ODUMUNC 39

Disarmament and International Security Committee

The Challenge of Lethal Autonomous Weapons Systems

By: Steve Bunting and Christopher Steadman

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Issue Brief for the General Assembly First Committee:
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Until recent years, warfare was fought entirely by men themselves or vehicles and weapons directly controlled by humans. The last decade has a seen a sharp increase in drone warfare which some argue has depersonalized war and made it easier to ignore the moral implications of the atrocities of war. A new technology is slowly coming in to public view, however, which could take this problem to new extremes. Several states are developing technologies for completely autonomous war machines. These machines, unaided by human control, can cause mass destruction and loss of human life without anyone ever having to pull a trigger. These machines so far have no UN regulation governing them, and the time has come for the members of the disarmament and international security body to make decisions about what will and will not be acceptable on an international level regarding the use of autonomous war machines.

Background:

The US department of defense defines autonomous weapons systems as "a weapon system(s) that, once activated, can select and engage targets without further intervention by a human operator."[1] This would be entirely unique machinery, and as far as is known presently, no such weapon is considered battle-ready. However, the development of these weapons has been

An example of a possible Autonomous Weapon
Source:ICRC

taken very seriously by the more developed states of the world as an effective method of limiting loss of human life in combat situations. These differ drastically from drone technology in that there is no human decision-making going on. Once operational, these weapons should be coded to make decisions entirely independent of a human operator and remove all influence from humans in their operation.

There is a host of ethical dilemmas presented where autonomous weapons come in to play. For example "does the human intuition play any role in decision making?" If so, what extent of human oversight should be present when deploying such machines? If there is none, does the human algorithmic decision making process display a nature procedural enough that with the present coding ability humans have it can be translated such that a machine can understand and act on such ethical guidelines? All of these are issues for the

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[1] "The Ethics of Autonomous Weapons Systems ." The Ethics of Autonomous Weapons Systems: The Ethics of Autonomous Weapons Systems • Penn Law. November 21, 2014. Accessed October 29, 2015.

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committee to debate, and ultimately write on. The impacts of any resolution approved on this topic will surely set a guideline for all warfare in the world moving forward.

Present UN debate/legislation:

In April of 2014 the Convention on certain Conventional Weapons (CCW) held the first, and to date only, meeting on autonomous weapons. Dr. Boothby addressed the committee on possible challenges regarding international law and autonomous weapons. He stated that there are several criteria such weapons must meet to be considered lawful under current UN protocol[2]. The first issue brought up by Dr. Boothby is that such weapons must not cause suffering which has no corresponding military purpose. One prong of this requirement is that for the combatants the machine is meant to attack, it can't inflict unnecessary suffering, and once again a shortage of technology is at issue. There is presently no way for such a machine to distinguish between a dead and alive enemy. If an enemy is dead clearly suffering is not an issue. However, leaving a combatant in a compromised position where they have several unnecessary non-lethal wounds this could cause unnecessary suffering. Another is the type of force the machine uses. Obviously bullets are the likely means of exerting force, but it is altogether possible that such machines might employ fire or gas.

In this event the damage it causes could become of the type the UN might deem unnecessary.

The second issue brought up in the speech was the discriminant nature of the weapons. This poses a challenge considering that, while the technology exists to recognize faces against backgrounds, there is no readily apparent way to determine if a face is that of a military combatant or a civilian fleeing a battleground to find safety. This is a major issue that needs dealing with. A weapon must be capable of being directed at military targets. Currently there is no sort of facial recognition software capable of making the appropriate distinctions. This is an area many tech giants are working hard to develop, however, at present the technology is still in its infancy[3].

Autonomous Weapons Systems introduce a new type of warfare, but does that mean that the current regime regulating warfare would still be relevant? The Geneva conventions regulate how states are to act in war time, how prisoners are to be treated, and the safety of civilians or wartime correspondents, but how do autonomous weapons fit into this framework? It is to be assumed that the current standing regime of regulations on wars would translate into use regardless of the type of weapon used, but are autonomous weapons able to truly uphold international law on their own? Currently the systems lack the ability to sense civilian or fighter, it would be unable to detect whether a combatant was attempting to surrender and become a

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[2] Boothby, WH. "Autonomous Weapons: Possible Challenges to IHL." Lecture, CCW Convention on Autonomous Weapons, United Nations, Geneva, Switzerland, April 13, 2015.

[3] Ibid.

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prisoner, and its ability to indiscriminately follow its programming regardless of the situation at hand could cause serious problems with the existing international laws governing war. In order to uphold the principals established in the field of war regulation, the autonomous weapon systems would need to be designed with the laws themselves directly in mind. Until this level of integration into the weapon design is made, autonomous weapons are a possible human rights disaster waiting to happen[4].

Many NGOs have been created with the goal of stopping development of LAWS, including the "Campaign to Stop Killer Robots"
Source: Stopkillerrobots.org

At the CCW, a meeting of experts on Lethal Autonomous Weapons Systems (LAWS) was called for, and in April of 2015 the body convened to discuss the developments in the field and steps for the UN moving forward. A major issue established during this meeting is one of great importance: proliferation. While the nature of the weapons themselves can be debated in context to human rights and dignity, possessors of weapons of this caliber and possible moral issues is of extreme importance. The creation of LAWS could possibly engineer a new global arms race, further destabilizing international security. The ownership of a new class of weapon is a desirable trait for countries wishing to gain an advantage over its neighbors, and even if for strictly defense purposes the possession of a LAWS could inspire other states nearby to do the same[5].

There are, despite many risks involved in terms of human rights and international laws with LAWS, distinct possible positives. A major benefit is that LAWS simply follow a programed order. While this could possibly be abused, and further technological innovation is required in order for safety and the assurance of civilian safety, the possibility for an absolute adherence to laws of engagement is certainly a positive. Instead of leaving the adherence of regulations to humans who could stray from these orders, LAWS would, if correctly programmed and properly secured, perfectly follow all rules of engagement that are given to the system. Another possible positive for LAWS, beyond the obvious removal of immediate human error and the risks of human fighters, is the ability of LAWS to be specifically designed to be used in ethically

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[4] Scharre, Paul. "Presentation at the United Nations Convention on Certain Conventional Weapons." Lecture, The Convention on Certain Conventional Weapons (CCW) Informal Meeting of Experts on Lethal Autonomous Weapons Systems, UN Headquarters, Geneva, April 13, 2015.

[5] Cyubrud, Mark. "The International Committee for Robot Arms Control (ICRAC) Opening Statement." Lecture, The Convention on Certain Conventional Weapons (CCW) Informal Meeting of Experts on Lethal Autonomous Weapons Systems, UN Headquarters, Geneva, April 13, 2015.

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positive ways. LAWS could be deployed and programmed for a variety of different wartime services, including the protection of civilian centers and other humanitarian tasks. LAWS could be used as a truly neutral party to a conflict used to keep warring parties in ceasefire[6].

The dais for the Informal meeting on
LAWS April 13-17 2015.
Source: The UN Headquarters in Geneva

The basic fundamental argument in establishing what is and what is not a LAWS, is based around the concept of *meaningful human control* (MHC). MHC constitutes a determined level of human involvement that is required for the proper

function of the system. This could mean that humans are in charge of the programming and supervising, or that humans are responsible for the piloting or operating systems, but either way humans are ultimately responsible for the actions of weapon systems, just to varying degrees. MHC establishes the link between the weapon system and its controllers, and therefore helps to close some of the holes that LAWS poke into international law. Establishing an agreed upon level of MHC can help to close the gap between accountability and the autonomous nature of LAWS[7].

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[6] UN Institute for Disarmament Research. "Framing Discussions on the Weaponization of Increasingly Autonomous Technologies." UNIDIR Resources, no. 1 (2014): 14. Accessed November 6, 2015.

[7] Poland. "Meaningful Human Control as a Form of State Control over LAWS." Lecture, The Convention on Certain Conventional Weapons (CCW) Informal Meeting of Experts on Lethal Autonomous Weapons Systems, UN Headquarters, Geneva, April 13, 2015.

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Following the informal meeting of experts on LAWS in April 2015, the expert panel began to author a report to be presented at the November 12-13 Meeting of the High Contracting Parties to the Convention on Certain Conventional Weapons. 77 states participated in the discussions that culminated in the report, and holds recommendations on the major

already available on the website, and can be found here. It is highly recommended that research on LAWS beyond this brief either begin or end here, because it is the only UN report on the issue and it is incredibly up to date. For further reading on LAWS, the International Committee of the Red Cross published a report of its own in November of 2014 (it can be found here) and the UN

A map showing opinions towards LAWS, and possible developers of the systems. Warning: this map is from an anti-LAWS NGO, so be weary of possible bias.
Source: stopkillerrobots.org

areas discussed during the expert meeting: technical issues with LAWS, characteristics of LAWS, possible challenges to international humanitarian law due to increasing levels of autonomy, overarching issues between the topics, and suggested pathways for the future. The report is

Institute for Disarmament Research (UNIDIR) published a paper in 2014 titled "Framing discussions on the weaponization of increasingly autonomous weapons" (this paper can be found here, Warning this link will download a PDF onto your computer from the UNIDIR website).

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To date, the UN has offered no formal legislation on the topic beyond the panel of experts' brand new report. It has, in fact, managed to largely escape debate in any of the major UN bodies. Fears are beginning to rise that the UN will fail to draft anything on this topic until it is too late and an international incident caused by this technology has already occurred.

It is important to remember that it is not unprecedented for new weapon systems to be entirely banned by the UN. Existing bans of weapons include a ban on blinding laser weapons in 1995 and cluster bombs in 2008, so a complete ban of LAWS is not radical whatsoever. Most human rights groups and NGOs advocate a complete ban on the use and development of LAWS[8].

Country Positions:

Upwards of 50 countries and organizations offered direct policy opinions regarding many aspects of LAWS at the informal expert panel meetings in April of 2015. As this is one of the first meetings in UN history on the topic, many country positions are first surfacing as a result of this meeting. The UN has published online text versions of every country, expert, and NGO's speech at the expert panel meeting, which offers a valuable source for finding

additional arguments and positions on the topic (Here is a link to the page).

The United States of America:

The USA is one of the two states in the world that have begun to craft what could eventually be a policy concerning LAWS (the other state is the United Kingdom). The US Department of Defense passed directive 3000.09 in November of 2012, opening a possible framework for the creation, justification, and deployment of LAWS. The United States in this department of defense directive then established the first official policy on the development of autonomous weapon systems, and placed a specific emphasis on ensuring the safety from unintended engagements by the autonomous weapon, reservations to be echoed in further discussions and the panel of experts[9].

The United Kingdom of Great Britain and Northern Ireland:

The UK was the second state in the world to make a policy about LAWS. The British government has taken the policy to be against the outright ban of LAWS, more than likely because of its position as having a high probability of obtaining one near the beginning of development of the weapon system. The UK is a heavy supporter of condu cting legal reviews of any weapons required by the First Additional Protocol to

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[8] UN Institute for Disarmament Research. "Framing Discussions on the Weaponization of Increasingly Autonomous Technologies." UNIDIR Resources, no. 1 (2014): 14. Accessed November 6, 2015.

[9] Meier, Michael W. "U.S. Delegation Opening Statement." Lecture, The Convention on Certain Conventional Weapons (CCW) Informal Meeting of Experts on Lethal Autonomous Weapons Systems, The United Nations, Geneva, April 13, 2015.

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the Geneva Conventions, which many states fail to do. The UK specifically uses a 5 tiered system to evaluate whether any weapon in question is legal under international humanitarian law, and requests the rest of the world do the same in regards to LAWS.

African States:

The two African states that made opening remarks at the informal meeting in April in 2015, South Africa and Sierra Leone (Sierra Leone served an incredibly important role in the meeting as the "Friend of the Chair", tasked with identifying consensus topics on the issue for the chair), both shared some similar sentiments. Both states emphasized the primacy of human rights and international humanitarian law (IHL). Placing an emphasis on human rights and dignity, while an important issue for all participants, is therefore the chief concern for most African states involved in discussions of LAWS. Many other non-western bloc states echoed these same sentiments, and achieving the goal for adherence to IHL is, as stated by Sierra Leone in their opening statements, in itself a discussion on how to adapt emerging technologies to existing IHL frameworks, something to be done by the developers and users of said technologies[10].

Other Countries of Interest:

There are five countries of particular interest for LAWS, they are Cuba, Ecuador, the Holy See, Pakistan and Egypt. These five states officially seek a preemptive ban on LAWS development and deployment because of the perceived risks involved with these weapons, and the possibility of global destabilization.
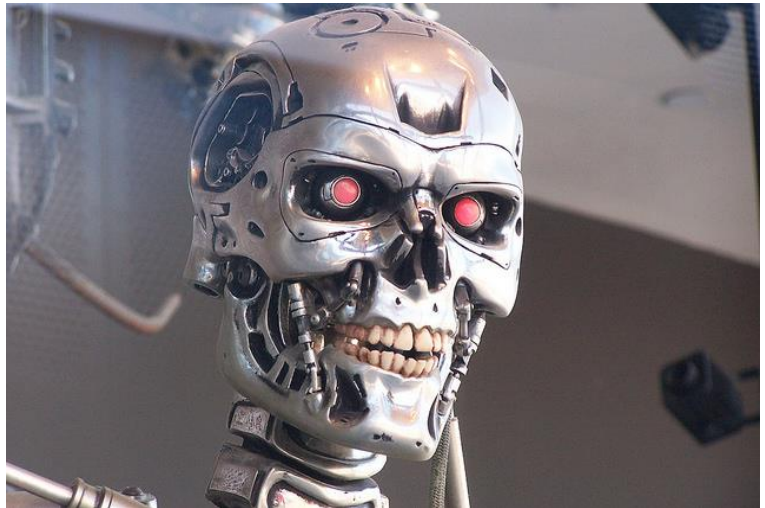
While the terminator is indeed science fiction, how far are we from technology akin to ones shown in popular movies around the world, and is the world ready for them?
Source: lizleafloor.com

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[10] Sierra Leone. "General Statement." Lecture, The Convention on Certain Conventional Weapons (CCW) Informal Meeting of Experts on Lethal Autonomous Weapons Systems, UN Headquarters, Geneva, April 13, 2015.

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Essential Questions:

The following questions are those posed by the Chair, German official Michael Biontino, of the informal meeting on LAWS to guide debate and showcase areas of LAWS that need further discussion. These questions are just as legitimate for us to answer at ODUMUNC, so here are a few of his questions to guide research and debate[11]:

- "What are the technical challenges to overcome towards developing fully autonomous weapons systems particularly with regard to the identification of targets?"[12]
- "In what situations are distinctively human traits, such as fear, hate, sense of honor and dignity, compassion and love, desirable in combat? In what situations do machines that lack emotions offer distinct advantages over human combatants?"[13]
- "What is "meaningful human control" of a weapon system? Does the level of human control assist in distinguishing LAWS from other weapons systems?"
- "Responsibility and accountability are core aspects of IHL. Is the uninterrupted accountability chain within an armed force challenged by increasing autonomy in weapons systems?"[14]
- "Where do LAWS pose challenges in terms of compliance with IHL? Distinction, proportionality or precautions in attack?"[15]
- "What would the impact of the development and deployment be of LAWS on human rights, in particular the right to life and the right to dignity? What ethical questions arise from the development and deployment of LAWS?"[16]
- "What are the overall objectives for the discussions on LAWS? Code of conduct, regulations, restrictions, prohibition?"[17]

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[11] Biontino, Michael. "Food-for-thought for the informal meeting of experts on lethal autonomous weapons systems." Pamphlet, CCW Informal Meeting of Experts on Lethal Autonomous Weapons Systems, UN Headquarters, Geneva, 20th March, 2015.
(All Questions are the intellectual property of Mr. Biontino and Germany)
[12-17] Ibid.

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