SHAKY FOUNDATIONS: 'KILLER ROBOTS' AND THE MARTENS CLAUSE

MARCUS HICKLETON[1*]

ABSTRACT

Widely hailed as representing the 'third revolution in warfare', lethal autonomous weapon systems (LAWS) — also known as 'killer robots' — are the subject of heated debate. Contributing to this debate, in August 2018, Human Rights Watch (HRW) and the International Human Rights Clinic (IHRC) at Harvard Law School published Heed the Call: A Moral and Legal Imperative to Ban Killer Robots*. The following article counters* Heed the Call *in arguing that, contrary to the HRW/IHRC view, the Martens Clause does not justify a preemptive ban on this emergent technology. This is because the Clause's dual prongs — the principles of humanity and the dictates of public conscience — are not independent sources of law. On the contrary, this article concludes that these principles and dictates are merely an aid to be considered when interpreting principles of international humanitarian law. Despite this article therefore demonstrating that the Martens Clause does not justify the proposed ban on LAWS, public opposition to these weapon systems nevertheless suggests that some form of regulation might be necessary. To that end, this article proposes that a moratorium on anti-personnel LAWS would address the legitimate concerns presented by these weapon systems while overcoming the greatest obstacles posed by a ban.*

I INTRODUCTION

In November 2019, the United Nations (UN) Secretary-General, António Guterres, described the prospect of lethal autonomous weapon systems (LAWS) taking human life as 'politically unacceptable and morally despicable'.[2] Guterres joins a line of prominent figures and organisations calling for a ban on the popularly termed 'killer robots',[3] broadly defined as weapon systems 'that can select … and attack … targets without human intervention'.[4]

The looming threat of such systems was dramatically brought to the world's

[1*] LLM Student, University of Melbourne.

[2] United Nations, 'Amid Widening Fault Lines, Broken Relations among Great Powers, World "in Turmoil", Secretary-General Tells Paris Peace Forum, Calling for New Social Contract' (Press Release, SG/SM/19852, 11 November 2019) <https://www.un.org/press/en/2019/sgsm19852.doc.htm>.

[3] See, eg, Future of Life Institute, *Autonomous Weapons: An Open Letter from AI & Robotics Researchers* (28 July 2015) <https://futureoflife.org/open-letter-autonomous-weapons/>.

[4] United Nations Office for Disarmament Affairs, *Perspectives on Lethal Autonomous Weapon Systems* (Occasional Papers, November 2017) 5 ('*Perspectives*').

attention in 2012 with the publication of *Losing Humanity: The Case against Killer Robots*.[5] Drafted by Human Rights Watch (HRW) and the International Human Rights Clinic (IHRC) at Harvard Law School, the report draws on the terrifying notion — one long pervading science fiction — of malevolent robots perpetrating reckless slaughter.[6] A furious debate has ensued in the intervening years, centred on whether such systems (which, by most definitions, do not yet exist)[7] could be legally and ethically permissible.

The latest shot in this debate was fired in August 2018 with HRW/IHRC's publication of *Heed the Call: A Moral and Legal Imperative to Ban Killer Robots*.[8] This report argues that the Martens Clause — a 'unique provision of international humanitarian law that establishes a baseline of protection for civilians and combatants when no specific treaty law on a topic exists' — justifies a preemptive ban on the development, production and use of LAWS.[9] This is because LAWS 'contravene [the two] prongs of the Martens Clause' — the principles of humanity and the dictates of public conscience.[10] This article will analyse *Heed the Call* in assessing whether the Martens Clause does indeed justify such a ban.

The Martens Clause is subject to an array of interpretations. Whilst the precise parameters differ, three perspectives can be broadly identified.[11] The first holds that the Clause is an interpretative aid, ensuring that humanity and the public conscience are considered in the interpretation of principles of international humanitarian law (IHL).[12] On the second view, the Clause elevates the principles of humanity and the dictates of public conscience to independent sources of international law.[13] The third view sees the Clause 'merely as a reminder … that states should refer to customary international law when treaty law is silent on a specific issue'.[14] Significantly, only the second view of the Martens Clause, promulgated by HRW/IHRC, could justify a preemptive ban on LAWS.

As this article demonstrates, the HRW/IHRC view is largely unsupported by the jurisprudence and is rejected by a majority of commentators. The interpretative aid approach, by contrast, receives widespread judicial and academic support. Under the latter approach, conflicting interpretations of legal provisions concerning LAWS may be resolved in favour of the conclusion that best comports with humanity and the public conscience. Relatedly, the principles of humanity and the dictates of public conscience may bolster conclusions reached on other grounds that LAWS should be subjected to

[5] Human Rights Watch and International Human Rights Clinic, *Losing Humanity: The Case against Killer Robots* (Report, 19 November 2012) ('*Losing Humanity*').

[6] Ibid. This notion is encompassed in the very title, which describes 'Killer Robots'.

[7] See, eg, Michael N Schmitt and Jeffrey S Thurnher, 'Out of the Loop: Autonomous Weapon Systems and the Law of Armed Conflict' (2013) 4 *Harvard National Security Journal* 231, 234 ('[A]n outright ban is premature since no such weapons have even left the drawing board').

[8] Human Rights Watch and International Human Rights Clinic, *Heed the Call: A Moral and Legal Imperative to Ban Killer Robots* (Report, 21 August 2018) ('*Heed the Call*').

[9] Ibid 1 ('To comply with the Martens Clause, states should adopt a preemptive ban on the weapons' development, production, and use').

[10] Ibid.

[11] See, eg, ibid 14–15.

[12] Antonio Cassese, 'The Martens Clause: Half a Loaf or Simply Pie in the Sky?' (2000) 11(1) *European Journal of International Law* 187, 187, 189–190.

[13] Ibid 190–192.

[14] *Heed the Call* (n 8) 14.

legal regulation. However, as will be demonstrated, these dual prongs of the Martens Clause are decidedly *not enough*, in and of themselves, to delegitimise LAWS as a class of weaponry. As such, the Martens Clause cannot be held to justify a preemptive ban on LAWS.

Part I outlines the characteristics of the relevant technology and contextualises the debate for and against LAWS. Part II analyses *Heed the Call's* arguments about the Martens Clause and concludes that this provision does not justify a preemptive ban on LAWS. Part III dismisses the cases for a ban and for applying existing law to LAWS, proposing instead that this emerging technology be regulated. It is concluded that a moratorium on anti-personnel LAWS — and *not* a ban on LAWS more broadly — best addresses the legitimate concerns raised by this new technology.

II PART ONE

A *What Are Fully Autonomous Weapons?*

Before a ban on LAWS can be discussed, the nature (and even the existence) of the relevant technology must be canvassed. A major complication in the debate on LAWS is that they lack a generally accepted definition. Even the terminology used to describe LAWS varies widely. In accordance with the Convention on Certain Conventional Weapons (CCW) process,[15] this article will employ the term 'lethal autonomous weapon systems' (LAWS) as being analogous to '(fully) autonomous weapon systems'.[16] However, the terms 'autonomous', 'lethal', 'robots' and 'weapon systems' are regularly used interchangeably, leading only to confusion between existing weapon systems and those future systems subject to prospective bans.[17] The result is a profound lack of clarity in international discussions on the future of LAWS.[18]

A full analysis of the merits and shortcomings of the proposed definitions is beyond the scope of this article.[19] The definition given by the International Committee of the Red Cross (ICRC) will be highlighted as an example. The ICRC defines an 'autonomous weapon system' as:

> Any weapon system with autonomy in its critical functions. That is, a weapon system that can select (i.e. search for or detect, identify, track, select) and attack (i.e. use force against, neutralize, damage or destroy) targets without

[15] *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*, opened for signature 10 April 1981, 1342 UNTS 137 (entered into force 2 December 1983). This process will be discussed further in Part I (C).

[16] The distinction must nonetheless be drawn that the term 'lethal' connotes the taking of human life, which more broadly implicates anti-personnel than anti-material systems.

[17] Rebecca Crootof, 'The Killer Robots Are Here: Legal and Policy Implications' (2015) 36 *Cardozo Law Review* 1837, 1843 ('The Killer Robots Are Here').

[18] Chris Jenks, 'False Rubicons, Moral Panic, & Conceptual Cul-De-Sacs: Critiquing & Reframing the Call to Ban Lethal Autonomous Weapons' (2016) 44(1) *Pepperdine Law Review* 1, 13.

[19] For a detailed analysis of the most prominent definitions, see generally Crootof, 'The Killer Robots Are Here' (n 17).

further human intervention.[20]

Evidently, key to the definition of an 'autonomous weapon system' is the meaning of autonomy. This meaning, however, is particularly perplexing.[21] Even basic reference to an '"autonomous robot" conjures up wildly different images, ranging from a household Roomba to a sci-fi Terminator'.[22] A core part of the complexity is the fact that autonomy is used to refer to three separate concepts: 'the human-machine command-and-control relationship; the complexity of the system; and the type of task being automated'.[23]

1 *Technical Distinctions*

(a) Human-Machine Command-and-Control Relationship

The human-machine command-and-control relationship is the most commonly discussed aspect of autonomy. An example is the classification of autonomy advocated by HRW, which distinguishes weapon systems based on their level of human interaction. HRW classes weapon systems as (1) Human-in-the-Loop; (2) Human-on-the-Loop; or (3) Human-out-of-the-Loop.[24] Adopting a parallel system, the US Department of Defense classifies weapon systems as (1) Semi-Autonomous; (2) Human-Supervised Autonomous; or (3) (Fully) Autonomous.[25] These three categories broadly correlate.[26] In the first category, human controllers must approve the use of force.[27] In the second, the weapon system can independently use force under the oversight of the human controller, who can override the system.[28] In the third category, the weapon system can independently use force without any human oversight or intervention.[29]

Despite utilising the sensationalist term 'killer robots' in its title, *Heed the Call* generally employs the term 'fully autonomous weapons'.[30] Such weapons are defined in *Losing Humanity* as 'both out-of-the-loop weapons and those that allow a human on the loop, but that are effectively out-of-the-loop weapons because the supervision is so limited'.[31] HRW/IHRC contend that these weapons should be banned.[32]

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[20] International Committee of the Red Cross, *Autonomous Weapon Systems: Implications of Increasing Autonomy in the Critical Functions of Weapons* (Report, March 2016) 8 ('*Autonomous Weapon Systems: Implications*').

[21] Jenks (n 18) 13.

[22] Paul Scharre, 'Autonomy, "Killer Robots", and Human Control in the Use of Force – Part I', *Just Security* (Web Page, 9 July 2014) <https://www.justsecurity.org/12708/autonomy-killer-robots-human-control-force-part/> ('Autonomy – Part I').

[23] Ibid; Jenks (n 18) 16.

[24] *Losing Humanity* (n 4) 2.

[25] Federal Government of the United States of America, Department of Defense, *Directive Number 3000.09: Autonomy in Weapon Systems* (21 November 2012) 3 ('*Directive Number 3000.09*').

[26] Nicholas W Mull, 'The Roboticization of Warfare with Lethal Autonomous Weapon Systems (LAWS): Mandate of Humanity or Threat to It?' (2018) 40 *Houston Journal of International Law* 461, 480.

[27] *Losing Humanity* (n 5) 2; *Directive Number 3000.09* (n 24) 14.

[28] Ibid.

[29] *Losing Humanity* (n 5) 2; *Directive Number 3000.09* (n 24) 13–14.

[30] See generally *Heed the Call* (n 8)

[31] *Losing Humanity* (n 5) 2.

[32] Ibid; *Heed the Call* (n 8) 1.

(b) Complexity of the System

Under this second meaning, autonomy is plotted on a spectrum of complexity ranging from 'automatic' to 'automated' to 'autonomous'.[33] At the simplest end of the spectrum are automatic machines, such as toasters or mines, which respond mechanically to environmental stimuli.[34] Automated machines are those employing 'rule-based systems', such as self-driving cars.[35] Autonomous machines, at the most complex end of the spectrum, 'execute some kind of self-direction, self-learning … behavior that was not directly predictable from an inspection of its code'.[36]

(c) Type of Task Being Automated

Finally, under the third meaning, autonomy could refer to functions as diverse as navigating or firing a projectile.[37] However, as per the ICRC definition cited above, the functions of selecting and attacking targets are considered the most relevant to the discussion on the permissibility of LAWS.[38]

(d) Critique of Such Distinctions

These three aspects of autonomy are often problematically conflated. Noting this point, Chris Jenks argues that the 'in-', 'on-' and 'out-of-the-loop' distinction 'oversimplifies and misrepresents', whilst the automatic-automated-autonomous spectrum 'lacks practical utility'.[39] Indeed, Lt. Col. Alan Schuller describes making distinctions on this latter spectrum as 'a futile effort that attempts to paint over infinite shades of grey with a façade of order'.[40] It is evident that, despite apparently clear categorisations, autonomy is a very complex notion. This complexity explains, at least in part, the lack of an internationally accepted definition of LAWS. It also explains recent efforts, discussed below in Part I (C)(2), to define LAWS based on the level of human control rather than on their technical characteristics.

2 *Do Lethal Autonomous Weapon Systems Presently Exist?*

Most commentators contend that LAWS do not presently exist.[41] Indeed, in 2012, *Losing Humanity* described LAWS as being 20 to 30 years away from development.[42]

[33] Scharre, 'Autonomy – Part I' (n 22).
[34] Ibid.
[35] Ibid.
[36] Ibid.
[37] Ibid.
[38] Ibid.
[39] Jenks (n 18) 16.
[40] *Autonomous Weapon Systems: Implications* (n 20) 27.
[41] Ibid 41 ('According to the definition of autonomous weapon systems used by the ICRC, "fully" autonomous weapon systems are still at the research stage'); Schmitt and Thurnher (n 7) 234; Tyler D Evans, 'At War with the Robots: Autonomous Weapon Systems and the Martens Clause' (2013) 41 *Hofstra Law Review* 697, 699 ('truly autonomous weapons do not yet exist'); Jenks (n 18) 39 ('fully autonomous weapons do not exist').
[42] *Losing Humanity* (n 5) 1.

However, the question of whether LAWS exist or not naturally hinges on the definition employed. For example, Rebecca Crootof, in advocating a new definition of LAWS, argues that, 'contrary to the nearly universal consensus, … autonomous weapon systems are not weapons of the future: they exist and have already been integrated into states' armed forces'.[43]

Despite this definitional disagreement, what is clear is that more than 30 countries have deployed weapon systems with the capability to independently select and attack targets since 1980.[44] Such systems include: missile- and rocket-defence weapons, such as Israel's Iron Dome; anti-personnel 'sentry' weapons, such as South Korea's Super aEgis; loitering munitions, such as Israel's Harpy; and encapsulated torpedo mines.[45] A key question, which *Losing Humanity* arguably fails to answer,[46] is how to separate these current systems from the future systems that are so widely regarded as problematic.[47]

Some distinctions can be drawn between the LAWS of today and the hypothesised LAWS of tomorrow. Significantly, presently deployed LAWS 'are designed to target material, aircraft, vessels at sea, and inbound missiles'.[48] As such, despite their incidental targeting of the human crews, they are predominantly *anti-material*, and not *anti-personnel* weapons.[49] Furthermore, a significant number of present systems are defensive, used only in simple environments, and operate autonomously for only limited periods.[50] Future LAWS, by contrast, might be given increased scope to 'operate outside tightly constrained spatial and temporal limits, and increased capacity to determine their own functions and targets'.[51] Such systems do not yet exist. The crux of the debate on banning LAWS rests upon the projected capabilities of such future systems.

B *Contextualising the Debate*

Arguments for and against LAWS pervade the academic literature. Given the fact that LAWS do not yet exist, advocates and critics of LAWS must build their cases on projections about the future state of the technology. These projections wildly oscillate from imaginings of 'more-humane wars with fewer civilian casualties' to visions of 'calamity, with rogue robot death machines killing multitudes'.[52] While a full analysis of these arguments is beyond the scope of this article, this section will provide context to the debate by highlighting the key claims advanced by authors on each side.

[43] Crootof, The Killer Robots Are Here (n 17) 1837.
[44] Jenks (n 18) 2.
[45] *Autonomous Weapon Systems: Implications* (n 18) 72–76.
[46] See, eg, Jenks (n 18) 23, 39.
[47] See, eg, ibid 43.
[48] Ibid 7.
[49] Ibid 42.
[50] *Autonomous Weapon Systems: Implications* (n 20) 72.
[51] Ibid 77.
[52] Paul Scharre, *Army of None: Autonomous Weapons and the Future of War* (W W Norton & Company, 1st ed, 2018) 347 ('*Army of None*').

1 *Arguments Against LAWS*

A number of legal, moral and practical criticisms have been levelled against LAWS, primarily by HRW/IHRC.[53]

The most common legal argument is that LAWS would be incapable of complying with fundamental principles of IHL; specifically, the principles of distinction and proportionality.[54] Firstly, it is asserted that LAWS 'would face great, if not insurmountable, difficulties' in applying the principle of distinction.[55] This is because distinguishing legitimate from illegitimate targets requires 'the qualitative ability to gauge human intention', a capability that LAWS are apparently unlikely to attain.[56] Secondly, it is argued that a proportionality assessment, which involves the balancing of projected civilian harm with anticipated military advantage, is unlikely to be possible for LAWS.[57] This is because this balancing of factors requires 'distinctively human judgement', which critics argue LAWS are unlikely ever to replicate.[58]

Three other legal arguments have been advanced. Firstly, LAWS' critics declare that, despite recognised operational environments in which these IHL determinations would be less problematic — such as the desert, or on the high seas — the potential to use LAWS solely in these environments does not 'legitimize' them.[59] This is due to the probability that LAWS would be deployed in other, less contained environments.[60] Secondly, it is argued that a deployment of LAWS would result in an 'accountability gap', whereby neither the robot itself, nor the commander, programmer or manufacturer could be held civilly or criminally liable for violations of IHL. [61] Thirdly, and most relevantly to this article, some critics assert that LAWS contravene the principles of humanity and the dictates of public conscience, as upheld by the Martens Clause.[62] This criticism will be dealt with in depth in Part II below.

A number of moral and practical arguments can additionally be observed. Firstly, the Campaign to Stop Killer Robots claims that allowing the development of LAWS would be 'abhorrent, immoral, [and] an affront to the concept of human dignity and principles of humanity'.[63] On this view, granting machines decision-making power over human life and death is fundamentally unethical.[64] Secondly, it is argued that LAWS' lack of

[53] See generally *Losing Humanity* (n 5); Human Rights Watch and International Human Rights Clinic, *Making the Case: The Dangers of Killer Robots and the Need for a Preemptive Ban* (Report, 9 December 2016) ('*Making the Case*'); Human Rights Watch and International Human Rights Clinic, *Mind the Gap: The Lack of Accountability for Killer Robots* (Report, 9 April 2015) ('*Mind the Gap*').
[54] *Losing Humanity* (n 5) 3.
[55] *Making the Case* (n 53) 5.
[56] Ibid 5.
[57] Ibid.
[58] Ibid 8, quoting United Nations Human Rights Council, *Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, Christof Heyns*, UN Doc A/HRC/23/47 (9 April 2013) [72].
[59] Ibid 9–10.
[60] Ibid 9.
[61] Ibid 10–13; see generally *Mind the Gap* (n 53).
[62] *Making the Case* (n 53) 14–17.
[63] Campaign to Stop Killer Robots, 'Majority Call For a New Ban Treaty to Retain Human Control over Force' (Press Release, 3 September 2018) <https://www.stopkillerrobots.org/>.
[64] *Making the Case* (n 53) 22.

human emotions, such as compassion, removes a significant barrier to killing.[65] Thirdly, it is claimed that reviews of new weaponry conducted under Article 36 of *Additional Protocol I to the Geneva Conventions* are insufficient to counter the risks posed by LAWS, as 'weapons reviews are not universal, consistent, or rigorously conducted'.[66]

In the international security sphere, critics also claim that LAWS will: (1) trigger an arms race;[67] (2) lower the threshold for the use of force by reducing combatant casualties;[68] (3) be vulnerable to hacking by irresponsible actors;[69] (4) proliferate to terrorists and violent regimes;[70] and (5) destroy confidence in the use of associated civilian technologies.[71]

In *Making the Case*, HRW/IHRC declare that advocates of LAWS who reject the above criticisms 'depend on speculative arguments about the future of technology and the false presumption that technological developments can address all of the dangers posed by the weapons'.[72] While technological advancement clearly cannot resolve all of the aforementioned issues, such advancement certainly can address some core concerns surrounding potential violations of IHL. Further, this argument by HRW/IHRC can be applied in reverse, as LAWS' critics largely base their arguments on a pessimistic view of the future technology. A survey of the opposing views is necessary to bring balance to the debate.

2 *Arguments For LAWS*

Addressing the fundamental legal question of LAWS' compliance with IHL, Michael N. Schmitt and Jeffrey S. Thurnher distinguish the *per se* lawfulness of a weapon from its lawful use.[73] They assert that LAWS 'are not unlawful *per se*',[74] because their autonomy:

> has no direct bearing on the probability they would cause unnecessary

[65] Ibid 25–27; *Losing Humanity* (n 5) 4.

[66] *Making the Case* (n 53) 33; see *Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, opened for signature 8 June 1977, 1125 UNTS 3 (entered into force 7 December 1978) art 36.

[67] Group of Governmental Experts of the High Contracting Parties to the 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, *Report of the 2017 Group of Governmental Experts on Lethal Autonomous Weapons Systems (LAWS), held in Geneva from 13 to 17 November 2017*, UN Doc CCW/GGE.1/2017/3 (22 December 2017) 8 ('*Report of 2017*'); Group of Governmental Experts of the High Contracting Parties to the 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, *Report of the 2018 Session of the Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, held in Geneva from 9 to 13 April 2018 and 27 to 31 August 2018,* UN Doc CCW/GGE.1/2018/3 (23 October 2018) 6 ('*Report of 2018*').

[68] Ibid; Mull (n 26) 471; *Losing Humanity* (n 5) 4.

[69] *Report of 2017* (n 67) 8; *Report of 2018* (n 67) 6; Schmitt and Thurnher (n 7) 242.

[70] *Report of 2017* (n 67) 8; *Report of 2018* (n 67) 6.

[71] *Report of 2018* (n 67) 7.

[72] *Making the Case* (n 53) 4.

[73] Schmitt and Thurnher (n 7) 243–244, 279.

[74] Ibid 279.

> suffering or superfluous injury, does not preclude them from being directed at combatants and military objectives, and need not result in their having effects that an attacker cannot control.[75]

Regarding use in compliance with distinction and proportionality, Schmitt and Thurnher firstly highlight 'likely developments in autonomous weapon systems technology'.[76] As an example, they raise the prospect of '"military advantage" algorithms' being paired with presently existing collateral damage algorithms, with the potential for LAWS to conduct lawful proportionality analyses.[77] Going a step further, others even suggest that 'in the future, [LAWS] could be more compliant with the principles of the [law of armed conflict] than human soldiers'.[78] LAWS could 'reduce misidentification of military targets, better detect or calculate possible collateral damage, or allow for using smaller quanta of force compared to human decision-making'.[79]

Secondly, Schmitt and Thurnher argue that — as with any weapon — LAWS could be permissibly deployed in some circumstances, but not in others.[80] Kenneth Anderson and Matthew C. Waxman similarly acknowledge the 'daunting legal and ethical hurdles' in developing LAWS with human-level abilities, capable of deployment 'in all battlefield circumstances and operational environments'.[81] However, they argue that 'the science-fiction problems … do not need to be solved in order to field "autonomous" weapons that are clearly lawful'.[82] For instance, in the short-term, LAWS could be permissibly deployed in environments with few civilians or where there is minimal risk of civilian objects being destroyed.[83] Such permissible uses counter sweeping claims that LAWS could never comply with IHL.

In terms of the supposed accountability gap, some advocates of LAWS contend that there is none, since 'the responsibility for the appropriate use of the systems will … remain with the human operators and commanders', and '[o]rders to deploy the system and judgments about how to program it will come from a human'.[84]

Additionally, advocates contend that arguments about LAWS lowering the threshold for the use of force are 'morally and practically misconceived', as 'deliberately foregoing available protections for civilians or soldiers in war, for fear that political leaders would resort to war more than they ought, morally amounts to holding those endangered humans as hostages'.[85]

It is also argued that an Article 36 review would not present an obstacle to the

[75] Ibid.
[76] Ibid 234.
[77] Ibid 254–256.
[78] Evans (n 41) 730.
[79] Kenneth Anderson and Matthew C Waxman, 'Law and Ethics for Autonomous Weapon Systems: Why a Ban Won't Work and How the Laws of War Can' (2013) *Jean Perkins Task Force on National Security and Law* 1, 15.
[80] Schmitt and Thurnher (n 7) 279.
[81] Anderson and Waxman (n 79) 12.
[82] Ibid 14.
[83] Ibid 6, 13.
[84] Schmitt and Thurnher (n 7) 277–279.
[85] Anderson and Waxman (n 79) 18.

legality of LAWS,[86] as 'the fact of autonomy itself … does not violate the law of armed conflict'.[87]

Advocates further argue that LAWS: (1) will be able to operate at speeds beyond human capabilities;[88] (2) will not be susceptible to communications jamming like other unmanned systems;[89] (3) could be programmed to accept greater dangers than humans would tolerate, allowing rules of engagement (ROE) to be crafted to better protect civilians;[90] (4) will be better than humans at applying long, complex lists of ROE;[91] and (5) may perform better than humans in the 'fog of war', owing to more powerful sensors and a lack of negative emotions such as anger or fear.[92]

Finally, regarding the foundational argument that it is immoral to delegate decisions over human life and death to a machine,[93] LAWS' advocates assert that 'vague philosophical concerns should not — and will not — prevent [LAWS'] development and fielding'.[94] Others argue that the more important moral issue is compliance with IHL, and the '"package" it comes in, machine or human, is not the deepest moral principle'.[95] This central issue is presently being addressed as part of the CCW Group of Governmental Experts (GGE) process on LAWS.

C *The Convention on Certain Conventional Weapons Process*

The Convention on Certain Conventional Weapons (CCW) aims to 'ban or restrict the use of specific types of weapons that are considered to cause unnecessary or unjustifiable suffering to combatants or to affect civilians indiscriminately'.[96] The CCW is the primary theatre in which the ban on LAWS is being discussed. Thus, the relevant CCW proceedings to date will be briefly outlined.

1 *The Meetings*

Following informal Meetings of Experts in 2014, 2015 and 2016, the Fifth Review Conference of the CCW agreed to 'establish an open-ended Group of Governmental Experts (GGE) related to emerging technologies in the area of [LAWS]'.[97] This elevation of the LAWS issue to the GGE format was significant, as such a move carries expectations of a concrete result 'such as a new CCW protocol'.[98] Three GGE meetings

[86] Schmitt and Thurnher (n 7) 276.
[87] Anderson and Waxman (n 79) 11.
[88] Schmitt and Thurnher (n 7) 238.
[89] Ibid.
[90] Gary Brown, 'Out of the Loop' (2016) 30(1) *Temple International and Comparative Law Journal* 43, 47–48.
[91] Ibid 50.
[92] *Perspectives* (n 4) 39.
[93] Mull (n 26) 482.
[94] Brown (n 90) 52.
[95] Anderson and Waxman (n 79) 16.
[96] United Nations Office at Geneva, *The Convention on Certain Conventional Weapons* <https://www.unog.ch/>.
[97] *Report of 2017* (n 67) 1.
[98] *Heed the Call* (n 8) 40.

have been held to date, with the most recent occurring in August 2019, and further meetings scheduled for 2020 and 2021.

A key question is what the CCW process on LAWS has achieved thus far. By one measure, progress has been limited. As noted above, after years of discussion, there is still no commonly accepted definition of what LAWS actually are — a major stumbling block to any future regulation of the systems.[99] Furthermore, despite vociferous demands for a ban over a number of years,[100] the CCW has agreed only to continue discussions in 2020.[101] One significant measure of progress, however, is the declaration contained in the 2018 CCW GGE Report, and repeated in substance in the 2019 Report,[102] that, '[h]uman responsibility for the use of force must be retained'.[103]

2 *Meaningful Human Control*

Despite the considerable disagreement characterising most aspects of the LAWS debate, there is an 'emergent consensus' that some measure of human control must be retained over decisions to select and engage targets.[104] This is often referred to as a requirement of 'meaningful human control'.[105] The precise meaning of that control, however, is still disputed.[106] For example, LAWS' critics are likely to consider meaningful human control to require a human in the loop, ensuring 'informed human approval of each possible action of a given weapon system'.[107] Advocates, by contrast, might consider the system's programming by a human to be adequate, permitting actions where a human is out of the loop.[108] Nevertheless, the consensus that some level of human control is required provides a foundation upon which future agreement may be built.[109] Additionally, the concept allows states to sidestep definitions based on

[99] Cf *Making the Case* (n 53) 42 (arguing that the lack of a definition is immaterial because a 'common understanding of fully autonomous weapons … has already largely been reached…').

[100] See, eg, *Losing Humanity* (n 5).

[101] Meeting of the High Contracting Parties to the 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, *Final Report of the Meeting of the High Contracting Parties to the Convention, held in Geneva from 13 to 15 November 2019*, UN Doc CCW/MSP/2019/9 (13 December 2019) 5.

[102] Group of Governmental Experts of the High Contracting Parties to the 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, *Report of the 2019 Session of the Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, held in Geneva from 25 to 29 March 2019 and 20 to 21 August 2019,* UN Doc CCW/GGE.1/2019/3 (25 September 2019) 13.

[103] *Report of 2018* (n 67) 6.

[104] *Perspectives* (n 4) vi; see also United Nations Office for Disarmament Affairs, 'Securing Our Common Future: An Agenda for Disarmament' (Agenda, 2018), where the UN SG noted that 'all sides appear to be in agreement that, at a minimum, human oversight over the use of force is necessary'; Peter Asaro, '*Jus Nascendi*, Robotic Weapons and the Martens Clause' in Ryan Calo, Michael Froomkin and Ian Kerr (eds), *Robot Law* (Edward Elgar Publishing, 2016) 367, 382 ('it seems quite clear that [in meaningful human control] we have something that looks very much like an emergent principle').

[105] See, eg, *Heed the Call* (n 8) 3.

[106] Rebecca Crootof, 'A Meaningful Floor for "Meaningful Human Control"' (2016) 30 *Temple International and Comparative Law Journal* 53, 54 ('A Meaningful Floor').

[107] Ibid.

[108] Ibid.

[109] Scharre, *Army of None* (n 52) 348.

the complex technological characteristics of autonomy and focus on the 'unchanging element in war: the human'.[110]

In its quest for a ban on LAWS, HRW/IHRC's *Heed the Call* describes this 'emerging consensus for preserving meaningful human control' as 'effectively equivalent to a ban on weapons that lack such control'.[111] A number of counter-arguments may be made. It should firstly be noted that this is only an 'emerging' consensus, and is not enshrined in any legally binding instrument on LAWS. Further, despite some claims to the contrary,[112] an absence of the requisite levels of *opinio juris* and state practice means that the concept of meaningful human control does not constitute customary international law (CIL).[113] At least at present, '[t]he laws of war do not specify what role(s) humans should play in lethal force decisions'.[114] As such, the principle may provide a platform for a future ban on LAWS acting beyond meaningful human control, but does not justify such a ban at present. More central to *Heed the Call*'s contention, however, is the role of the Martens Clause in justifying a ban on LAWS.

III PART TWO

A *Interpretations of the Martens Clause*

1 *Introduction*

Whilst originally formulated at the Hague Peace Conference of 1899, the Martens Clause has since 'found inclusion in most of the landmark treaties of modern [IHL], reaffirming its primacy in the field'.[115] The formulation of the Martens Clause contained in *Additional Protocol I to the Geneva Conventions* states that:

> In cases not covered by this Protocol or by other international agreements, civilians and combatants remain under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and from the dictates of public conscience.[116]

The Martens Clause is subject to an array of conflicting interpretations.[117] The narrow view, on which there is baseline agreement, is that the Clause 'at the very

[110] Ibid 357.

[111] *Heed the Call* (n 8) 3.

[112] Crootof, 'A Meaningful Floor' (n 105) 53–54 ('Lack of opposition has led some to conclude that it is either a newly developed customary norm or a pre-existing, recently exposed rule of customary international law, already binding on all States').

[113] *Opinio juris* is one of the dual elements of CIL and constitutes a belief that particular practices are legally required.

[114] Scharre, *Army of None* (n 52) 357.

[115] Emily Crawford, 'The Modern Relevance of the Martens Clause' (2006) 6 *Indian Society of International Law Yearbook of International Humanitarian and Refugee Law* 1, 1–2, 16 (for example, the Clause is found in the 1907 Hague Convention IV, the Geneva Conventions of 1949, Additional Protocols I and II of 1977, and the Convention on Conventional Weapons of 1981).

[116] *Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, opened for signature 8 June 1977, 1125 UNTS 3 (entered into force 7 December 1978) art 1(2).

[117] Rupert Ticehurst, 'The Martens Clause and the Laws of Armed Conflict' (1997) 37(317) *International Review of the Red Cross* 125, 126.

least' ensures the continued applicability of customary law when a treaty leaves certain matters uncodified.[118] The HRW/IHRC view, expressed in *Heed the Call*, resides at the other end of the interpretative spectrum. HRW/IHRC declare that, because LAWS would contravene both the principles of humanity and the dictates of public conscience, states 'should adopt a preemptive ban on the weapons' development, production, and use' in order to secure compliance with the Clause.[119] Implicit in such a claim is the notion that the Clause's dual prongs constitute independent sources of law which are binding on states. This is the broad view of the Martens Clause.[120] However, as will be demonstrated, such a proposition is profoundly controversial.

Heed the Call is only the latest in a line of HRW/IHRC publications arguing that the Martens Clause justifies a ban on LAWS. In 2012, *Losing Humanity* asserted, somewhat equivocally, that LAWS 'might contravene' and 'raise serious concerns under' the Martens Clause'.[121] In 2016, *Making the Case* declared that 'concerns under [the principles of humanity and dictates of public conscience] weigh in favour of a ban on [LAWS]'.[122] Published in August 2018, *Heed the Call* is the first HRW/IHRC report devoted exclusively to arguments on the Martens Clause. It utilises the strongest language yet in arguing that LAWS '*would contravene* both prongs of the Martens Clause'.[123]

The argument that the Martens Clause justifies a ban on LAWS is, therefore, relatively enduring. Relevantly, the International Court of Justice (ICJ) has stated that the Martens Clause 'has proved to be an effective means of addressing the rapid evolution of military technology'.[124] This article will address such claims, refuting the broad view by demonstrating that the Martens Clause *does not* justify a preemptive ban on LAWS.

2 *Applicability*

As a preliminary matter, the question of the Martens Clause's applicability to LAWS must be addressed. The formulation of the Clause adopted in *Additional Protocol I* expressly states that it applies 'in cases not covered by this Protocol or by other international agreements'. As such, in order for the Clause to apply, HRW/IHRC must demonstrate that LAWS are not covered by existing international law. On this point, *Heed the Call* states that '[e]xisting [IHL] applies to fully autonomous weapons only in general terms',[125] and 'does not contain specific rules for dealing with fully autonomous weapons'.[126]

This notion that LAWS are insufficiently governed by existing law is disputed. Crootof highlights the relevance of IHL and 'many other treaty and customary

[118] Theodor Meron, 'The Martens Clause, Principles of Humanity, and Dictates of Public Conscience' (2000) 94(1) *American Journal of International Law* 78, 87; see also ibid.
[119] *Heed the Call* (n 8) 1.
[120] Ticehurst (n 117) 126.
[121] *Losing Humanity* (n 5) 30, 35.
[122] *Making the Case* (n 53) 14.
[123] *Heed the Call* (n 8) 1 (emphasis added).
[124] *Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion)* [1996] ICJ Rep 226 [78].
[125] *Heed the Call* (n 8) 14 (citing the 'core principles of distinction and proportionality').
[126] Ibid.

international legal regimes' to LAWS.[127] Schmitt and Thurnher similarly note the 'rich fabric of treaty law [governing] the legality of weapon systems'.[128] By way of example, they argue that the prohibition on cluster munitions, incendiary weapons and air-delivered antipersonnel mines 'limit their employment on [LAWS] by States Party to the respective treaties'.[129]

However, such arguments are unpersuasive. At best, the highlighted legal regimes are of only marginal relevance to LAWS. As there are 'indisputably no specific international legal instruments or positive law[s] that prohibit … LAWS explicitly',[130] the Martens Clause is applicable to the case of LAWS.

3 *Varying Interpretations*

The Martens Clause is something of a contradiction. On the one hand, the Clause has been described as 'particularly ambiguous',[131] 'somewhat vague', and of 'indeterminate legal content'.[132] On the other, the ICJ has stated that its 'continuing existence and applicability is not to be doubted'.[133] Thus, while indisputably of enduring legal significance, the Clause's lack of clarity renders it subject to a variety of competing interpretations.

Somewhat confusingly, different authors describe varying numbers of interpretations of the Martens Clause, ranging from Antonio Cassese's three,[134] to Michael Salter's four,[135] to Emily Crawford's five.[136] However, for the sake of clarity, this article will discuss the three most commonly expressed interpretations, described as the narrow, moderate and broad views.[137]

(a) The Narrow View

As stated above, the narrow view is that the Martens Clause 'serves merely as a reminder … that states should refer to customary international law when treaty law is silent on a specific issue'.[138] On this view, the failure of the treaty to 'expressly prohibit

[127] Crootof, 'The Killer Robots Are Here' (n 17) 1881 (citing other regimes, including the law of the sea, the law of outer space, international human rights law and the law of state responsibility).
[128] Schmitt and Thurnher (n 7) 275.
[129] Ibid 276.
[130] Mull (n 26) 494.
[131] Cassese (n 12) 187.
[132] Meron (n 118) 79.
[133] *Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion)* [1996] ICJ Rep 226 [87].
[134] Cassese (n 12) 189.
[135] Michael Salter, 'Reinterpreting Competing Interpretations of the Scope and Potential of the Martens Clause' (2012) 17(3) *Journal of Conflict and Security Law* 403, 403.
[136] Crawford (n 115) 12–16.
[137] Evans (n 41) 723–725.
[138] *Heed the Call* (n 8) 14; see also Evans (n 40) 713, 723–724; Ticehurst (n 117) 126. Another even narrower approach was advanced by the Russian Federation in its submission on the Nuclear Weapons Advisory Opinion. On this view, 'the Martens Clause has become a historical relic, and serves no purpose in modern [IHL]': Crawford (n 115) 12.

a specific action' does not mean that 'the action is … automatically permitted'.[139]

It has been noted that treaty law is indeed silent on the question of LAWS. Nevertheless, under the narrow interpretation, LAWS could still be held to be illegitimate if they are precluded by CIL. Unfortunately for critics of LAWS, there is no such customary prohibition. It could be argued that the requirement for meaningful human control is a customary norm, and LAWS that lack such control would therefore be prohibited under CIL.[140] However, as discussed above, this argument is unconvincing.[141] As such, the narrow view of the Martens Clause cannot justify a preemptive ban on LAWS.

The narrow interpretation of the Martens Clause is, in any case, legally unpersuasive. Firstly, this interpretation 'states the obvious [that a matter not governed by treaty provisions can nonetheless be governed by custom] and is therefore pointless'.[142] Secondly, it focuses on custom to the exclusion of the principles of humanity and dictates of public conscience.[143] This renders the latter two 'redundant' and infringes the rule of legal interpretation by which all elements of a clause must be given meaning.[144] *Heed the Call* reaches a similar conclusion, explicitly rejecting the narrow view as 'unsatisfactory'.[145] As a result, the narrow view is of little relevance to the present discussion.

(b) The Moderate View

The moderate view, advocated by Cassese, holds that the Martens Clause provides 'fundamental guidance' when interpreting international legal provisions.[146] In situations lacking clarity, such as where judges must decide between conflicting legal interpretations,[147] international law 'must be construed so as to be consonant with general standards of humanity and the demands of public conscience'.[148]

Heed the Call asserts that, under this interpretation, '[i]nternational law should … be understood not to condone situations or technologies that raise concerns under these prongs of the Martens Clause'.[149] This statement, while partly true in the abstract, is overly broad and constitutes a de-facto argument for the broad approach. Under the moderate view, the Martens Clause is relevant in a judicial setting when dealing with conflicting interpretations of legal provisions. In such cases, conflicts may be resolved in favour of the conclusion that best comports with humanity and the public conscience.[150] Or, relatedly, conflicts may be resolved on other legal grounds, with the Clause used

[139] *Heed the Call* (n 8) 14; see also Evans (n 41) 713, 723–724; Ticehurst (n 116) 126.
[140] See above Part I (C)(2).
[141] Ibid.
[142] Cassese (n 12) 192.
[143] *Heed the Call* (n 8) 15.
[144] Ibid.
[145] Ibid 14.
[146] Cassese (n 12) 212.
[147] Salter (n 135) 413.
[148] Cassese (n 12) 212.
[149] *Heed the Call* (n 8) 15.
[150] Salter (n 135) 413.

merely to 'confirm or bolster the interpretation' of these grounds.[151] At a minimum, the moderate view of the Martens Clause requires a lack of clarity regarding particular rules of IHL.

On this point, Salter notes that, under the moderate view, the Martens Clause is 'essentially parasitic upon a pre-existing and clearly pertinent rule'.[152] Where such rules are 'either lacking or clearly inapplicable', the Clause has no role to play.[153] In assessing the moderate view's relevance, one may question whether there are, in fact, any 'clearly pertinent' rules pertaining to LAWS. As explicitly stated in *Heed the Call*, 'fully autonomous weapons present a case not covered by existing law'.[154] Furthermore, the assortment of customary and treaty rules identified above by Crootof, Schmitt and Thurnher are only of marginal relevance to LAWS. However, it could be argued that it is precisely when dealing with rules of limited relevance that the Martens Clause is of greatest applicability. It is arguably in such situations that unclear interpretations or legal conflicts are most likely to occur. Even if it were countered that such rules must be '*clearly* pertinent', a conflict could conceivably arise in relation to broad principles such as distinction or proportionality. Therefore, situations can be imagined — at least, in the abstract — in which an interpretative conflict could arise from rules pertaining to LAWS.

A key question, for the purposes of this article, is whether conflicting legal interpretations could be resolved under the moderate approach in favour of a ban on LAWS. The answer is no, for a number of reasons. Firstly, scholarly opinion is weighted firmly against the ability of the Martens Clause to invalidate methods or means of warfare.[155] Secondly, the majority of the relevant jurisprudence has employed the Martens Clause 'to confirm or bolster the interpretation of other [rules of IHL]'.[156] Most conclusions have therefore been reached on alternative legal grounds, with the Martens Clause merely providing additional support.[157] As such, presuming this trend is to continue, the moderate interpretation of 'the Clause could *influence* or *strengthen* a determination that a non-existent weapon violates [IHL], but the Clause alone would be insufficient to prohibit it'.[158] Therefore, the moderate interpretation of the Martens Clause cannot justify a preemptive ban on LAWS.

The Clause's two prongs are, however, still of relevance. As will be demonstrated, a finding that LAWS offend either prong, while not legally binding, could nevertheless lead states to conclude that some form of regulation is necessary.

(c) The Broad View

As stated above, *Heed the Call* adheres to the broad view of the Martens Clause,

[151] Cassese (n 12) 202.
[152] Salter (n 135) 419 (emphasis altered).
[153] Ibid 419–420.
[154] *Heed the Call* (n 8) 14.
[155] See below Part II (A)(4)(b).
[156] Cassese (n 12) 202.
[157] Evans (n 41) 717. Or, in Cassese's words, being used 'primarily to pay lip service to humanitarian demands': ibid 208.
[158] Evans (n 41) 724 (emphasis in original).

'whereby the clause upgrades to the rank of sources of international law the "laws of humanity" and the "dictates of public conscience"'.[159] However, this adherence is largely implicit. For example, while *Heed the Call* notes that '[e]xperts disagree on the precise legal significance of the Martens Clause',[160] it does not openly endorse one interpretation, and instead discusses the various views in an apparently objective fashion.[161] Nonetheless, despite this apparent objectivity, *Heed the Call* goes on to build its case on the basis of the broad view.

The implication underlying *Heed the Call*'s thesis is that, because LAWS 'contravene' the principles of humanity and the dictates of public conscience, they should be banned.[162] This is a clear application of the broad view. *Heed the Call*'s adherence to the broad view is further exhibited when it suggests that a ban on LAWS is necessary to 'ensure compliance' with the two prongs of the Martens Clause.[163] Other statements assert that the Clause 'requires states' to consider the principles of humanity and the dictates of public conscience, and describe the Clause as a 'legal obligation on states'.[164] Only under the broad view could compliance with the Martens Clause's dual prongs be so required in every case.[165] And only under the broad view could a preemptive ban on LAWS be justified.

It could be argued that *Heed the Call* does not, in fact, adopt the broad view. Firstly, under the broad view, LAWS' failure to comply with the principles of humanity or the dictates of public conscience could render them unlawful *per se*.[166] If LAWS were unlawful *per se*, there would seemingly be little reason for the preemptive ban treaty sought by HRW/IHRC.[167] However, *Heed the Call* clarifies that a treaty would 'eliminate any uncertainty' — seemingly referring to uncertainty about the legal status of LAWS.[168] Secondly, *Heed the Call*, after objectively describing the three interpretations, states that, 'at a minimum … the Martens Clause provides key factors for states to consider as they evaluate emerging weapons technology'.[169] Whilst this statement could be seen as excluding the narrow approach — which focuses entirely on CIL at the expense of humanity and the public conscience — it could encompass both the moderate *and* broad approaches. Further, the statement (in *Heed the Call*'s final section) that humanity and the public conscience '*serve as guides for interpreting international law*' could bolster this view through its seemingly clear reference to the moderate approach.[170] However, despite HRW/IHRC's numerous qualifying statements, *Heed the Call*'s central thesis, that a ban on LAWS is needed to ensure compliance with the Martens Clause, can only be justified by the broad approach. Thus, any determination that the broad view is not

[159] Cassese (n 12) 187.
[160] *Heed the Call* (n 8) 2.
[161] Ibid 14–16 (merely stating, in the context of the broad view, that '*[o]thers argue* that the Martens Clause is itself a unique source of law'): at 15 (emphasis added).
[162] Ibid 1.
[163] Ibid 4.
[164] Ibid 6.
[165] Salter (n 135) 420 ('On the [moderate] reading of the Martens Clause, the [Clause] can, at most, operate as a *purely optional resource* that judges … can simply ignore with impunity') (emphasis in original).
[166] *Heed the Call* (n 8) 15.
[167] Ibid 44–45.
[168] Ibid 44.
[169] Ibid 2.
[170] Ibid 44 (emphasis added).

supported by the jurisprudence would be fatal to *Heed the Call*'s argument for a ban.

4 *Why the Broad View Is Unpersuasive, and the Moderate View Is the Best Reading of the Martens Clause*

This section will demonstrate that the broad view is an unstable foundation on which to build a case for a ban on LAWS. In fact, should it be proven that the broad view is incorrect, the central pillar underpinning *Heed the Call*'s analysis will have been removed.

(a) Jurisprudence

The relevant jurisprudence confirms the preeminence of the moderate interpretation. Although a full survey of the case law pertaining to the Martens Clause is beyond the scope of this article, five cases – which appear most consistently in the literature and are considered to be of greatest illustrative value – will be analysed.

Significantly, both Salter — an advocate of the broad view — and Cassese — an advocate of the moderate view — agree that the moderate view has received considerable judicial support.[171] However, the two scholars differ in their conclusions. Cassese declares that the case law has 'primarily' employed the Clause *ad abundantiam* 'as a sort of general instruction concerning the *interpretation* of certain international rules'.[172] Salter acknowledges that 'some cases' can be explained as such.[173] Nonetheless, he concludes that, 'in many others … [the Clause] has been deployed to support the argument that certain inhumane acts post-1899 violated the international law norms already expressed by the Clause'.[174] Cassese expressly rejects this view.[175] Both sets of arguments will be analysed below.

(i) Klinge (1946) Supreme Court of Norway

The *Klinge* case concerned a former Gestapo member charged with committing acts of torture. On appeal, the defence claimed that the death sentence handed down breached the Norwegian Constitution, which prohibited the retroactive application of laws.[176] The Supreme Court of Norway rejected this claim. It held that the acts of torture committed by Klinge were both forbidden under Norwegian law and violated the dual prongs of the Martens Clause.[177]

Salter describes this decision as upholding the broad view.[178] Cassese acknowledges that, '[o]n the face of it', this does appear to be the Supreme Court's interpretation; however, he counters that such a holding would be 'manifestly fallacious' and 'based

[171] Salter (n 135) 416, 419; Cassese (n 12) 202.
[172] Cassese (n 12) 208 (emphasis in original).
[173] Salter (n 135) 430.
[174] Ibid.
[175] Cassese (n 12) 208.
[176] Ibid 202.
[177] Ibid.
[178] Salter (n 135) 426.

on a … misconstruction of international law'.[179] This is because torture of civilians was 'implicitly prohibited' by CIL rules arising from the Hague Regulations of 1907, and thus already constituted a war crime.[180] The Supreme Court partly acknowledged this through its additional reference to Article 46 of the Hague Regulations, which contains the duty to respect the lives and rights of the inhabitants of occupied territories.[181] As such, beyond bolstering the interpretation of Article 46 that rendered acts of torture a war crime, reference to the Martens Clause was unnecessary.[182] On this 'better interpretation' of the case, *Klinge* supports the moderate view of the Martens Clause.[183]

(ii) Krupp (1948) United States Military Tribunal, Nuremberg

In *Krupp*, the defendants were charged under Articles 46-56 of the Hague Regulations with exploiting German-occupied territories during the Second World War.[184] The United States Military Tribunal held that Articles 46-56 were binding upon Germany, 'not only as treaty but also as customary law'.[185] It then declared that:

> The preamble [to the 1899 and 1907 Hague Convention] is much more than a pious declaration. It is a general clause, making the usages established among civilized nations, the laws of humanity, and the dictates of public conscience into the legal yardstick to be applied if and when the specific provisions of the Convention and the Regulations annexed to it do not cover specific cases occurring in warfare, or concomitant to warfare.[186]

The Tribunal then added: 'However, it will hardly be necessary to refer to these more general rules. The Articles of the Hague Regulations … are clear and unequivocal'.[187]

Both Salter and Cassese agree that the Tribunal convicted the defendants on the basis of Articles 46-56, and not the Martens Clause.[188] Thus, the quoted section was clearly *obiter*.[189] However, Salter argues that 'it cannot … be denied that such judicial citations … clearly add weight to the [broad] interpretation'.[190] Evidently, any judicial support does add some degree of weight to an interpretation. Nevertheless, it is clear that the Tribunal, in reaching its decision, merely used the Martens Clause as a supplementary source to bolster its finding on other grounds.[191] This is an application of the moderate approach.

[179] Cassese (n 12) 203.
[180] Ibid.
[181] Ibid.
[182] Ibid.
[183] Ibid.
[184] Salter (n 135) 423.
[185] Cassese (n 12) 203–204, quoting *Trials of War Criminals before the Nuremberg Military Tribunals under Control Council Law (no. 10, vol. 9, Part II*) 1340.
[186] Ibid 204, quoting *Trials of War Criminals before the Nuremberg Military Tribunals under Control Council Law (no. 10, vol. 9, Part II*) 1341.
[187] Ibid.
[188] Ibid 204; Salter (n 135) 424.
[189] Cassese (n 11) 204; Salter (n 135) 424.
[190] Salter (n 135) 424.
[191] Cassese (n 12) 203.

(iii) Rauter (1949) Dutch Special Court of Cassation

In *Rauter*, the appellant was accused of carrying out collective punishment of Dutch civilians. The Dutch Special Court of Cassation made two references to the Martens Clause.[192] In the first, the Court noted that Article 50 of the Hague Regulations prohibits collective punishment, before adding that collective punishment also contravenes the dual prongs of the Martens Clause.[193] However, this reference was '[p]lainly … made *ad abundantiam* and without attributing to the clause any particular legal value'.[194] The second reference is more relevant for present purposes. In response to defence claims that Rauter's death sentence contravened the principle of non-retroactivity,[195] the Court made a number of arguments, one view of which is that:

> [B]y virtue of the Martens Clause, any conduct contrary to the 'principles of humanity' and the 'dictates of public conscience' was to be regarded as amounting to a war crime or to a crime against humanity, even where such conduct was not prohibited by any international rule.[196]

Salter endorses this view.[197] Cassese rather unconvincingly states that, '[a]rguably the Court did not intend to go so far'.[198] Instead, he asserts that the Court merely 'relied upon the [Martens Clause] essentially to bolster its third argument [that the principle of non-retroactivity is not absolute], to which it probably attached decisive importance'.[199] This argument is speculative and equivocal. Thus, the *Rauter* case can be seen as providing isolated support for the broad approach.

(iv) Legality of the Threat or Use of Nuclear Weapons (1996) International Court of Justice

The ICJ's 1996 Advisory Opinion made mention of the Martens Clause on three occasions.[200] On the first, after referring to the 'cardinal principles' of protection of the civilian population and the prohibition of unnecessary suffering, the Court referred to the Martens Clause 'in relation to these principles'.[201] The Court then proceeded to state that the Martens Clause 'has proved to be an effective means of addressing the rapid evolution of military technology'.[202] Salter argues that this reference constituted a proclamation by the Court that the Martens Clause is the third cardinal principle of humanitarian law.[203] He avers that, '[c]learly, this decision placed each of the three established principles on a par as substantive and directly applicable legal norms of

[192] Ibid 204.
[193] Ibid.
[194] Ibid.
[195] Salter (n 135) 424.
[196] Cassese (n 12) 205.
[197] Salter (n 135) 425.
[198] Cassese (n 12) 205.
[199] Ibid.
[200] Ibid 206.
[201] *Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion)* [1996] ICJ Rep 226 [78].
[202] Ibid.
[203] Salter (n 135) 426–427.

international law'.[204]

However, this interpretation goes too far. A linguistic analysis of the relevant paragraph supports a narrower view. The Court stated that 'the cardinal principles … are the following'.[205] It then described '[t]he first' and 'the second principle'.[206] By referring to the Martens Clause 'in relation to these principles', the relevant passage clearly distinguished the two principles from the Clause.[207] As such, the Martens Clause is accorded a lesser significance. A far more likely meaning is the Cassese view, that 'the clause has served as the inspirational force prompting states to humanize war and ban weapons that cause excessive suffering'.[208]

The second reference was a statement that the Martens Clause, 'when adopted [in *Additional Protocol I*]', was 'merely the expression of the pre-existing customary law'.[209] As such, it is binding on all states.[210] Notably in this statement, the Court failed to 'tackle the crucial issue: if the clause is binding upon all states, what are its legal effects?'[211] As such, it provides no guidance on how the Clause should be interpreted.

The ICJ's final mention of the Martens Clause is similarly unenlightening. The Court pointed to 'the Martens Clause, whose continuing existence and applicability is not to be doubted, as an affirmation that the principles and rules of humanitarian law apply to nuclear weapons'.[212] Significantly, the reference was to 'the principles and rules of humanitarian law', and *not* the 'principles of humanity and dictates of public conscience'.[213] The Court thus avoided any endorsement of the broad view.[214]

It must be noted that, in his dissent, Judge Shahabuddeen did support the broad view.[215] He stated that 'the Martens Clause provide[s] authority for treating the principles of humanity and the dictates of public conscience as principles of international law'.[216] However, as a dissenting opinion, Shahabuddeen's statement is clearly not of binding authority.

On balance, the ICJ's three references to the Martens Clause add little to the interpretative debate. Despite clearly acknowledging the Clause's significance for humanitarian law, the Court 'did not resolve the principal controversies concerning its interpretation'.[217]

[204] Ibid 427.
[205] *Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion)* [1996] ICJ Rep 226 [78].
[206] Ibid.
[207] Ibid.
[208] Cassese (n 12) 206.
[209] *Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion)* [1996] ICJ Rep 226 [84].
[210] Ibid.
[211] Cassese (n 12) 206.
[212] *Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion)* [1996] ICJ Rep 226 [87].
[213] Cassese (n 12) 206–207.
[214] Ibid 206.
[215] Salter (n 135) 427; Ticehurst (n 117) 128.
[216] *Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion)* [1996] ICJ Rep 226, 406 (Judge Shahabuddeen).
[217] Meron (n 118) 87; see also Crawford (n 115) 10.

(v) K.W. *(1950) Conseil de Guerre de Bruxelles*

In the *K.W.* case, the defendant was accused of severely injuring a number of Belgian civilians who had resisted the German occupation. The Military Court noted that the Hague Regulations did not expressly forbid the perpetration of acts of violence or ill-treatment against the inhabitants of occupied territory.[218] It therefore held that, under the Martens Clause, the Court could apply broad principles of international law based on humanity and the dictates of public conscience.[219] In particular, these principles could be derived from the Universal Declaration of Human Rights.[220] The Court held that the defendant's conduct was contrary to Article 5 of the Universal Declaration — which prohibited torture and inhuman treatment — and thus violated the customs of war.[221]

Salter declares that this judgment is 'perhaps the clearest example of a judicial decision that advances [the broad view]'.[222] However, it seems evident that the Martens Clause was employed here as an interpretative aid.[223] The human rights standards of the Universal Declaration, imported via the Martens Clause, were 'used as guidelines for determining the proper interpretation to be placed upon vague or insufficiently comprehensive principles' of the Hague Regulations.[224] As such, this case supports the moderate view of the Martens Clause.

(vi) Conclusion on Case Law

This survey of the jurisprudence reveals broad (but not universal) support for the moderate view of the Martens Clause. In a clear majority of cases, the Clause has been employed 'implicitly or explicitly … as a sort of general instruction concerning the *interpretation* of certain international rules or as a means of better understanding the thrust of modern humanitarian law'.[225] Applied to the specific context of LAWS, a variety of scholarly statements provide further support for the moderate approach.

(b) Scholarly Opinion

While not all scholars expressly align themselves with an interpretation, a majority nevertheless reject, directly or indirectly, the broad view that the Martens Clause could be employed to delegitimise LAWS.

For example, Schmitt and Thurnher question the very applicability of the Martens Clause to LAWS, asserting that the Clause 'does not act as an overarching principle that must be considered in every case'.[226] Michael A. Newton refers more explicitly to the possibility of the Martens Clause supporting a ban on LAWS. He states that

[218] Cassese (n 12) 207.
[219] Salter (n 135) 425.
[220] Cassese (n 12) 207.
[221] Ibid.
[222] Salter (n 135) 425.
[223] Cassese (n 12) 207.
[224] Ibid.
[225] Ibid 208 (emphasis in original).
[226] Schmitt and Thurnher (n 7) 275.

'the Martens concept would be forced to bear a wholly unprecedented and unforeseen burden if it becomes the fulcrum for forcing a preemptive ban on a developing class of technology'.[227]

Still others focus on the Martens Clause's general potential as a prohibitory tool. Crawford states that the Clause 'cannot be used alone to outlaw certain methods or means of warfare, especially in contested or problematic cases'.[228] Theodor Meron similarly asserts that, '[e]xcept in extreme cases, [the Clause] cannot, alone, delegitimize weapons and methods of war, especially in contested cases'.[229] As the foregoing analysis has demonstrated, LAWS certainly qualify as such a contested case. Significantly, in employing the word 'alone', both authors imply that the Clause may be used to bolster conclusions reached on other grounds. Such an implication, combined with other revealing statements, [230] provides a strong ground for the argument that Crawford and Meron adhere to the moderate approach.

Salter presents an exception to this position. While he does not specifically pronounce on the view that the Martens Clause could be used to delegitimise a class of weaponry, his assertion that the Clause's dual 'elements are best considered as substantive and free-standing legal norms' could clearly be employed to underpin such a stance.[231]

Nevertheless, a clear trend in the relevant scholarship is to reject the aforementioned implications of the broad view.

(c) Conclusion

A combination of the relevant jurisprudence and considered scholarly opinion weighs heavily against the broad interpretation of the Martens Clause. As such, *Heed the Call*'s argument that the Martens Clause constitutes a solid legal and ethical base on which to construct a ban on LAWS is demonstrably incorrect.

Nevertheless, as stated above, a finding that LAWS offend the principles of humanity or the dictates of public conscience could still be practically, if not necessarily legally, relevant. Therefore, this article will proceed to analyse *Heed the Call*'s specific arguments on the Martens Clause's two prongs.

B *The Dual Prongs of the Martens Clause*

1 *What Is the Relevance of These Two Prongs under the Moderate Interpretation of the Martens Clause?*

[227] Michael A Newton, 'Back to the Future: Reflections on the Advent of Autonomous Weapons Systems' (2015) 47(1) *Case Western Reserve Journal of International Law* 5, 15–16.
[228] Crawford (n 115) 17.
[229] Meron (n 118) 88.
[230] Ibid 87–88 (the Martens Clause 'argues for interpreting [IHL], in case of doubt, consistently with the principles of humanity and the dictates of public conscience'); Crawford (n 114) 17 ('The Martens Clause should be used as an interpretative tool … rather than have such general, albeit persuasive, principles serve as the preponderant source').
[231] Salter (n 135) 437.

The foregoing analysis has demonstrated that the moderate interpretation of the Martens Clause is decisive. It has been additionally noted that the Martens Clause, although not an independent source of law, is of enduring significance in the field of humanitarian law. The principles of humanity and the dictates of public conscience, as the dual pillars of this important clause, must now be considered.

Under the moderate view, the principles of humanity and the dictates of public conscience are aids in legal interpretation. Legal conflicts may be resolved by judges interpreting international law to comport with such principles and dictates. Therefore, for the purposes of the moderate view, the Martens Clause's dual prongs are factors to be examined in the context of a particular legal conflict. *Heed the Call*, by contrast, analyses them as abstract and independent legal principles.[232] However, *Heed the Call*'s analysis is still of relevance. As Meron notes, 'weapons or means of warfare are seldom prohibited on the sole basis of their incompatibility [with the two prongs of the Martens Clause]'.[233] Nevertheless, 'a sense of abhorrence of a particular weapon *can be an important factor in the development of treaty prohibitions*'.[234] Therefore, a finding that LAWS conflict with either of the Clause's two prongs could still lead states to conclude that some form of regulation of LAWS is necessary.

2 *Do LAWS Contravene the Principles of Humanity?*

The precise scope of the principles of humanity is variously described.[235] For the purposes of this article, *Heed the Call*'s formulation will be employed. *Heed the Call* explains that the principles of humanity require three elements to be satisfied: (1) the humane treatment of others; (2) respect for human life; and (3) respect for human dignity.[236] *Heed the Call* declares that LAWS, for a number of reasons, contravene all three.[237] Firstly, humane treatment, which entails minimising the harm inflicted on others, is largely a by-product of the compassion and empathy that humans feel for one another.[238] LAWS evidently lack such compassion.[239] Secondly, respect for human life 'entails minimizing killing'.[240] LAWS lack both the legal and ethical judgement to prevent illegal killings and the 'innate resistance to killing' possessed by humans.[241] Finally, because LAWS are 'unable to appreciate fully the value of a human life and the significance of its loss', they are unable to respect human dignity.[242]

As with many of the arguments levelled against LAWS, *Heed the Call*'s claims here reflect a pessimistic view of technological progress. The equally valid, yet more optimistic, position is that LAWS could eventually supersede human capabilities.[243]

[232] *Heed the Call* (n 8) 19–27.
[233] Meron (n 118) 83–84.
[234] Ibid 84 (emphasis added).
[235] See, eg, Crawford (n 115) 9–10; Ticehurst (n 117) 129.
[236] *Heed the Call* (n 8) 2, 19.
[237] Ibid 3 ("'Fully" autonomous weapons would … violate the principles of humanity on all fronts').
[238] Ibid 2, 19–22.
[239] Ibid 2, 21–22.
[240] Ibid 2, 24.
[241] Ibid 2, 25–26.
[242] Ibid 2–3, 26.
[243] Evans (n 41) 730; Anderson and Waxman (n 79) 15.

Analysed through this more optimistic lens, the majority of *Heed the Call*'s relevant arguments are revealed to be baseless. Firstly, in regard to humane treatment, the requirement for harm minimisation could conceivably be programmed into LAWS. As noted above, LAWS could 'reduce misidentification of military targets, better detect or calculate possible collateral damage, or allow for using smaller quanta of force compared to human decision-making'.[244] Further, LAWS' lack of human emotions is arguably negated by the fact that they are programmed by humans who do possess such emotions. Secondly, in regard to respect for human life, LAWS could not be legally deployed unless they were IHL-compliant. And, similar to the first argument, human resistance to killing could be replicated in LAWS that were programmed to act conservatively. Finally, it is near preposterous to argue that, for any killing where the value of the human life is not philosophically contemplated, the principles of humanity are breached. One might consider the case of an artillery strike, where the victims are not even within sight at the time of launch. It is difficult to understand how a victim's humanity can be appreciated when the perpetrator is not even directly aware of the victim's existence. In any case, the human commander who deployed the LAWS to a particular operational environment would appreciate the value of the lives against which he or she had directed the system.

Overall, *Heed the Call*'s arguments on the principles of humanity are speculative and pessimistic. More importantly, they do not establish LAWS' incompatibility with such principles.

3 *Do LAWS Contravene the Dictates of Public Conscience?*

The dictates of public conscience are generally considered to encompass two factors: public opinion, and *opinio juris*.[245] *Heed the Call,* in declaring that LAWS contravene these dictates of public conscience, describes '[i]ncreasing outrage' and strong public objections to the development of such systems.[246] *Heed the Call* cites public opinion surveys, non-governmental organisation (NGO) activity, statements from peace, faith, science and technology leaders, and declarations from industry as evincing 'significant and spreading'[247] global public opposition to LAWS.[248] *Heed the Call* then focuses on government opinion, which it explains 'can help illuminate *opinio juris*'.[249] It declares that (as of April 2018) 26 nations from around the world support a preemptive ban on LAWS, while over 100 states are seeking a legally binding instrument.[250]

The use of public opinion as a measure of the public conscience has been subject to criticism. For example, it has been argued that analysts lack the means to effectively survey a global public and that, in any case, the general public is often insufficiently

[244] Anderson and Waxman (n 79) 15.
[245] Meron (n 118) 83; Crawford (n 115) 10.
[246] *Heed the Call* (n 8) 1, 3.
[247] Ibid 30.
[248] Ibid 30–38.
[249] Ibid 29.
[250] Ibid 38.

informed.[251] *Heed the Call*, in considering views from such a broad cross-section of global society, effectively responds to a number of these criticisms. However, HRW/IHRC fail to address other crucial concerns.

Firstly, *Heed the Call* simply ignores the wider criticisms of the public conscience as a factor for consideration in the limitation of means and methods of warfare. Public opinion, as a key pillar of the public conscience, has been described as 'prone to endless fluctuations'[252] as well as 'malleable and controllable'; thus, it is a dubious 'moral foundation for new law'.[253] Public conscience more broadly has been criticised for its 'vague' nature.[254] Such factors weigh even further against the broad approach, which advocates reliance on the public conscience as a source of law.

Secondly, *Heed the Call* is correct in acknowledging that 'polls, by themselves, are not sufficient measures of the public conscience, in part because the responses can be influenced by the nature of the questions asked and do not necessarily reflect moral consideration'.[255] Nevertheless, *Heed the Call* goes on to rely heavily on a number of surveys in which the majority of respondents expressed concern about, or opposition to, LAWS.[256] It is submitted that such surveys are completely inappropriate for the determination of the public conscience. One reason is that their results reflect 'unfair prejudices' against LAWS, derived from science fiction notions of killer robots.[257] Demonstrating this point, in a number of 2016 survey experiments, Michael C. Horowitz determined that 'public opposition to autonomous weapons is contextual'.[258] For example, he found that while only 38% of the US respondents supported developing LAWS when asked in a vacuum, this increased to 61% of respondents when told that LAWS were more effective than alternatives in protecting US forces from attack.[259] This example raises serious questions about the reliability of the surveys used by HRW/IHRC. It could also have even broader implications — calling into doubt other measures of the public conscience relied upon in *Heed the Call*.

Despite *Heed the Call* demonstrating a convincing groundswell of support for some form of regulation of LAWS, this article is unable to conclude that LAWS infringe the dictates of public conscience. *Heed the Call* itself concedes that 'public opposition to [LAWS] is not universal'.[260] And, whilst universal opposition is clearly not required, the bar for establishing the public conscience must necessarily remain high. Any organisation seeking to argue that a technology or practice is contrary to the dictates of

[251] Rob Sparrow, 'Ethics as a Source of Law: The Martens Clause and Autonomous Weapons', *Humanitarian Law & Policy* (14 November 2017) <https://blogs.icrc.org/law-and-policy/2017/11/14/ethics-source-law-martens-clause-autonomous-weapons/>.

[252] Evans (n 41) 732.

[253] Asaro (n 104) 374.

[254] Christopher J Greenwood, 'Historical Development and Legal Basis' in Dieter Fleck (ed), *The Handbook of Humanitarian Law in Armed Conflicts* (Oxford University Press, 1995) 1, 29.

[255] *Heed the Call* (n 8) 29.

[256] Ibid 30–31.

[257] Asaro (n 104) 374; see also Schmitt and Thurnher (n 7) 241–242 (describing a number of other myths about LAWS that are 'clouding public debate').

[258] Michael C Horowitz, 'Public Opinion and the Politics of the Killer Robots Debate' (2016) *Research and Politics* 1, 1.

[259] Ibid 4.

[260] *Heed the Call* (n 8) 30.

public conscience bears the burden of affirmatively establishing that fact. With its public opinion surveys discounted, *Heed the Call* fails to discharge that burden.

Nevertheless, the admittedly widespread public opposition to LAWS could serve as one ground justifying their regulation. Regulation will now be considered.

IV PART THREE

A *Why a Ban on LAWS Is Misconceived*

As established above, the Martens Clause does *not* justify a ban on LAWS. However, the dictates of public conscience do demonstrate public concern surrounding LAWS, of sufficient magnitude to suggest that some sort of regulation may be *desirable*. In addition, the key arguments against LAWS, which critics suggest justify a preemptive ban, have been described above. While a full analysis of these arguments was beyond the scope of this article, their description did reveal a number of broad concerns with LAWS. A combination of these two factors suggests that there is indeed a strong case for some form of regulation. Nevertheless, this section will demonstrate that calls for a ban on LAWS are misconceived.

Heed the Call proposes that states should 'adopt a specific international agreement' that 'take[s] the form of a preemptive ban on the development, production, and use of fully autonomous weapons'.[261] However, while *Heed the Call* briefly critiques the more limited calls for regulation of LAWS, it does not justify its calls for a ban beyond highlighting LAWS' supposed contravention of the Martens Clause.[262] Relevantly, in this regard, *Making the Case* asserts that a ban treaty would 'clarify states' obligations',[263] create a stigma around LAWS,[264] and 'be more comprehensive than regulation'.[265] Whilst these reasons may be valid, there are a number of strong arguments weighing against a ban.

Firstly, and most crucially, calls for a ban are 'premature since no such weapons have even left the drawing board'.[266] As outlined above, LAWS do not yet exist, and opinions as to their future capabilities are sharply divided. Many hypothesise that LAWS may ultimately 'mitigate suffering' in war and provide greater protection for civilians,[267] possibilities that would be completely undermined by a preemptive ban.

Secondly, LAWS still lack a commonly accepted definition. As such, it would be 'extraordinarily difficult' for states to establish the required consensus on what to include or exclude from a ban.[268] Any efforts to include extant anti-material systems within calls for a ban, which HRW/IHRC appear to have done,[269] present a 'staggering

[261] Ibid 44.
[262] Ibid 44–45.
[263] *Making the Case* (n 53) 32.
[264] Ibid.
[265] Ibid 37.
[266] Schmitt and Thurnher (n 7) 234.
[267] Mull (n 26) 507; ibid.
[268] Mull (n 26) 529.
[269] Ibid; Jenks (n 18) 60.

obstacle' to acceptance by states.[270]

Thirdly, Crootof's analysis of the eight factors historically required for an effective ban on a weapon reveals that, in this case, only one factor — public concern and civil society engagement — supports the possibility of a successful ban on LAWS.[271] The remaining seven factors 'are either inconclusive or currently weigh against the likelihood of a successful ban'.[272] As such, 'states are unlikely to conclude – let alone comply with – a treaty banning [LAWS'] use, unless the ban is so narrowly tailored that it effectively defines [LAWS] out of existence'.[273]

Finally, although 30 states support a ban on LAWS,[274] eight remain resolutely opposed to any new treaty.[275] Significantly, these eight include militarily advanced states such as France, Israel, the Republic of Korea, Russia, the US and the United Kingdom (UK).[276] This reality carries two practical implications. The first is that, in the face of this opposition, no ban could pass at the CCW, which requires decisions to be reached by consensus.[277] The second is that any proposed ban would, in any case, be of little practical utility without the support of the states most actively engaged in this area.[278] Ban advocates may nonetheless cite the moral value of such a prohibition, leading, as it may, to the stigmatisation and ultimate disappearance of such weapons. However, with LAWS' future capabilities still so uncertain, and the case against these weapons therefore yet to be decisively made, such a ban cannot, at least at present, be considered warranted.

Two key points emerge from this analysis. Firstly, banning LAWS before achieving a full appreciation of their humanitarian potential risks foregoing potentially life-saving technology. And secondly, any present attempt at such a ban carries a low likelihood of success.

B *Why Existing Law Is Insufficient*

Schmitt and Thurnher argue that 'the law of armed conflict's restrictions on the use of weapons … are sufficiently robust to safeguard humanitarian values'.[279] On this view, existing law is sufficient to regulate the use of LAWS,[280] as 'illegal uses would, by definition, already be prohibited under IHL'.[281] It is difficult to dispute this assessment. However, such a view presents only part of the picture.

While IHL is indeed capable of regulating the use of new weapons, it fails to

[270] Jenks (n 188) 60.
[271] Crootof, 'The Killer Robots Are Here' (n 16) 1843, 1883–1891.
[272] Ibid 1843.
[273] Ibid 1894.
[274] As of 11 March 2020. See Campaign to Stop Killer Robots, *Country Views on Killer Robots* (11 March 2020) <https://www.stopkillerrobots.org/>.
[275] Ibid.
[276] Ibid.
[277] Scharre, *Army of None* (n 52) 354.
[278] Michael Schmitt, 'Regulating Autonomous Weapons Might be Smarter than Banning Them', *Just Security* (Web Page, 10 August 2015) <https://www.justsecurity.org/25333/regulating-autonomous-weapons-smarter-banning/>.
[279] Schmitt and Thurnher (n 7) 279–280.
[280] Ibid 233–234.
[281] Scharre, *Army of None* (n 52) 266.

account for the less tangible *moral concerns* with such weapons. For example, while clearly not prohibited by IHL, the notion of machines taking human life is nonetheless deeply problematic to many. This is revealed by the above analysis on the dictates of public conscience. And, whilst the dictates of public conscience are not a legally binding source of law, these dictates are nonetheless a factor that may be considered in the regulation of means and methods of warfare.[282]

Relatedly, the argument has been made that Article 36 reviews will be sufficient to outlaw any LAWS that are incapable of complying with IHL.[283] Indeed, Lt. Col. John Stroud-Turp of the UK Ministry of Defence asserts that 'Article 36 reviews have been capable of dealing with advances in technology for close to 40 years'.[284] Thus, 'there is no reason to doubt their suitability for dealing with greater advances in autonomy'.[285] However, Stroud-Turp himself acknowledges that, despite such reviews constituting a binding obligation on the 170 states party to *Additional Protocol I*,[286] only approximately 25 states conduct them.[287] Furthermore, Article 36 reviews focus only on the legality of a weapon as such,[288] and thus fail to account for the moral concerns with LAWS.

Therefore, when it comes to prohibiting LAWS that may be incompliant with IHL, existing law is largely fit for task. However, the application of this existing law fails to account for the groundswell of moral opposition to these emerging weapon systems.

C *Why, and How, LAWS Should Be Regulated*

The foregoing analysis has conclusively demonstrated that the Martens Clause does not justify a ban on LAWS. Nonetheless, this does not mean that the Clause's two prongs are irrelevant. Although HRW/IHRC's arguments about the principles of humanity are unpersuasive, the dictates of public conscience reveal a widespread discomfort with LAWS. Such discomfort, while not legally binding, can still inform the ongoing debate about the best way forward for LAWS.

While some suggest that existing law is sufficient to govern LAWS,[289] few commentators take this approach. Most agree that states must do *something*.[290] Given the insurmountable challenge of attempting a ban, at least at present, this article contends that regulation is the best means of dealing with the legal and ethical issues presented by LAWS.

Various forms of regulation have been proposed, from a legally binding treaty to a non-binding political declaration setting out the need for human control.[291] The content

[282] Meron (n 118) 84.
[283] *Autonomous Weapon Systems: Implications* (n 20) 59.
[284] Ibid.
[285] Ibid.
[286] Mull (n 26) 492.
[287] *Autonomous Weapon Systems: Implications* (n 20) 59.
[288] Michael N Schmitt, 'Autonomous Weapon Systems and International Humanitarian Law: A Reply to the Critics' (2013) *Harvard National Security Journal Features* 1, 32.
[289] Schmitt and Thurnher (n 7) 233–234.
[290] See, eg, Anderson and Waxman (n 79) 9 (arguing that 'the wait-and-see view is shortsighted and faulty').
[291] *Report of 2018* (n 67) 7; see also Crootof, 'The Killer Robots Are Here' (n 17) 1897 (proposing a regulatory treaty).

of any such regulation has also been variously described. It has been suggested that a regulatory treaty could: prohibit mobile LAWS, which are more likely to be used offensively; prohibit anti-personnel LAWS; require that LAWS only be used for non-lethal purposes, such as surveillance; or confine the use of LAWS to isolated and unpopulated areas, such as the high seas, outer space or the desert.[292]

This article adheres to Jenks' 2016 proposal for a 'moratorium on LAWS primarily designed to lethally target personnel'.[293] Under this proposal, any party seeking to deploy LAWS must ask whether the system in question is: (1) primarily designed to lethally target personnel; and (2) capable of selecting and engaging targets without human intervention.[294] If the answer to both questions is yes, then that system is included in the moratorium.[295]

A moratorium holds a number of advantages over a ban. Unlike a ban, a moratorium would not forever rule out systems that may eventually prove to be more compliant than humans with IHL.[296] Further, this lack of finality is likely to significantly reduce the state opposition that could render any proposed ban practically ineffective.[297] As it stands, some states (such as the US) have already prohibited their autonomous weapons from using lethal force.[298] These factors suggest that support for the moratorium may be forthcoming.

There are a number of persuasive reasons for a focus on anti-personnel weapons. Most crucially, the anti-personnel focus of this moratorium ensures that current anti-material systems — which have been widely deployed since 1980 — would not be tied up in the temporary prohibition.[299] This proposal clearly distinguishes extant from future systems. The anti-personnel focus also addresses the moral issues arising from machines' use of lethal force against humans.[300] Additionally, anti-material weapons would, in most cases, present a lesser threat of misuse by terrorists or irresponsible state actors than anti-personnel weapons.[301]

As such, it is concluded that a moratorium on anti-personnel LAWS would best address the concerns posed by this emergent technology.

V CONCLUSION

'Technology is a useful servant but a dangerous master' – Christian Lous Lange

LAWS are just the latest example of the inexorable advance of modern military

[292] Crootof, 'The Killer Robots Are Here' (n 17) 1900.
[293] Jenks (n 18) 2.
[294] Ibid 61.
[295] Ibid.
[296] Ibid 66.
[297] Ibid.
[298] See, eg, *Directive Number 3000.09* (n 25) 3 ('Autonomous weapon systems may be used to apply non-lethal, non-kinetic force … against materiel targets').
[299] Jenks (n 18) 61.
[300] Ibid 60.
[301] Scharre, *Army of None* (n 52) 355.

technology. The dizzying pace of technological change in this area raises a number of pressing legal, ethical and practical questions. Perhaps most crucial is the question of the relationship that we, as a global society, wish to have with technology. In LAWS, many see a fundamental threat to the prevailing technological order, in which machines are currently harnessed to humankind's collective benefit. The sensationalist term 'killer robots' both reflects and underpins this anxiety that the current equilibrium might be unbalanced.

While such concerns are not unfounded, this is not a time for alarmism, nor for precipitous actions. Time could ultimately prove that a ban on LAWS is required. However, with its legal arguments on the Martens Clause refuted, *Heed the Call* fails to make that case.

Nevertheless, the admittedly widespread public opposition to this emergent technology can still prove practically, if not legally, relevant. Combined with other broad concerns about LAWS, such opposition suggests that regulation is necessary. To this end, this article proposes that a moratorium on anti-personnel LAWS would address these legitimate concerns while overcoming the greatest obstacles posed by a ban.