

Some Reflections on Autonomous Weapon Systems

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INTRODUCTION

This special issue on autonomous weapon systems is the result of a conference entitled ‘The Ethical and Legal Challenges Posed by Autonomous Weapons Systems’ organised on 19 April 2017 by the Norwegian Peace Association and the Norwegian Centre for Human Rights, through the Faculty of Law Research Group on Human Rights, Armed Conflicts, and the Law of Peace and Security. The increased military use of unmanned armed vehicles over the past decade, and the possible advent of fully autonomous weapons systems have contributed to what many view as a dramatic change in how we think about and conduct warfare.¹ As Neil Davison has put it, ‘the risks of functionally delegating complex tasks—and associated decisions—to sensors and data-driven algorithms is one of the central issues of our time, with serious implications across sectors and societies. Nowhere are these more acute than in relation to decisions to kill, injure and destroy.’² Technological developments have continuously affected our thinking on the conduct of warfare, but

1. See *inter alia* Alex Leveringhaus, *Ethics and Autonomous Weapons* (Palgrave Macmillan 2016) and Dan Saxon (ed), *International Humanitarian Law and the Changing Technology of War* (Martinus Nijhoff Publishers 2013). See also ICRC, ‘Ethics and autonomous weapon systems: An ethical basis for human control?’ (ICRC, 3 April 2018) <https://www.icrc.org/en/document/ethics-and-autonomous-weapon-systems-ethical-basis-human-control> accessed 4 July 2018.
2. Neil Davison, ‘Autonomous weapon systems: An ethical basis for human control?’ (*Humanitarian Law & Policy*, 3 April 2018) <http://blogs.icrc.org/law-and-policy/2018/04/03/autonomous-weapon-systems-ethical-basis-human-control> accessed 4 July 2018.

the introduction of fully autonomous weapon systems would transfer for the first time ultimate life-death decisions from humans to machines. While this paradigm change in the conduct of warfare is not imminent or unavoidable, the fact that countries like the US, Russia, the UK, China, South Korea, and Israel are in the process of developing military systems with steadily increasing levels of autonomy means that this stage will be reached in the near future.

SOME CONTEXT ON THE ISSUE OF AUTONOMOUS WEAPONS SYSTEMS

Over the past four years, the issue of autonomy in weapon systems has been discussed, first in informal expert meetings, then by a Group of Government Experts, by the State parties to the UN Convention on Certain Conventional Weapons.³ The purpose of these meetings has been to shed light on what a possible fully autonomous weapon system could look like, and what legal, moral and security implications the development, use and spread of these types of weapons might have. A fully autonomous weapon is, in this context, understood as a weapon system capable of identifying, selecting and attacking a target without human intervention. In terms of responsibility, the EU in its Lethal Autonomous Weapons Systems (LAWS) Statement noted that with regard to cutting-edge emerging technologies, the onus must be on the scientists, industry, military and political decision-makers to stay within the legal framework that the international community has established.⁴ Three specific areas of law are especially relevant here, namely international humanitarian law, international human rights law, and the law on international responsibility.

While proponents of higher levels of autonomy in weapons point to the increasing need for speed, accuracy and information processing capabilities these systems would provide, opponents claim that lethal, fully autonomous weapons systems would not be able to comply with international law, would create an accountability gap, and could lower the threshold for policy makers to go to war. Some have also raised the question of whether it would be morally acceptable to outsource a decision to take human lives to a machine. One of the main points raised by civil society organizations like Amnesty International, Human Rights Watch and Article 36, all in favor of an international ban on lethal autonomous weapon systems, is that these types of weapons would not be able to distinguish between civilians and combatants; nor would they be able to judge whether the military advantage achieved by an attack would outweigh the potential civilian casualties caused by the attack.

Yet others point to the potential threat to strategic stability posed by a fully autonomous weapon system, given a likely combination of high speed, lack of human oversight, and the inherent unpredictability of complex systems with a high level of autonomy.

3. 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 (and Protocols) (as amended on 21 December 2001) (adopted 10 October 1980, entered into force 2 December 1983) 1342 UNTS 137.
4. EU Statement on Lethal Autonomous Weapons Systems (LAWS), Group of Governmental Experts Convention on Certain Conventional Weapons, Geneva, 13-17 November 2017 https://eeas.europa.eu/delegations/un-geneva/35508/convention-certain-conventional-weapons-eu-statement-lethal-autonomous-weapons-systems-laws_en accessed 4 July 2018.

Among those who have expressed concern regarding the development and use of fully autonomous weapon systems, we find highly regarded scientists, entrepreneurs and executives, including the late Stephen Hawking, Elon Musk, Noam Chomsky and Stuart Russell. Many States have already deployed weapon systems with considerable degrees of autonomy, and others are under development. Although fully autonomous lethal systems have, supposedly, not yet been deployed, some roboticists claim that it could only be a matter of years before they are a reality.

Given the significance of the topic and the high stakes, it is not surprising that high-level political and technical discussions are held at many important international and regional forums. These discussions could benefit not merely from focusing on fully autonomous systems, but also on systems that are already in use, labeled semi-autonomous. Even in these types of weapons, it is not always clear what role humans have in the control over the weapons system, and at what point this control ceases to be meaningful. These, and other issues, are addressed in the three articles that form part of this special issue.

THE TOPICS ADDRESSED IN THE SPECIAL ISSUE

In the first article, John Birkeland discusses the fundamental aspects of autonomy in weapons systems, some of the challenges that the military hopes autonomy will help overcome, and modern warfare concepts that are facilitated by autonomy in weapons systems, in particular flying autonomous systems.

In the second article, Sigrid Redse Johansen engages with the question of how autonomous weapon systems can be used in accordance with existing rules. She does so from the perspective of the legal framework governing the conduct of hostilities, the 'Law of Armed Conflict' (LOAC).

In the third article, Daniel Møgster addresses the question of how the use of autonomous weapons systems would influence victims' right to reparation under domestic Norwegian law for breaches of international human rights law (IHRL) and/or humanitarian law (IHL) during international military operations.

In their entirety, these three articles provide important insights on key issues concerning autonomous weapons systems, especially the concept of autonomy, the application of these systems in aerial warfare, their compatibility with international humanitarian law, and the law on responsibility and reparations.