficient superiority of autonomy represents an unthinking denial of human subjectivity, an abstraction from the motivations of human action to their end results. M. Andrejevic, *Automated Media* (2020), at 4. Put differently, why is cold-blooded efficiency in killing desirable?

<sup>181</sup> Human Rights Watch, *Heed the Call: A Moral and Legal Imperative to Ban Killer Robots* (2018), at 25–26, available at [www.hrw.org/sites/default/files/report\\_pdf/arms0818\\_web.pdf](http://www.hrw.org/sites/default/files/report_pdf/arms0818_web.pdf).

<sup>182</sup> Lielich and Benvenisti, *supra* note 166, at 278–282.

<sup>183</sup> D. Durie-Smith, *Masculinity and New War: The Gendered Dynamics of Contemporary Armed Conflict* (2017), at 24–41; M. Talbert and J. Wolfendale, *War Crimes: Causes, Excuses, and Blame* (2018), at 33–42.

<sup>184</sup> Y. Beer, *Military Professionalism and Humanitarian Law: The Struggle to Reduce the Hazards of War* (2018).

<sup>185</sup> S.R. Johansen, *The Military Commander's Necessity: The Law of Armed Conflict and Its Limits* (2019), at 76–90.

<sup>186</sup> U.K. Le Guin, *The Left Hand of Darkness* (2019) ('[I]legends of prediction are common throughout the whole Household of [Humanity]. Gods speak, spirits speak, computers speak. Oracular ambiguity or statistical probability provide loopholes, and discrepancies are expunged by Faith').

<sup>187</sup> Noll, 'War by Algorithm: The End of Law?', in Liljefors, Noll and Steuer, *supra* note 100, 75, at 88.

<sup>188</sup> Liljefors, 'Omnivoyance and Blindness', in Liljefors, Noll and Steuer, *supra* note 100, 127, at 131.

Similar claims made about drones provide a useful example. Drones were heralded as unprecedented enhancements in precision and accuracy, which, like AMCs, would facilitate exponentially more accurate targeting. In fact, it was soon realized that though drones made it possible to put ‘warheads on foreheads’, the grainy infrared feeds that they provided<sup>189</sup> did not mitigate the difficulty of determining which foreheads the warheads should be put on.<sup>190</sup> The legerdemain at the heart of claims of drone superiority is the failure to specify the comparator. A drone strike against a Taliban commander may be more precise than a conventional munition, but it may not be more precise than a commando raid,<sup>191</sup> and the IHL requirement of proportionality may not have permitted the use of a conventional munition at all. In other words, the increased precision provided by drones does not only make existing strikes more accurate, it also allows attacks that could otherwise only have been undertaken at risk to the lives of attacking soldiers. Thus, the enhanced precision of drones entails an expansion of tactical possibilities and collateral damage. Laudatory claims about AMCs raise similar concerns: will greater efficiency actually be achieved and, if so, in relation to what and how?

The point I am trying to make here is not that there is no truth to the promise of AMCs or that these limitations will not diminish over time.<sup>192</sup> The point is that the valorizing argument must be discounted by reference to existing limitations, by reference to the human cost of the process of trial and error that is required to reduce these limitations and by reference to the impossibility of eliminating limitations.

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Before concluding this discussion of the discursive strategies that sustain the GGE’s assumption that AMCs are amenable to regulation, I must make two clarifications. First, this is not a complete account of the bridging work that sustains the assumption. The examples I have discussed do not exhaust the potential of these strategies. Moreover, these four strategies do not provide a comprehensive explanation of the work that sustains the GGE’s regulatory consensus. There may well be other strategies and even other forms of work that cannot be described in the form of comparable strategies.<sup>193</sup> Finally, this account has focused on the strategies that accomplish

<sup>189</sup> Gregory, ‘The Territory of the Screen’, 6 *Media Tropes* (2016) 126, at 144–145.

<sup>190</sup> Chamayou, *supra* note 112, at 16.

<sup>191</sup> *Ibid.*, at 140–141.

<sup>192</sup> It bears emphasis that even if AMCs ensure international humanitarian law (IHL) compliance, they cannot prevent the violence inherent in IHL. Kendall, ‘Law’s Ends: On Algorithmic Warfare and Humanitarian Violence’, in Liljefors, Noll and Steuer, *supra* note 100, 105, at 112–113.

<sup>193</sup> An important factor that I have excluded is the agency and politics of AMCs themselves. See, e.g., Leander, ‘Technological Agency in the Co-Constitution of Legal Expertise and the US Drone Program’, 26 *LJIL* (2013) 811; L. Winner, *The Whale and the Reactor: A Search for Limits in an Age of High Technology* (1986). Acknowledging this agency makes it possible to see, for instance, that new technological possibilities may induce shifts in regulatory objectives and operating models and in the idea of regulation itself. George Jain, ‘Politics and Subjects in Civil Society’s Turn to AI’, SSRN (2020), available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3853348](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3853348); Johns, *supra* note 4.

the bridging work to the exclusion of the agents and interactions that operate these strategies.

Second, these strategies are not static or self-contained. They evolve over time – what is being conflated, deferred, normalized and valorized may change. In their operation, it is possible to point to relationships of collaboration and competition. For instance, in obscuring the uncertainties that undermine the extant regulatory framework, conflation and deferral work similarly by shifting open regulatory questions from the international to the domestic sphere. Similarly, there is an evident tension between the strategies of normalization and valorization – either AMCs are an incremental development or a revolutionary improvement – and it may be the harmonization of this tension that defines the conceptualization of AMCs.

## 6 Conclusion

I started this article by pointing to a dissonance between principled consensus and operational dissensus in the GGE's regulatory framework for AMCs. I suggested that the emergence of a regulatory framework in the face of this dissonance raised questions about how alternative regulatory possibilities have been excluded and how the possibility of regulation has been assumed. I then proceeded to explore the mechanics of this exclusion and assumption. I pointed to the role of a failure of politics and a consequently amorphous and expanding ideal of security in excluding the possibility of prohibition or restrictive regulation. And I identified four discursive strategies – conflation, deferral, normalization and valorization – that sustain the assumption that AMCs are amenable to regulation.

As I emphasized at the outset, this article should not be read as a comprehensive explanation or exhaustive critique of the GGE's regulation of AMCs but, rather, as the development of some elements of such a critique or explanation. The questions discussed here contribute to an understanding of the nature and emergence of the regulatory framework for AMCs and, by extension, of other regulatory frameworks as well. In that vein, in concluding, I want to draw out one implication of the foregoing analysis that, in particular, bears significance for other regulatory frameworks. This relates to the possibility of achieving a different regulatory outcome for AMCs.

The emerging regulatory framework for AMCs relies on IHL compliance and human control and responsibility, even though it remains unclear whether and how these regulatory principles are achievable. The emergence of this regulatory framework in the face of these uncertainties suggests that the extant framework is not 'necessary' – that is, it is not 'natural, necessary or authoritative'.<sup>194</sup> Some work is required to bridge the dissonance between the GGE's regulatory outcome and its hollow foundations.

The discursive strategies of conflation, deferral, normalization and valorization contribute to this bridging work – they maintain the possibility of regulation and

<sup>194</sup> R.M. Unger, *False Necessity: Anti-Necessitarian Social Theory in the Service of Radical Democracy* (2nd edn, 2001), at xx.

this model of regulation. The need for bridging work and the possibility of identifying its forms highlights the contingency of the regulatory framework. In principle, it should be possible to prevent or undo bridging work and produce a different regulatory outcome.

Yet any other form of regulation seems implausible, if not impossible; as discussed, the military appeal of AMCs proves irresistible. How do we reconcile the contingency of the emerging regulatory framework with the seeming impossibility of a different outcome? The idea of false contingency is useful here, directing our attention to the role of structural factors in constraining human agency.<sup>195</sup> The human agency at play in bridging work is shaped by broader structural constraints.<sup>196</sup> The bridging work is reinforced, and perhaps even produced, by security imperatives originating in broader failures of politics, as illustrated by the promise of AMCs for prosecuting the everywhere-forever war on terror.

To speak of false contingency is not to lapse into fatalism or conspiracy but, rather, to recognize the stickiness of structural constraints<sup>197</sup> and to avoid '[occluding] awareness of what it will take to effect change'.<sup>198</sup> The point is to recognize that international law's engagement with new technologies, even radical technologies like AMCs, is not written on a blank slate. It takes place within a broader context and is shaped by agentic forces operating within – with and against – that context. Efforts to produce a different regulatory outcome must engage with concealed structural necessity. Radical re-imagination is required to transcend the cognitive constraints posed by structural factors<sup>199</sup> and to begin conceptualizing and constructing alternative futures.<sup>200</sup>

<sup>195</sup> Marks, 'False Contingency', 62 *Current Legal Problems* (2009) 1. See also K. Marx, *The Eighteenth Brumaire of Louis Bonaparte* (1999), ch 1 ('[people] make their own history, but they do not make it as they please; they do not make it under self-selected circumstances, but under circumstances existing already, given and transmitted from the past').

<sup>196</sup> For accounts of this shaping, see Chimni, 'An Outline of a Marxist Course on Public International Law', 17 *LJIL* (2004) 1; Ranganathan, 'Ocean Floor Grab: International Law and the Making of an Extractive Imaginary', 30 *EJIL* (2019) 573; Singh, 'Of International Law, Semi-Colonial Thailand, and Imperial Ghosts', 9 *Asian Journal of International Law* (2019) 46.

<sup>197</sup> For instance, contingent gender identities are frequently reproduced in objective scientific research. See D.J. Haraway, *Primate Visions: Gender, Race, and Nature in the World of Modern Science* (1989). Similarly, notwithstanding the indeterminacy of international law, interpretive debates are frequently resolved in consonance with the interests of powerful states. B.S. Chimni, *International Law and World Order: A Critique of Contemporary Approaches* (2nd edn, 2017), at 356–357, 524–535.

<sup>198</sup> Marks, *supra* note 195, at 17.

<sup>199</sup> D.J. Haraway, *Manifestly Haraway* (2016), at 58.

<sup>200</sup> This might entail, as suggested above, recognizing that terrorism need not taint the grievance of the terrorist. For other examples, consider L. Cuboniks, *Xenofeminism: A Politics for Alienation*, available at [www.laboriacuboniks.net/20150612-xf\\_layout\\_web.pdf](http://www.laboriacuboniks.net/20150612-xf_layout_web.pdf); Puig, 'The TransAlien Manifesto', 6 *Transgender Studies Quarterly* (2019) 491, at 500–509. This act of radical re-imagination is, importantly, not a one-time exercise but, rather, a continuing process. Chimni, *supra* note 197, at 546–547.