Precision warfare is not bloodless

Remote control

Since the end of the Cold War, rapid progress in commercial technology, along with the War on Terror and international peace-enforcing missions, have been driving precision and remote control warfare. But these weapons do not fulfil the promise of 'bloodless' war.

Remote control warfare with precise missile technology makes it possible for soldiers to strike an enemy from a safe distance. This technology promises virtual, bloodless wars by keeping the attacking troops safer and making it easier to discriminate between civilians and insurgents.

But superior technology in war does not guarantee quick victories or low rates of civilian casualties, and indeed precision warfare is not as 'bloodless' as hoped. This is in part because remote control weapons are often used in asymmetric wars – wars fought using unconventional tactics that are difficult to predict or respond to, such as suicide bombings. Asymmetric wars, such as the War on Terror, are usually fought between well equipped armies and insurgents who lack high-tech weapons. These insurgents often fight their adversaries by blending in with the local civilian population and attacking by surprise. This increases civilian casualties, which further contributes to the demand for precision weapons.

During the Cold War, the defence industry drove high-tech development. Since the 1980s, this trend has been reversing, and now key technologies used to make remote control and precision weapons and other military products are often developed by commercial industries. These include the entertainment, pharmaceutical, automotive, personal communication and banking industries. For examples of current and potential future weapons systems, see boxes.

21st century war strategies

The shift toward the military adoption of commercial technologies for weapons development has been accompanied by a change in military planning. Since the 1990s, the US has been initiating revised strategies for military deployment. These strategies have been driven in part by rapid technological advances in information and communication technology. They have also been the result of the end of the Cold War and the subsequent decrease in defence spending. Precision warfare is a key element to these new war strategies. Other countries, including Australia, Singapore, the UK and Sweden, were early adopters of the new US approach, while other countries followed later, such as Germany in 2005.

Before going to war, military planners increasingly test their strategies in computer simulations developed in the commercial sector to see how the strategies might work in practice. But reality does not always match the outcome of a computer game. Michael Schmidt, professor of international law at the United States Naval War College in Rhode Island, says that while planning an attack, computer simulations are used to predict impacts. The simulations assume that using precision weapons will reduce casualties.

Unmanned systems

According to the US Department of Defense, unmanned aerial vehicles (UAVs), ground robots and naval vehicles are used for observing the enemy and for communication. Examples of unmanned systems include

- **Armed robots:** Journalist Noah Shachtman reported in *Wired* magazine that the first armed robots used in combat were on patrol in Iraq in August 2007. These robots were armed with M249 machine guns. Soldiers controlled the robots via radio from a distance of up to 1 kilometre.
- **Unmanned aerial vehicles (UAVs):** The US is already using some armed UAVs, such as the Predator, to target and kill members of Al Quaida in Iraq, Afghanistan and Pakistan. Innocent civilians have also been killed by these UAVs.

By **Ineke Malsch**: director of Malsch TechnoValuation, an independent consultant and science writer on technology and society, based in Utrecht, the Netherlands.

War games are also used for recruiting and training soldiers, providing virtual warfare in which a soldier never really dies. The opportunities offered by the new war strategies and the technological development for weapons systems falsely indicate that wars in the 21st century can be fought virtually and bloodlessly.

War on Terror

Other trends driving precision warfare are the War on Terror and NATO peace-enforcing operations. US President George W. Bush announced the War on Terror, or the Long War, after the September 11 attacks in the US in 2001. The War on Terror involves measures against some governments and international terrorist organizations. It is a perpetual armed conflict, with no clear conditions for resolution and with ongoing tensions that can escalate at any moment.

The US and its NATO allies are using remote control and precision weapons in the War on Terror, peace-enforcing operations and in the subsequent Long War period of asymmetric warfare against insurgents. These weapons are designed to make it possible for armed forces to control a hostile territory without sending in large numbers of soldiers.

Mary Kaldor, director of the Centre for the Study of Global Governance at the London School of Economics, considers the American War on Terror to be an 'old war' fought with new technologies. Kaldor defines 'old war' as warfare in which two states engage in battle to capture territory. The US military believed that by using new technology, the War on Terror could be a new type of war, one that was rapid, precise and low in casualties. However, 'new wars' are not defined by technology, but are associated with globalization and the disintegration of states. Networks of state and non-state actors fight the wars, and violence is most often targeted toward civilians. The distinctions between combatant and non-combatant and between legitimate violence and crime are breaking down. 'New wars' violate all the conventions of 'old wars' and international human rights.

The intervention in Iraq may have started as a high-tech 'old war', but the US has been dragged into a 'new war' in which private contractors fight alongside troops, the main victims are civilians and opposition against the US intervention in the country grows. Precision weapons >

Future weapons systems

Researchers are seeking new types of sensors for identifying, tracking and tracing targets. Frank Simonis and Steven Schilthuizen of the Future Technology Centre (TNO), the Netherlands, and Jürgen Altmann of the University of Dortmund, Germany, have made the following predictions regarding remote control and precision weapons systems advancements in the next ten to twenty years:

- The brains of soldiers may be connected to machines through implanted electrodes so they can control military vehicles remotely.
- Military swarms of microsatellites may be used for communication, espionage and for destroying other satellites or attacking targets on the ground.
- Military forces may use a network of tiny self-learning sensors spread around a battlefield for gathering information. The location of these sensors will be automatically detected by an antenna.
- Unmanned aerial vehicles (UAVs) will be made smaller by incorporating tiny microsystems and nanotechnologies.

Somin Belcher, Alamy

Pilot's view of a target through an image intensified night sight.


Polarus, Hollandse Hoogte

A Hamas militant stands next to an Israeli military surveillance drone aircraft. Gaza, January 2007.

have so far not been precise enough to discriminate between fighters and civilians, and soldiers using remote control weapons are not distant enough to be invulnerable to attacks.

Illusion of bloodless war

Technological trends give the false promise of virtual bloodless war. This notion challenges the theory that democratic states are more peaceful than authoritarian states. Michael Ignatieff of Harvard University warns that new precision weapons might tempt democracies into 'virtual' warfare, 'especially if the cause is justified in the language of human rights and even democracy itself'. Harold Müller and his colleagues of the Peace Research Institute, Frankfurt, Germany, point to democracy as a source of the race toward more precise weapons and increased safety for soldiers.

Others observe that precision weapons may actually encourage war. Jeffrey Record, professor at the US Air Force's Air War College in Alabama, thinks the expectation that precision weapons will ensure 'bloodless war', at least for the intervening power, may prompt US defence decision makers to use force sooner, whereas before diplomatic or other non-military means would have been attempted. In the coming decades, European governments may no longer exhaust other options before resorting to military force. Instead, the European Defence Agency (EDA) expects governments to use both in parallel, and under close media attention, against unequal adversaries hiding among the civilian population. According to the EDA, European governments will increasingly deploy precision weapons and techniques for identifying and observing inviduals in crowds.

Democratic states going to war are not likely to improve human rights or keep their soldiers safe with the current imprecise precision warfare. The images of soldiers in body bags and the growing number of civilian casualties contradict the dream of bloodless war. This seems to encourage military technology decision makers to solicit more precise weapons or to replace soldiers with robots.

Still, there are alternatives to this vicious cycle of perpetual precision warfare. Several other solutions have been proposed, including employing more military force, utilizing more police and intelligence methods, and using more good old-fashioned diplomacy. John E. Peters, senior researcher at the RAND Corporation, speculates that the US may not have killed sufficient enemies in the second Gulf War. Precision warfare may fail to force the enemy into submission, because it does not last long enough and because it does not undermine military and civilian morale. The society as a whole may not start questioning its national leaders and hostile ideology, and continue to support insurgents. Perhaps the next war should be bloodier, using old imprecise weapons, such as cluster munitions and carpet bombing?

Then again, Mary Kaldor believes today's 'new wars' should be tackled by reconstructing political legitimacy based on popular consent and in the framework of international law. Defensive military force can play a role in humanitarian interventions for protecting people and upholding the rule of law. Terrorists should not be given the status of enemies, but treated as outlaws. Policing and intelligence should be used to deal with them. Cameras, sensors and other surveillance technologies can play a role in peacekeeping missions, argues Walter Dorn, associate professor at the Canadian Forces College, Toronto, but UN troops will have to be careful to respect the human rights and privacy of the populations they observe with these technologies. Non-lethal weapons, including teargas and more advanced technologies, may also be useful. Or will the pendulum swing back, and the diplomats return to the driving seat of international peace and security? The answer is hidden in the future. ■

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