Research Report

Leiden Model United Nations 2017
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Forum: *General Assembly First Committee*
Issue: *Risks of weapon systems automation*

Position: *Deputy Chair*

Introduction

Due to the growing mechanization of the world we have seen robotic interference in almost every sector. From the medical sector in hospitals to sorting machines in the industrial sector. This quick rate of mechanization has also reached the military sector; complete autonomous weapons are being developed. These are not to be confused with already existing military drones. Military drone fly autonomously but firing them requires human intervention. Oppositely, Lethal Autonomous Weapons (LAWs) are 100% autonomous and can select and attack military targets without human intervention. The mere notion of the existence of such weaponry is the root cause of countless debates revolving around the ethics and laws that arise with such weapons.

Lethal Autonomy is not a totally new concept. Back in 1495 Leonardo Da Vinci designed and made the sketches for a robotic knight. But as technology has developed a great deal the LAWs will become even more lethal.

Definition of Key Terms

LAWS
Lethal Autonomous Weapon System, the main weapons at hand. Lethal Autonomous Weapons have not yet been finalized but are known to be in development by several parties. The significant characteristic for a Lethal Autonomous Weapon is that it is unmanned and there is no human intervention before firing. There is no human operator choosing when to attack

UCAV
Unmanned combat aerial vehicle. Combat drones, are drones used in battle but are controlled externally by humans. The final decision before firing is made by someone controlling the drone.

Biomorphic robot
Robotics with a design based on living organisms.

IHL
International Humanitarian Law, “International humanitarian law is a set of rules which seek, for humanitarian reasons, to limit the effects of armed conflict”

Artificial Intelligence
Often abbreviated to AI, is a form of intelligence fully functioning on its own. A complex system of coding and software allow the machine to conduct its own processes without the need of activation by an external force.

General Overview

Due to the development of modern warfare techniques and robotics, a window of opportunity for robotic warfare arises. This brings along a great deal of debating on human morals and ethics. The ongoing research and development have reached a critical stage where the following questions come forward:

1. Can and should the decision over life and death be handed to an autonomous machine?
2. Can fully autonomous machines be left with the responsibility to make an ethical decision?
3. Are machines capable of acting in accordance to international humanitarian law (IHL) or international human rights law (IHRL)?
4. Can such fully autonomous weapons draw a distinction between combatants on their side and/or uninvolved civilians?
5. Can such systems give an accurate estimation and evaluation of the proportionality of such an attack?
6. Who can be held accountable for unintended deaths when such a weapon is fully autonomous?

The debates can be summed up into one main question: Can human abilities such as ethical decision making, evaluation of proportionality and guilt taking be handed over to a machine functioning on artificial intelligence? All opposing parties agree that by allowing lethal autonomy to develop we would creating the perfect gateway for an eventual Third World War or a new age of warfare. The new senseless killing defies our human morals and values of human life.

It is known that the Chinese military has showcased a few of its fully autonomous biomorphic war robots in 2016. The robotics are meant for important tasks such as bomb disposal and urban reconnaissance. This is only one example of lethal autonomy.

Furthermore, Russia has developed a new mobile robot guard designed to gun down trespassers at ballistic missile bases. These robotics are obviously meant to be used in defensive manner. But the development of autonomous weapons doesn't stop there for the Russian military. The Russian weapon manufacturer group Kalashnikov has announced they are currently developing fully automated weapons that function on artificial intelligence. Designed to autonomously identify and attack targets the Kalashnikov group's new robotics have reached the attention of Russian President Vladimir Putin has visited the showcasing of the weapons a few days after their announcement. It is noteworthy that the Kalashnikov group is the mastermind behind the infamous AK-47, declared to be the most effective killing machine in human history.

On the other side of the world, ex- United States president Barack Obama has publicly condemned the use and development of lethal autonomy. In 2012, the Obama administration created Department of Defence Directive which is a policy stating how the Pentagon is to deal with such technology and development thereof. However, 5 years later the policy elapses and the decision on banning or supporting lethal autonomy now lies with president Donald Trump. So far the new president of the United States of America has not made a public statement regarding the question of lethal autonomy. Nevertheless, the U.S. army is no longer debating on whether to build such weapons or not. The debates are centred around how much independence such machinery should be given and whether or not it should be used in the U.S. Military's offense.

In contrast to the president's silence, a thousand of the world's famous researchers and scientists have constructed an open letter urging the United Nations to place an immediate ban on the development and use of lethal autonomy. Such researchers include Stephen Hawking, a man who needs no introduction in the field of physics; Google Director of Research Peter Norvig and Microsoft Managing Director Eric Horvitz — were among the over 1,000 scientists who signed the letter calling for a killer robot ban.

Major Parties Involved

The United States of America
One of the leading economies and science market in the world. The president of the United States Donald Trump is yet to declare whether or not the U.S. Military will embrace such weaponry.
The U.S. Military like almost every country on this list already owns Lethal Autonomous Systems but the question remains whether or not further development is allowed and if they are to be used in combat.

China
The Chinese military is currently working lethal autonomy as well. They have showcased a new collection of biomorphic robots. Robotics with the silly appearance of harmless animals but actually highly sophisticated computers functioning with AI-systems. The Chinese government funds the research and development of lethal autonomy.

Russia
The Russian Weapon manufacturer group Kalashnikov possesses several lethal autonomous weapons. President Vladimir Putin has shown his support for the showcasing of these weapons and has not publicly condemned them or any possible use of lethal autonomy.

Major opponents
Nineteen nations even called for a global ban on killer robots, including Argentina, Peru Pakistan, Cuba and Egypt. A full list of scientists and researchers who have signed the letter calling for a ban on LAWS is included in the useful documents appendix. It is noteworthy that as there is still no international law on lethal autonomy – which is the basis of the issue at hand – so there also won't be any official treaties or policies signed by governments. Two full lists of signatories with influential and high ranked scientists are in the appendix.

Timeline of Events

May 30, 2013	Human Rights Council debate on UB report challenging full autonomy.
November 14-15, 2013	Convention on Conventional Weapons in Geneva discussing the future of LAWS.
April 16, 2015	A ban on lethal autonomous weapons systems is debated at the Convention on Certain Weapons (CCW) in Geneva.
July 2015	Construction of 2nd open letter asking for the ban on LAWS.

Previous Attempts to solve the issue

Governments are beginning to consider their policy on fully autonomous robot weapons, but as yet there is no international process on the topic. Nations debated a UN report on the challenges of fully autonomous robot weapons at the Human Rights Council on 30 May 2013, and France is expected to propose that the topic be discussed at the annual meeting of the Convention on Conventional Weapons in Geneva on 14-15 November 2013.

Requests for open letters and petitions to bring the subject to discussion to the UN in order to construct new laws and resolutions about the new threat of Lethal Autonomous weaponry

Possible Solutions

The foundation for any solution regarding an issue like this is communication and transparency. There is no former law to rely on and there are no steadfast policies regarding this issue. As the danger of lethal autonomy is only now beginning to show its true scale there haven't been any thorough discussions on the matter treating it as an imminent threat.
Possible solutions include:

1. Sessions at the UN in order to determine the pros and cons of lethal autonomy
2. Treaties banning all unaccounted use of lethal autonomy
3. Placing sanctions on member states that participate in such modern warfare
4. Placing sanctions on member states actively developing offensive LAWS

Useful documents

PDF "What is International Humanitarian Law?"
https://www.icrc.org/eng/assets/files/other/what_is_ihl.pdf
PDF The Geneva Conventions of 1949
https://www.icrc.org/eng/assets/files/publications/icrc-002-0173.pdf
List of all signatories of the letter against weapon automation
https://futureoflife.org/awos-signatories/
Open letter against lethal autonomy
https://futureoflife.org/open-letter-autonomous-weapons/
Signatories list for 2nd open letter to ban lethal autonomy
https://icrac.net/wp-content/uploads/2013/10/List-of-Signatories-ICRAC-calll.pdf

Appendix/Appendices

https://en.wikipedia.org/wiki/Lethal_autonomous_weapon

http://foreignpolicy.com/2014/01/24/lethal-autonomy-a-short-history/

https://www.un.org/disarmament/geneva/ccw/background-on-lethal-autonomous-weapons-systems/

https://www.rbth.com/defence/2017/06/06/rise-of-the-machines-a-look-at-russias-latest-combat-robots_777480

http://www.mirror.co.uk/news/world-news/chinese-army-reveal-chilling-biomorphic-9485104

https://theintercept.com/2016/10/03/obama-worries-future-presidents-will-wage-perpetual-covert-drone-war/

http://www.reachingcriticalwill.org/resources/fact-sheets/critical-issues/7972-fully-autonomous-weapons

https://www.theverge.com/2014/5/16/5724538/what-happened-at-the-un-killer-robot-debate

http://www.politico.com/story/2016/12/drones-military-technology-trump-232933

http://newatlas.com/kalashnikov-ai-weapon-terminator-conundrum/50576/

http://www.ecommercetimes.com/story/84756.html

http://www.evolving-science.com/intelligent-machines-artificial-intelligence/artificial-intelligence-experts-release-open-letter-stark-warning-dangers-lethal-autonomous-weapons-00364

http://discover.ft.com/showcase/article/41/41?

https://www.theguardian.com/technology/2017/aug/20/elon-musk-killer-robots-experts-outright-ban-lethal-autonomous-weapons-war