

# Lethal Autonomous Weapon Systems

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Mr. Chairman, Ladies and Gentlemen:

Let me start by saying “Thank you” to the organizers of this panel and to the States parties to the CCW for their interest and attentiveness to this very important topic of lethal autonomous weapon systems.

Autonomous weapons are among a number of key emerging technologies, including cyber technologies, nanotechnology, genomics, and bio-enhancement, which will result in weapons advances that will transform modern combat for many of the future armed conflicts we will see in the upcoming decades.

I completely agree with my colleague, Bill Boothby. He is among the premier experts on the law of weapons, not only in the UK, but in the world and I think his analysis is, as usual, exactly correct.

I am also grateful to have Kathleen here representing the ICRC. The ICRC plays a crucial role in all law of armed conflict issues, and has been particularly important with respect to new weapons over the last decade.

I would like to begin my remarks with a brief look at history that will hopefully lead us into the future.

Let me first take you back over a century. The 1899 Hague Convention was convened at the request of the Russian Tzar and addressed several new technologies including balloons, asphyxiating gases, and dum-dum bullets. With respect to balloons, **(Slide 2)** the Convention prohibited launching projectiles from “balloons or other similar new methods” for five years. Interestingly, this five year ban was not the original proposal. Rather, the original proposal was to ban the use of projectiles from balloons and other similar methods completely because of their potential risk to civilians. However, after much discussion, the temporary ban was accepted to give time to study the potential use of balloons. That first Hague Conference anticipated a second, which was held in 1907.

The Second Hague Conference of 1907 continued the focus on regulating emerging technologies, including aerial bombardment from balloons. The moratorium on aerial bombardment was renewed, but only “until the next Peace Conference” instead of a set number of years. Several countries, including Germany, Russia, and France did not sign the declaration, and the Third Hague Conference never happened due to the onset of WWI. Furthermore, the outbreak of World War I interrupted the scheduled Third Hague Conference. Because of the reciprocal nature of the Hague restrictions, the aerial bombardment provisions were not deemed enforceable during WWI and the rest is history.

The reason I point this example out is twofold. First, the attempts to enforce a ban on the use of an effective and easily weaponized technology did not survive the onslaught of war. Second, the nations at

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the Conference had the foresight to not attempt an all-out ban, but rather to provide a legal pause to study the future uses of the weapon system.

A similar story can be told with respect to submarines.

**(Slide 3)** Submarines had been a topic of discussion at the 1899 Hague Conference but again, the proposal was an all-out ban which was not accepted. Submarines were again discussed during the 1907 Convention, but nothing was ultimately done in terms of regulation. In other words, despite the nations' knowing that submarines would be used in the next conflict, no agreement was reached with respect to submarine operations. Instead, the nations of the world left their operations to be governed by existing customary law.

Serious discussion about submarines next arose during the Washington Conference in 1921. During the conference, Lord Balfour who was the British delegate called for a prohibition on submarines. He argued:

Is there any man who doubts that if they are once let loose to deal with merchantmen their powers will not in the stress of war be abused in the future as they have been so grossly abused in the past? I do not think, as I have already indicated, that it is the fighting use of the submarine which is really before us now. The question before us now is whether you are going to encourage an instrument of war which, if it be encouraged, if indeed it be permitted at all, will undoubtedly be used in the illegitimate destruction of commerce.

When it became apparent that the Conference was going to take no action on the issue of submarines, Lord Balfour and the British delegation went on record saying “[T]he use of submarines, whilst of small value for defensive purposes, leads inevitably to acts which are inconsistent with the laws of war and the dictates of humanity, and the delegation desires that united action should be taken by all nations to forbid their maintenance, construction, or employment.”

Lord Balfour's ominous predictions were premature. By the 1930s, the discussion had turned from banning submarines to regulating them through legal agreement. You are all very familiar with the subsequent legal history of the use of submarines. Similar historical examples can be shown with aircraft and unmanned aerial vehicles.

What I hope this century of examples has illustrated is that with respect to the emergence of new technologies, there is almost always a discussion about the ability of the law to properly regulate the technology. Often, there are calls for outlawing these emerging technologies. However, the more prudent and productive approach has been to take a “legal pause” and allow the development to occur under the watchful care of States, ensuring as Bill Boothby has so clearly articulated, that the development occurs in compliance with current law.

Now, in closing, I would like to transition from our past to our future. **(Slide 4)** Some who argue for a ban on autonomous weapons fear armed conflict where self-thinking machines make autonomous

decisions about how and when to use force. At the point where machines are now thinking for themselves, rather than operating on strict instructions from human creators, we have crossed the line in my mind from autonomous weapons to artificial intelligence. At that point, we will certainly need to reconvene this conference and consider seriously our legal situation. However, I do not as a definitional matter think that is what we are currently dealing with or will be dealing with in the near future.

The current debate over autonomous weapons is about our ability to ensure a weapon will strictly follow the instructions it is programmed to follow and about our ability to properly provide those instructions. As technology emerges, I see this providing a much more discriminating weapons platform with greater survivability and discernment.

**(Slide 5)** Instead of putting a soldier on the ground, subject to emotions and limited by human perceptions, we can put an autonomous weapon which is more survivable and tied to multiple layers of sensors, able to determine which civilian in the crowd has a metal object that might be a weapon, able to sense an increased pulse and breathing rate amongst the many civilians in the crowd, able to have a 360 degree view of the situation, able to process all that data in milliseconds, detect who the shooter is, and take the appropriate action based on pre-programmed algorithms that would invariably include contacting some human if the potential response to the attack was not sufficiently clear.

In response to this, skeptics might say that we do not have those capabilities yet. To which I respond that the skeptic may be right, but we will never get to that capability if we ban the development and research on such weapons now. Instead, as Bill Boothby has articulated so well, we must continue to develop autonomous weapons, under the careful guidance of the law of armed conflict and our Article 36 or customary international law obligations. Let's learn from history as we look to the future and rather than banning lethal autonomous weapon systems, let's take a legal pause and see how things develop under the watchful care of law abiding nations who are parties to this Convention.