

**The security impacts of lethal autonomous weapons systems
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Convention on Conventional Weapons
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Introduction

Thank you Mr. Chairman for the kind invitation to address this Meeting. I have devoted a large part of my career pursuing the cause of peace and expanding the frontiers of disarmament and so it is with deep satisfaction that I accept this invitation to address this third informal meeting of experts on lethal autonomous weapons systems.

I. How the development and deployment of weapons affects our security

Throughout the passage of history, the pursuit of war has undergone profound transformations with the introduction of new weapons and strategies influenced by the application of new technology. Some have described lethal autonomous weapons systems as the third category of weapons to pose a grave danger to human security and to global peace and stability.

The history of warfare and international security is the history of technological innovation, and today is no exception. Modern conflicts involving states are increasingly "hybrid" in nature, combining traditional battlefield techniques with elements previously associated with non-state actors. The distinction between war and peace, combatant and noncombatant, is becoming uncomfortably blurry and this is profoundly impacting the nature of national and international security, affecting both the probability and the nature of conflict.

Over the past century an elaborate tapestry of international law, regulations, and machinery has been woven that sets limits on the means and methods of warfare and specific weapons. We function within a rule based international order underpinned by the UN Charter. Similarly, practices have evolved aimed at pursuing the peaceful settlement of disputes through collective and co-operative security frameworks, some regional.

Due to these and other measures one nation's security cannot be achieved by causing the insecurity of others. This requires that military expenditure and defence arsenals should be commensurate with the genuine needs of countries.

The CCW uniquely combines the humanitarian strand of international relations with disarmament and arms control. Today, I will focus on the peace and security implications of lethal autonomous weapons systems.

II. Security concerns associated with lethal autonomous weapons systems

In the CCW deliberations to date a number of countries have elaborated particular concern at the possibility that lethal autonomous weapons systems will negatively

impact peace and destabilize regional and global security. The most commonly cited security concerns are that these weapons have the potential to:

1. Escalate the pace of warfare and the likelihood of resorting to war, in large part due to the promise of significantly reduced military casualties;
2. Ignite and foster arms races if the possession by some states and not others leads to all feeling compelled to acquire them against the possibility of asymmetric warfare resulting between technological haves and have-nots;
3. Be acquired and used by non-state armed groups, including terrorist entities;
4. Undermine existing law, controls and regulations.

Let us briefly examine each of these key concerns -

1. Escalate the pace of war and likelihood of going to war

As the chair's report of the 2015 CCW experts meeting notes, one reason for military interest in autonomous functions is the increasing speed or pace of warfare. This is despite warnings from scientists and others about the risks posed by autonomous systems interacting at speeds beyond human capacities.

We are familiar with human error in the handling of technology with catastrophic consequences from tragedies such as Three Mile Island, Chernobyl, Fukushima and Bhopal. Thus accidents from fully autonomous weapons cannot be ruled out.

A new report by the Center for a New American Security on the operational risks associated with autonomous weapons looks at potential types of failures that might occur in completely automated systems, as opposed to the way such weapons are intended to work. The report finds they could be uncontrollable in real-world environments where they would be subject to design failure as well as hacking, spoofing and manipulation by adversaries. The consequences of a failure that causes a weapon to engage an inappropriate target could be far greater with an autonomous weapon, resulting in "fratricide, civilian casualties, or unintended escalation in a crisis."

Weapons that have no means of human intervention after initial manufacture and programming—in terms of the use of judgment, discretion or reason—are inherently insecure.

In 2014, more than 20 Nobel Peace Laureates including Pugwash issued a joint statement calling for a preemptive ban on fully autonomous weapons, which expressed concern that "leaving the killing to machines might make going to war easier and shift the burden of armed conflict onto civilians."

At the 2015 experts meeting, the Holy See shared a 10-page paper exploring fundamental ethical questions relating to the use of fully autonomous weapons that found a lack of accountability could promote the use of fully autonomous weapons "because of the impunity they permit." It concluded, "the risks of deresponsibilization, dehumanization, and depoliticization induced by the use of

lethal weapons removed from effective control by men are important enough that we can envisage asking for their prohibition.”

2. Proliferation and asymmetric warfare

The longer lethal autonomous weapon systems go unregulated the greater the risk of their proliferation, especially to non-state actors. This problem is aggravated further when and if such weapons are seen to have essential military benefits.

Who are the “haves” with autonomous weapons technology? An increasing number of states are actively pursuing precursors to fully autonomous weapons and not all are transparent about their plans. Initial research and development has been identified as taking place in at least six countries.

An arms race that confers advantages on one side over the other is harmful to the common security of humankind.

As one delegation noted at the last CCW experts meeting in 2015, the use of lethal autonomous weapons could change not only the way war is fought, but how wars end.

Battlefield decisions taken by machines on auto-pilot can thrust nations into wars that they did not anticipate or desire. We can envisage many scenarios whereby a lethal autonomous weapon could sabotage peace deals and gravely endanger ceasefires concluded after painstaking negotiations, for example when they are programmed to activate without detection after such agreements have been concluded. A normal weapon has a measurable time span between its launch and its impact, while a lethal autonomous weapon may not be constrained by any time span from its launch, making its impact timeless.

3. Non-state armed groups

The Middle East, Asia and other regions are experiencing growing political extremism from nationalist groups, ethno-religious movements and other non-state actors for whom international norms are irrelevant. The technology is increasingly within reach with, as one research group puts it, “ever-more advanced drones capable of carrying sophisticated imaging equipment and significant payloads ... readily available to the civilian market.”

4. Undermine existing law

The introduction and application of lethal autonomous weapons systems to the battlefield has frightening implications for the laws of war, especially proportionality, precaution in attack in the context of other options, accountability, and the important distinction between combatant and civilian, which a programmed robot cannot yet discern..

The inability of fully autonomous weapons to interpret intentions and emotions would be a significant obstacle to compliance with the rule of distinction.

As it is, human discernment and judgment have been known to be severely impaired or limited by the “fog of war.” A machine will be thrown into a dysfunctional state.

This year's report to the Human Rights Council on the proper management of peaceful assemblies finds that, "autonomous weapons systems that require no meaningful human control should be prohibited."

The precautionary principle is also relevant to these deliberations. So is the fundamental Martens Clause, which mandates that the "principles of humanity" and "dictates of public conscience" be factored into an analysis of their legality.

IV. Ways to deal with security concerns

This forum has made a significant start in deliberating the challenges posed by lethal autonomous weapons systems, but its slow pace and lack of a goal has seen it criticized for treading water. Some view the CCW process as prolonging the debate without results while the autonomous systems are weaponized.

A basic flaw in our current approach seems to be the failure to consider the challenges of lethal autonomous weapons systems from the perspective or point of view of a potential human victim especially non-combatant civilians. As the World Council of Churches observed at the first CCW meeting on this topic in 2014, "we have heard very little from states who would not be able to acquire these weapons, who are on the receiving end, and already know how these weapons will look and feel."

Who will be the victims of those weapons? Will they be groups of men and women who have been deemed enemy combatants? Will they be economic migrants and asylum seekers?

The conflicts burning today in Syria, Yemen and other countries show how the 21st century battlefield is never completely clear or "clean" of civilians. There's no way to guarantee or ensure the civilian toll will diminish with the introduction of lethal autonomous weapons systems. Saving soldiers' lives by not placing them at risk means placing civilian lives in harm's way.

The concept of meaningful or appropriate or adequate human control over the critical targeting and attack functions in weapons systems and their use in individual attacks has swiftly acquired currency within this international debate. Many states have affirmed the need to retain human control of autonomous weapons and want to further explore this concept as an approach to tackling future weapons systems.

The "rejection of fully autonomous weapons systems deciding over the use of force against humans without any human intervention" is a key common understanding listed by the 2015 meeting chair's report.

Conclusion

Decisions on war and peace are political and security issues requiring serious debate and discussion. By considering these weapons from the perspective of human control we can begin to assert some authority over our future. It is our collective moral and social responsibility to ensure that international law protects humankind.

Our community has a problem with timeliness and responsiveness, as evidenced by the moribund Conference on Disarmament. The CCW proved its relevance by swiftly adopting a discussion mandate on this topic, but there has been little progress beyond

carefully and objectively building a base of common knowledge. That's because we lack a goal to work towards.

Expectations are riding high. Please treat this meeting's recommendations to the Fifth Review Conference with an open and constructive mind. Be wary of requests for further study or starting by seeking agreement on transparency measures or best practices. Procrastination is no recipe for action and low expectations make poor standards.

In closing, I remind you of the conclusion of the London Manifesto confronting a future of weapons of mass destruction, co-authored by Albert Einstein and the first Pugwash president Lord Bertrand Russell in 1955:

There lies before us, if we choose, continual progress in happiness, knowledge, and wisdom. Shall we, instead, choose death, because we cannot forget our quarrels? We appeal, as human beings, to human beings: Remember your humanity, and forget the rest.