

BRIEFING NOTE: THE PROLIFERATION AND FUTURE OF ROBOT WEAPONS
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The CIA has killed more than 200 children in drone strikes outside of legitimate war zones since 2004. In Pakistan, Yemen and Somalia, an estimated total of between 451 and 1035 civilians were killed in at least 373 strikes according to the Bureau of Investigative Journalism, the most accurate source of 'kill statistics'.

Who in their right mind would give a powerful unmanned air force to a covert organisation with such a track record for unaccountable and illegal killing? The number of strikes in Pakistan has dramatically increased from 52 under G.W. Bush during his 5 years of conflict to 298 during Obama's watch.

While it can be argued that the use of unmanned aerial vehicles in official conflict zones may save lives and assist British forces with mapping out enemy movements, the expansion of the battlespace into areas outside of conflict zones is, at best, legally questionable. The US is establishing dangerous precedents in a world where more than 50 countries are acquiring the technology. This is big business with billions of dollars at stake. It may seem like a major defence advantage now, but we must not be blinkered into forgetting the consequences when many nations have the technology.

Israeli companies are pursuing new drone markets in Asia and Latin America. Until recently the US only sold drones to its allies, but now US military contractors have lobbied to have export restrictions loosened to open foreign markets. On 5 September 2012, the Department of Defense announced new guidelines to allow 66 unspecified countries to buy American-made unmanned air systems. So far Israel does not sell armed drones abroad and the US only sells them to its closest allies in Europe but that could also change with commercial pressure.

Other countries are hungry for the technology and the markets. India and Pakistan are pushing the developments hard. Russia has shown its MiG Skat combat drone with on-board cruise missile for strikes on air defences as well as ground and naval targets. Iran demonstrated an armed rocket launched drone, the Karrar, in 2010.

China is showing the greatest commercial potential for selling armed drones. The US-China Economic and Security Review Commission noted with concern that China "has deployed several types of unmanned aerial vehicles for both reconnaissance and combat." More worryingly, the Washington Post quotes Zhang Qiaoliang from the Chengdu Aircraft Design and Research Institute, "The United States doesn't export many attack drones, so we're taking advantage of that hole in the market."

Given the 10 year spate of CIA drone strikes outside of official conflict zones, what can be said when other countries use drones strike against perceived threats in other states? What could we say if China used a drone to kill the Dalai Lama because he posed a threat to homeland security?

And this is just the beginning; current drones are like the Wright brothers' prototypes compared to what's coming next. And here is where the real danger resides: automated killing as the final step in the industrial revolution of war; a clean factory of slaughter with no physical blood on our hands and none of our own side killed.

Autonomous operation

Using programmed robots with no humans directly in the loop has been high on the agenda set by the US military roadmaps since 2004. A fully autonomous drone could still seek out its target without human intervention. The UK already have the autonomous Mantis made by BAE

systems and are well on the way in the development of the Taranis autonomous combat aircraft. There are several military reasons for developing autonomy. Currently drones are used with ease against lo-tech communities in a permissive air space. More technologically sophisticated opponents would adopt counter strategies such as jamming satellite signals to render them useless or bring them down. A fully autonomous drone could still seek out its target without human intervention.

Other reasons include reduced numbers of personnel required to fly them, reduced cost, and faster control time: the 1.5 second delays caused by humans in the loop thousands of miles away means that a drone is powerless against a manned fighter. The speed of an unmanned craft is limited by its structure rather than by human G-force limitations. It can manoeuvre faster and take sharp turns that would injure or kill a human pilot.

The US has been testing the fully autonomous supersonic Phantom Ray and the X-47b will appear on US aircraft carriers in the Pacific by 2015. The Chinese (Shenyang Aircraft Company) are working on the Anjian (Dark Sword) supersonic unmanned fighter aircraft, the first drone designed for aerial dogfights.

Hypersonic drones are also on the wish list. DARPA, the Pentagon's research arm, has the HTV-2 programme to develop armed drones that can reach anywhere on the planet within 60 minutes. In recent tests their Falcon drone flew at a maximum speed of 13,000 mph (20,921.5 kph), about 8.5 times faster than the Russian MiG-25. This has the danger of creating a global battlefield.

The hypersonic fully autonomous drones of the future would create very powerful, effective, and flexible killing machines. The downside is that these machines will not be able to discriminate their targets – there are no programs capable of determining civilian from combatant. They will not have the necessary common sense reasoning or battlefield awareness to conform to the Principles of Distinction or Proportionality. They will make it difficult to allocate responsibility for mishaps.

The development of fully autonomous craft brings many new moral dangers and yet they have fallen beneath the radar of International Humanitarian Law. For example, Article 36 (1977 Protocol I additional to the Geneva Convention 1949) clearly states that “the study, development, acquisition or adoption of a new weapon, means or method of warfare, a High Contracting Party is under an obligation to determine whether its employment would, in some or all circumstances, be prohibited by this Protocol or by any other rule of international law applicable to the High Contracting Party.”

The problem is that an autonomous robot is not a weapon until it is armed and thus developments can continue unfettered by international law. It can even select targets without being classed as a weapon. When military necessity dictates it is not difficult to repurpose the machine with an autonomous weapons system. This runs counter to the spirit of International Humanitarian Law, and the United Kingdom should seize the moral high ground by determining now if such systems would run counter to international law. Waiting for them to be weaponised could come too late.

I have already noted the civilian casualties, including numerous children, with drone strikes when there were humans watching on computer screens and deciding when to fire. Think how much worse it will be when drones deal death automatically. Will this lead to a brave new world of actions short of warfare, a continuous global battlefield?

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