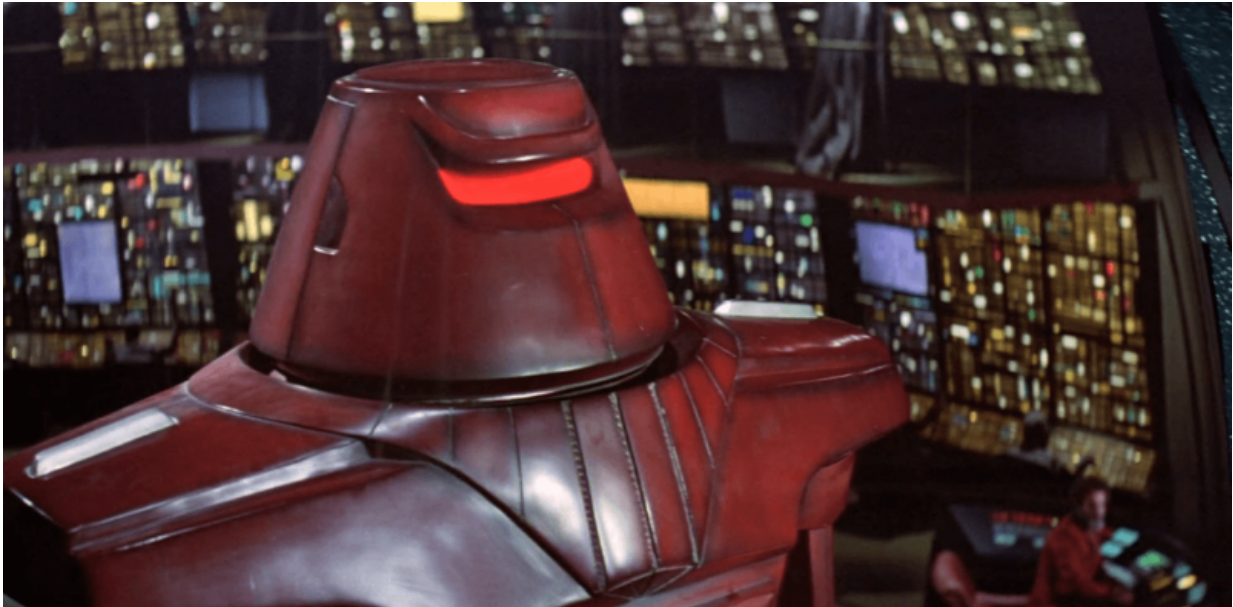


Taking a stand against 'killer robots'

April 14 2016, by Toby Walsh



Could killer robots like Maximilian from the 1979 film *Black Hole* become reality? Credit: Walt Disney Productions

Lethal autonomous weapons (or killer robots as the media likes to call them) are the subject of intense discussion in the corridors and committee rooms of the United Nations in Geneva this week.

The international talking shop is playing host to the [third round of multilateral talks](#) on this topic.

The meeting follows on from increasing concerns about the rapid

progress being made in areas like artificial intelligence (AI) and robotics. [Stephen Hawking, Elon Musk, Bill Gates](#) and others have expressed concern about the direction these technologies may be taking us.

Last July, thousands of researchers working in AI and robotics came together and issued an open letter calling upon the UN to put a pre-emptive ban in place on such weapons.

In the interests of disclosure, I helped put the letter together and will be [talking at the UN](#) meeting on Thursday.

Where will this end?

If we don't get a ban in place, the end point is clear to my colleagues and me: there will be an arms race and it will look much like the dystopian future painted by Hollywood movies like the Terminator series.

The technology will undoubtedly fall into the hands of terrorists and rogue nations. These people will have no qualms about removing any safeguards in place on its use. Or using it against us.



The General Atomics MQ-9 Reaper is already semi-autonomous, and similar combat aircraft could soon be fully autonomous. Credit: USAF Photographic Archives

Unfortunately, we won't simply have robots fight robots. Wars today are asymmetric and it will be robots against humans. Any many of those humans will be innocent civilians.

This is a terrifying prospect.

We don't need to end there

The world has come together in the past to decide not to weaponise a technology. We have bans on biological and [chemical weapons](#). We have treaties to prevent the proliferation of [nuclear weapons](#).

Most recently, we have collectively agreed to ban several technologies including [blinding lasers](#) and [anti-personnel mines](#).

And whilst these bans have not been 100% effective, the world is undoubtedly a better place for their existence.

The treaties have also not prevented related technologies from being developed; you go into a hospital, and a "blinding" laser will be used to fix your eyes. But if you go to the battlefields of the world today, you will not find blinding lasers being used. And no arms company today will sell you one.

The same is likely to be true for [autonomous weapons](#). We won't stop the development of the broad technology. It's much the same that will go into an autonomous car as an autonomous drone or submarine.

And we'll definitely want autonomous cars. One thousand people will die on the roads of Australia this year. These numbers will plummet once we have autonomous cars. Most accidents are the result of driver error.

But if we get an UN ban in place, we'll not have autonomous weapons out in the battlefield. And this will be a good thing.

Come on Australia

Australia has led the world in many discussions around disarmament. For instance, we have taken a leading role in [nuclear non-proliferation](#).

But we have taken a disappointing role so far in the UN discussions

around autonomous weapons. Our [official position](#) appears welcoming.

The development of fully autonomous systems able to conduct military targeting operations which kill and injure combatants or civilians may be closer than many of us had imagined. It is an appropriate time to consider the risks of such weapon systems and to make sure we understand fully what might constitute misuse as well as legitimate use of emerging technologies.

However, we are not helping the discussion with official statements like the following.

If we were to settle, ultimately, on an agreement that there were limits to the autonomy that lethal weapons may possess, or that there were limits to the weaponisation of autonomous systems, we would also have to design ways, not just of defining, but of implementing, such limits, and of verifying compliance. We should not underestimate the complexity of this task.

This is not just unhelpful but also wrong. There is no necessity to define ways to verify compliance. Almost no weapon banned by the UN has a compliance regime.

There is no international body to inspect for blinding lasers. Or anti-personnel mines. Even the grand-daddy of all weapon bans, the [1975 UN convention on biological weapons](#), has no formal compliance measures beyond self-reporting by nation states and investigation by the UN Security Council (which has never occurred).

There is also no necessity to define limits on autonomy. For example, the 1998 UN Protocol on Blinding Laser Weapon does not formally define a limit on the wavelength or wattage of a "blinding" laser.

We can simply require that autonomous or semi-autonomous weapons must have "meaningful" human control. And depend on the consensus that will undoubtedly emerge internationally as to what precisely this means.

Let's take the lead

Australia is a world super power in AI and robotics. We punch well above our weight. We have some of the most automated ports and mines in the world. And we are currently reigning world champions at robot soccer. Indeed, we have been world champions, so far, five times.

And from the reaction I have had [talking about this issue](#) in public, the general population here in Australia supports the view held by both me and thousands of my colleagues that a ban would be a good idea.

All technology can be used for good or bad. Australia should be taking a lead in pushing the world down a good path.

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