Implications of Modern Technologies in Warfare

Baptiste Bourgoin, University of Warwick

'When reporters saw cruise missiles "turning left at the traffic lights" to strike the bunkers of the Iraqi regime, the Western public has come to think of war like laser surgery.' This statement of Michael Ignatieff (2000: 92) about the 1991 Gulf War illustrates the increasing influence modern technologies have had in the military field for the past twenty-five years. Several military experts have argued that we are experiencing a 'Revolution in Military Affairs' (Morgan 2000: 132) -which can be traced back to the mid-seventies- in which technological advance plays a vital role. This essay argues that new military technologies have deeply transformed the way in which strategy and organisation in the military sector are understood; the ethical implications of this increasingly technical conduct of war will also be addressed.

I)   Recent technological development in military affairs

It can be argued that there have been three distinct streams of technological innovation in the conduct of war since the 1970s.   The first stream, and perhaps the most important, is the advancement in surveillance technology. Armed forces are increasingly able to detect and track whatever is considered of military concern, thanks to the development of drones, sophisticated listening equipment, night vision, or global positioning satellites (Morgan 2000: 136). These innovations now enable military actors to predict enemy moves or potential surprise attacks. One can take the example of the recent bombing of a training camp belonging to the Shabab by American aircraft on 5 March 2016, killing 150 fighters. The Pentagon claimed that the group was planning a large-scale attack against African Union troops in Somalia; the information was gathered by American spy planes (Cooper 2016).

   The second source of technological innovation is the ability to process and gather information. There has been considerable progress in this regard: new communication and information technologies –such as satellite phones, smartphones or computers- allow armed forces to share information quickly and effectively among units or command levels (Morgan 2000: 137). Consequently, coordination and communication between military actors have been greatly enhanced thanks to these new technologies.

   Thirdly, the development of precision targeting represent a major technological shift in modern warfare. This includes the development of ballistic defence missiles, smart weapons –or 'precision guided munitions'- and unmanned aerial vehicles (Zehfuss 2011: 544). For instance, the United States army's reliance on 'smart bombs' has dramatically increased between the 1991 Gulf War -9 percent of all the bombs dropped- and the 2003 invasion of Iraq -70 percent of all the bombs dropped (Tucker 2010: 2303). These new types of precise weapons have become increasingly independent from human intervention and able to hit targets while greatly diminishing the extent of destruction when compared to traditional weaponry (Zehfuss 2011: 545).

II)   Strategical and organisational modifications due to modern technologies

   These new technologies have resulted in major changes in combat strategies. Technological advance enables military actors to engage in long-distance warfare, with the possibility to cover large geographical areas and eventually destroy the enemy without being physically exposed (Morgan

2000: 139). An illustration of this would be the U.S. drone campaign in Waziristan since 2004 (Coll 2014). Along with this long-distance warfare, the growing precision of military technologies provide means to eliminate identified key targets instead of engaging in indiscriminate bombings, thus limiting the number of casualties (Morgan 2000: 140).

In the same way, the growing use of advanced military technologies has created organisational changes in the military. Indeed, this advancement implies that armed forces now heavily rely on the expertise of engineers and other workers able to develop and operate sophisticated military devices (Adam 1998: 279); they are often recruited from the civilian sector. This need for specialisation and technological expertise in the military has encouraged the proliferation of private firms offering technical assistance and related services to national armies (Singer 2001: 200). Along with this recruitment of skilled experts, new technologies have provoked a significant decrease in the number of soldiers engaging in direct combat. Indeed, with the proliferation of remotely-controlled weapons, large military units become increasingly unnecessary. Smaller and more mobile units, backed by firepower on call, are favoured (Morgan 2000: 137).

III)   New technologies and modern warfare: ethics and legitimacy

An important issue is yet to be analysed: do new technologies 'sanitise' warfare? Is war becoming more 'ethical'? On the one hand, the development of precision targeting limits collateral damages by rendering indiscriminate killings less likely. As Wheeler (2002: 216) argues, increasing precision has 'ameliorated the awful moral choices that faced American and British decision-makers during World War II'. Indeed, it appears that mass killings due to indiscriminate bombings are decreasing. Non-combatant immunity, one of the key elements of the ethics of war for many experts (Rengger 2002: 358) is thus enhanced by new technologies.

On the other hand, another important aspect of ethics appears to be often forgotten: the principle of reciprocity. Indeed, one could defend the view that highly-technological warfare creates a form of one-sided immunity: military actors using new technologies like drones can hurt the enemy without being hurt themselves. This violates what Ignatieff (2000: 161) calls the 'tacit contract of combat', in which there has always been a 'basic equity of moral risk: kill or be killed'. This unequal exposure to death can also create a relative sense of unaccountability for soldiers able to harm without being harmed: this view is notably defended by Der Derian (2001: xvi), who claims that in such an unequal environment, 'one learns how to kill but not to take responsibility for it'.

To conclude, the rapid development of new technologies used in modern warfare carries important implications for military affairs and international security. Military operations are more precise and less indiscriminate than they used to be thanks to sophisticated technologies like 'smart bombs'; however, one can question the legitimacy and ethics of the current conduct of war. In particular, the growing reliance on long-distance strikes raises issues regarding the fairness and actual precision of modern forms of warfare.

Bibliography:

Adams, J. (1998) The Next World War: Computers Are the Weapons and the Front Line Is Everywhere (New York: Simon and Schuster)

Coll, S. (24 November 2014), 'The Unblinking Stare', *New Yorker* [online] available at http://www.newyorker.com/magazine/2014/11/24/unblinking-stare

Cooper, H. (7 March 2016) 'U.S. Strikes in Somalia Kill 150 Shabab Fighters', *Washington Post* [online] available at http://www.nytimes.com/2016/03/08/world/africa/us-airstrikes-somalia.html?_r=0

Der Derian, J. (2001) *Virtuous War: Mapping the Military-Industrial-Media Entertainment Network*. (Boulder: Westview Press).

Ignatieff, M. (2000) *Virtual War: Kosovo and Beyond* (London: Chatto & Windus).

Morgan, P. (2000) 'The Impact of the Revolution in Military Affairs', *Journal of Strategic Studies*, 23(1), 132-62.

Rengger, N. (2002) 'On the just war tradition in the twenty-first century', International Affairs 78: 253-63.

Singer, P.W. (2001-02) 'Corporate Warriors: The Rise of the Privatized Military Industry and Its Ramifications for International Security', *International Security*, 26(3), 186-207

Tucker, S. (2010) 'Weapons: Precision-Guided Munitions', *Global Chronology of Conflict* (Santa Barbara: ABC-CLIO), 2303

Wheeler, N. (2002) 'Dying for Enduring Freedom: Accepting Responsibility for Civilian Casualties in the War Against Terrorism', *International Relations* 16: 205-225.

Zehfuss, M. (2011), "Targeting: Precision and the Production of Ethics", European Journal of International Relations, 17(3), 543-556