Articles and Essays

Winning wars: the triumphs and myths of technology

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Abstract

This paper examines the use of technology in warfare, from the Great War, with its use of artillery, to the War on Terror, with its breakthrough in air and drone power. The use of drones, due to their alleged precision, was meant to be ethical and legal. Strategic bombardment, it was claimed, could win wars. It would also cement the American claim of superiority, hegemony, and power in the war against terrorism. We ask if superior technology can guarantee victory and what that victory would look like, or whether its use can result in such human loss that a military victory becomes unconscionable. After the failure of technology to protect life in the 20th century, what has been achieved in the 21st century War on Terror? What constitutes a triumph and to what extent is that triumph a myth?

From the advancement of the long bow in the Hundred Years' War to the use of drone strikes against the Islamic state group in 21st century Iraq, technology can dictate military strategy and steer nations into making decisions which are often extremely complicated. The key objective for technology is for it to reduce the commitment by states, by attempting to inflict maximum damage to the enemy, whilst minimizing their own losses of men and material. However, technology can often lull commanders and politicians into a false sense of security, convincing both of these parties that conflicts can be won from a distance, without resulting to the deployment of large numbers of personnel.

In this paper we examine the use of technology in warfare, trying to determine whether superior technology can guarantee victory, or whether its use can result in such loss that even a military victory becomes difficult to support, from the Great War, with its use of artillery, to the War on Terror, with its breakthrough in air and drone power.

Technology and military strategy

Technology can be undermined by the quality of its manufacturing, deployment in the field, and by whether the expectations set are simply outside of its capabilities. On more than one occasion, the huge political pressure to achieve results has seen the ignoring of technological shortcomings, or the overestimating of its capabilities, with fatal consequences. This toxic mixture was no more clearly recognized than in July 1916, where the over reliance on technology and the misjudgment of capability would see the largest loss of life in one day that the British armed forces experienced before or since. By 1916, the Great War had turned into a bloody stalemate with the European powers locked in a titanic struggle, fighting in a maze of trench systems which acted as a drain of men and supplies. Any opportunity to break this deadlock on the western front was exploited and in 1915 allied commanders had

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agreed that 1916 would be the year of the big offensive in the west. To achieve this, artillery technology would play a critical part in guaranteeing victory, but would lead to blurred understandings of its capability, blurring expectations.

A plan was perceived which would have at its heart a reliance on advancements in artillery to do the majority of the fighting, by smashing a hole through the German lines. Such a gap would allow allied forces to flood out of the trenches and make fast advancements into northern France and Belgium. Originally, the battle plan would see the French army taking the lead, but with the surprise German offensive at Verdun early in 1916, French divisions were diverted, leaving the British army to take the brunt of the battle. The Somme area was chosen, as it was in this area that the British and French armies met, making combined operations possible. Overall command of the offensive fell to Sir Douglas Haig and Sir Henry Rawlinson, with the majority of fighting being done by the newly formed "Pals Battalions," which comprised of local volunteers who had answered Lord Kitchener's call in 1914 (Strachan, 2014). Untested and lacking experience, the Pals were enthusiastic, but not battle hardened.

To counter this issue, both generals thought they could use technology to do the fighting for them. This was a clear example of trying to minimize their own casualties, whilst continuing to take the fight to the enemy. The issue with warfare and over reliance on technology is often used to mask military failings, leading to huge exaggerations of its strategic capabilities in achieving victory. With the Pals' shortcomings in mind, artillery would play a central role in the upcoming offensive, with the battle plan involving a seven-day pre-bombardment to smash the German trenches, leaving it free for the allied troops to simply walk over no man's land and occupy the enemy positions. However, artillery was in reality still in its infancy and what was being asked far outweighed the capabilities of the guns and shells at the time.

At the start of the war, artillery had often been mounted in the open, ensuring accuracy, but leaving it exposed to enemy fire. As a result of this, guns were now positioned away from the battlefield, meaning that they could not see the enemy targets when firing. This meant they relied on observation officers to relay locations back to them via field phones, which were unreliable and constantly at risk from enemy fire. This would have disastrous consequences at the Somme, as many guns were firing blind and not concentrating their firepower on specific locations. These failings were noted at the time, but, in the euphoria of battle, they were routinely ignored. Chosen as the weapon of choice for the bombardment would be the standard 18-pound shrapnel shell, designed to explode in the air and disperse tiny steel balls, cutting down men in the open. Very effective if used correctly, the lack of knowledge of the shell or its implementation meant that it would be used to destroy targets for which it was not designed. The core objectives for the artillery were the lines of barbed wire that protected the German trenches and the bunkers, which housed the soldiers and stores. The shrapnel shell was not able to destroy these targets, as the balls bounced off the barbed wire, or failed to penetrate the deep bunkers. Under political pressure in their home countries to break the deadlock, these problems were frequently ignored, with commanders demanding more shells to be fired, trying to overcome quality concerns with overwhelming quantity.

Regardless of the amount fired at the Somme, the design was not up to the task and most of the barbed wire remained undamaged. Once again the expectations of military technology were outweighed by its capabilities, and, in desperation, many commanders turned their heads away, in order to believe that victory was possible. To ensure a victory using a mass artillery bombardment would require a great number of shells. However, with many skilled workers away in their Pals Battalions, ill-trained and under-qualified factory workers were brought in to build the shells. This had an immediate effect on the quality of the final product produced with an estimated 30% of the 1.3 million shells fired at the Somme failing to explode

(Strachan, 2014). With a deadly combination of poor quality shells and high expectations, the artillery bombardment began and continued unchecked for seven days. It may have made a lot of noise, but in reality almost no strategic impact would be felt as the days passed. As the smoke cleared and the guns fell silent on the morning of 1 July 1916, young officers looked through their binoculars as the dust settled, aghast to see the wire uncut. Questioned but not retracted, soldiers were ordered to line up at the ladders and whistles were blown. Men walked slowly towards the lines, giving time for enemy forces to re-occupy their defensive positions.

As the British and French soldiers approached the wire, their dreams quickly turned into nightmares. Stuck on the undamaged wire and with nowhere to escape, casualties mounted. Rather than cancel further waves, reserves were thrown into the mix in a naive attempt to salvage the first day. Men would continue to be sacrificed at the altar of the myth that technology had not failed. The cruel reality was that, by sunset on the first day, the armies had experienced 57,450 casualties and over 19,000 of them were killed for almost no territorial gain (Strachan, 2014).

The key to the horror of the Somme lay in the obsession placed on securing victory, which forced officers to accept myths rather than realities regarding the capabilities of the technology at their disposal. The operation had to work and this reluctance to accept flaws in the system would see huge losses in a battle that would far from end the war.

With modern commanders claiming that new innovations will reduce personnel on the ground, they may very well be reminded of the suffering of 1916 and how that dream lay buried with the soldiers in the mud. The advancement in military technology has allowed for killing to be far more distant, with drones even being flown unmanned all over the globe.

Air power and drones

The use of drones in precision airstrikes can be part of an effective military tactic. Unmanned aerial vehicles (UAVs) or systems have several advantages compared to piloted aircraft, primarily the protection of life on the part of those who strike, but also on the ground, due to their "surgical precision," sparing the lives of civilians. They are, it is claimed, accurate and efficient. As per international law and the Geneva Conventions, all parties to a conflict must distinguish between combatants and non-combatants, the latter being "protected persons." The use of drones was meant to be both ethical and legal, respecting the law and protecting the vulnerable. The alleged precision of drones and the implementing of this new technology would also cement the American myth of superiority and power in the war against terrorism.

"Air forces can, at least in theory, range across the entire globe, giving air power one of its main characteristics – reach," writes Jordan in "Air and Space Warfare" (Jordan et al., 2008: 183 chapter pp. 178–223). He continues:

> Aircraft . . . can engage the enemy at depth, through strikes against rear-echelon forces or by attacking war industries or communications infrastructure. This characteristic has influenced much thinking about air power. It underpinned the concept that strategic bombardment could win wars without surface forces and played a broader part in the consideration of operational art. (Jordan, 2008: 183)

Aircraft are fast, flexible, and can carry out attacks that are both deadly and terrifying; they can inflict mass killings and produce, to use a modern term, "shock and awe" on the ground.

> The flexibility of air assets, combined with the rapidity with which they can reach the required part of the battle area, enables commanders to concentrate air power and exploit the synergies from co-ordinating air and surface units to maximise the psychological and material impact upon the enemy. (Jordan, 2008: 185)

Control of the air is important and has been important since World War II. It is argued that without control of the airspace, the success of any operation in the air and on the ground

cannot be guaranteed. The U.S. Air Force became certain that air power could win wars alone, that air power could be deployed for coercive purposes: not only to kill the enemy, but also to force changes in the enemy's behavior.

Control of the air was crucial in NATO's (North Atlantic Treaty Organization) attack on Yugoslavia in 1999 to enforce acceptance of a solution to the Kosovo crisis. After suffering severe losses, the Yugoslav Air Force reduced flying to a bare minimum, resulting in a NATO success. The Serbian government estimates that at least 2,500 people died and 12,500 were injured during the 78 days of the NATO military campaign (Rudic, 2017).

An estimated 25,000 houses and apartment buildings were destroyed in the bombing, as well as 470 kilometers of roads and 600 kilometers of railway. According to Serbia's defense ministry, NATO forces killed 631 members of the Serbian armed forces. The number of casualties remains unclear, and Human Rights Watch puts the civilian death toll at around 500. NATO has never revealed the losses (Rudic, 2017). Eighteen years later, Serbian prime minister, Aleksandar Vucic, described NATO's military campaign as "one of the most brutal aggressions in the history of warfare" (Rudic, 2017). The airstrike campaign in Yugoslavia – then Serbia and Montenegro – was launched without a UN Security Council mandate. The best-known mass killing of the campaign was the hitting of a passenger train by two missiles, near Grdelica, Serbia, on 12 April 1999; the airstrikes killed at least 20 civilian passengers. In Montenegro, six civilians, including three children, were killed in an airstrike on a bridge in the village of Murino, on April 30, 1999.

> Criticism of the NATO bombing campaign has included allegations of varying weight: a) that, as the resort to force was illegal, all NATO actions were illegal, and b) that the NATO forces deliberately attacked civilian infrastructure targets (and that such attacks were unlawful), deliberately or recklessly attacked the civilian population, and deliberately or recklessly caused excessive civilian casualties in disregard of the rule of proportionality by trying to fight a 'zero casualty' war for their own side. Allegations concerning the 'zero casualty' war involve suggestions that, for example, NATO aircraft operated at heights which enabled them to avoid attack by Yugoslav defences and, consequently, made it impossible for them to properly distinguish between military or civilian objects on the ground. Certain allegations went so far as to accuse NATO of crimes against humanity and genocide.[1]

The key incidents that were covered by the "Final Report to the Prosecutor by the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia" produced by United Nations International Criminal Tribunal for the Former Yugoslavia were:

a. the attack on a civilian passenger train at the Grdelica Gorge – 12 April 1999 – 10 or more civilians killed, 15 or more injured,
b. the attack on the Djakovica convoy – 14 April 1999 – 70–75 civilians killed, 100 or more injured,
c. the attack on Surdulica – 27 April 1999 – 11 civilians killed, 100 or more injured,
d. the attack on Cuprija – 8 April 1999 – 1 civilian killed, 5 injured,
e. the attack on the Cigota Medical Institute – 8 April 1999 – 3 civilians killed,
f. the attack on Hotels Baciste and Putnik – 13 April 1999 – 1 civilian killed,
g. the attacks on the Pancevo petrochemical complex and fertilizer company – 15 April 1999 and 18 April 1999 – no reported civilian casualties,
h. the attack on the Nis tobacco factory – 18 April 1999 – no reported civilian casualties,
i. the attack on the Djakovica Refugee Camp – 21 April 1999 – 5 civilians killed, 16–19 injured,
j. the attack on a bus at Lu'ane – 1 May 1999 – 39 civilians killed,
k. the attack on a bus at Pec – 3 May 1999 – 17 civilians killed, 44 injured,
l. the attack at Korisa village – 13 / May 1999 – 48–87 civilians killed,

m. the attack on the Belgrade TV and radio station – 23 April 1999 – 16 civilians killed,
n. the attack on the Chinese Embassy in Belgrade – 7 May 1999 – 3 civilians killed, 15 injured,
o. attack on Nis city center and hospital – 7 May 1999 – 13 civilians killed, 60 injured,
p. attack on Istok Prison – 21 May 1999 – at least 19 civilians killed,
q. attack on Belgrade Hospital – 20 May 1999 – 3 civilians killed, several injured,
r. attack on Surdulica Sanatorium – 30 May 1999 – 23 killed, many injured,
s. attack on journalists' convoy Prizren-Brezovica Road – 31 May 1999 – 1 civilian killed, 3 injured
t. attack on Belgrade heating plant – 4 April 1999 – 1 killed,
u. attacks on trade and industry targets.

21st century technology

Two years later, following the 9/11 attacks, Afghanistan was invaded. What was again evident was American supremacy. "The Afghan Air Force had been in a state of almost complete disrepair for some years, and none of the warring factions, least of all the Taliban government, was able to operate any aircraft" (Jordan, 2008: 192). Control of the air once again guaranteed initial victory. And in Iraq in 2003, the Iraqi Air Force did not fly at all in the face of the invasion.

Air power would overwhelm the enemy with great rapidity. The rapid dominance concept inspired *Shock and Awe*, which has become associated with air power in Operation Iraqi Freedom (OIF) – the invasion of Iraq – in 2003.

Time-sensitive intelligence information [was used] to launch an attack on a building in which it was thought Saddam Hussein was dining. Saddam was not killed in the attack, but the conflict was marked with a number of time-critical air attacks against enemy command-and-control systems with the aim of quickly achieving the desired level of dominance over the Iraqi regime. (Jordan, 2008: 206)

The resulting casualties of *Shock and Awe*, March–April 2003, were as follows: nearly 7,500 Iraqi civilians were killed: 3,977 during March and 3,438 during April.[2]

Since then, advances in technology have facilitated better observation and targeted killings. In the ongoing conflict following the invasion of Iraq, unmanned aerial vehicles have been used by the Western Coalition and by insurgent groups to exploit the electromagnetic spectrum. As Jorgan observes,

the use of unmanned aerial vehicles (UAVs) has been of value and may be said to be transformational [while] the ability of some UAVs to carry weapons adds to their potency, since these platforms can make the transition from providing information to attacking key targets, should they be detected during the course of their mission. (Jordan, 2008: 212)

Jordan, however, warns of the possible consequences of strikes causing collateral damage. In conflicts such as the one in Iraq, although "precision weapons" have provided largely effective air support, there are still concerns over the safety of civilians who are close to the fighting. He warns, "Ethical considerations . . . the mantra of 'winning hearts and minds' means that air attacks need to be targeted precisely to ensure that the effect is not to garner support for the insurgents as a result of casualties inflicted upon civilians by such attacks" (Jordan, 2008: 212).

The normalization of targeted killing saw Obama's use of drone warfare in Yemen, Somalia, Afghanistan, Pakistan, Iraq, and Syria. Contrary to expectations, in Iraq alone over 4,000 civilians have been killed so far, according to Iraq Body Count. In some areas American drones killed as many Iraqi civilians as ISIS did. The aim has been to kill rather than capture.

In *Kill Chain: Drones and the Rise of High-tech Assassins*, Andrew Cockburn (2016) writes:

> George W. Bush had arrived at the White House with a pledge, as outlined in his 1999 speech at the Citadel, to 'begin creating the military of the next century' as well as to boost overall defense spending. The Afghan operation had put precision-guided bombing on display, but the revolution in military affairs held the promise of further wonders. 'Millennium Challenge 2002,' the largest and most elaborate war game ever held, was accordingly designed to put the revolutionary 'military of the next century' on full display. Three years in the planning, budgeted at $250 million, involving 13,500 participants waging mock war in 19 training sites across the United States as well ass 17 'virtual' locations in the powerful computers of the Joint Forces Command, the exercise, to be held in the summer of 2002, enjoyed the personal attention of Defense Secretary Rumsfeld himself. (Cockburn, 2016: 133)

The game would show "the progress we have made this far in transforming to produce the combat capability necessary to meet deep threats and the challenges of the 21st century" (Cockburn, 2016: 133–134).

The Millennium Challenge concepts were evident in the 2003 invasion of Iraq. The US military carried out a rapid dominance operation, characterized by "absolute knowledge and understanding of self, adversary, and environment; rapidity and timeliness in application; operational brilliance in execution; and (near) total control and signature management of the entire operational environment" (Cockburn, 2016: 136). The operation was coordinated by a High-Value Target (HVT) Cell in the Pentagon, an advanced version of the system that tracked Milosevic in 1999. According to a Pentagon analyst, in the context of Iraq, "If you're doing HVT, on Saddam Hussein, you have to know where he is at all times, who are his security retinue, where they are. You look for patterns, but our predictive ability was low" (cited in Cockburn, 2016: 137). The analyst recalled, "The shortest kill chain we managed (the time between getting the intelligence and the bomb/missile impacting) in the 2003 war was forty-five minutes. That was the strike on the al-Saath restaurant in Baghdad. We thought that Saddam was there. He wasn't, but we did kill a bunch of civilians" (Cockburn, 2016: 137). "We did not know who was there. To me when they said priority leadership target, it's anybody that's in the regime. I really didn't care. The job was to go put the bombs on the target and then worry about that later," Colonel Fred Swan, Weapons System Officer on the B-1 bomber that hit a restaurant, later told reporters.[3]

Drones can wait and watch for a target to appear, then immediately launch a missile, thus shrinking the kill chain to almost zero. "But that means you're taking the decision on the fly, with no time to really assess potential collateral damage, like who else is in the house, or whatever," according to a former inmate of the High-Value Target Cell (cited in Cockburn, 2016: 138). Precision strikes on Iraqi commanders followed the invasion, all of which survived. According to Marc Garlasco, Defense Intelligence Agency analyst, 50 individuals were selected to be targeted and killed, but instead "a couple of hundred civilians, at least" were killed (cited in Cockburn, 2016: 138). According to regulations, civilians could be killed, but not without clearance, and not too many of them. "Our number was thirty," Galasco said. "If you're gonna kill up to twenty-nine people in a strike against Saddam Hussein, that's not a problem. But once you hit that number thirty, we actually had to go to either President Bush, or Secretary of Defense Rumsfeld" (cited in Cockburn, 2016: 139). Approval from higher authority of such risk to civilian life was frequently requested and was never refused, according to General Michael Moseley, then vice-chief of staff of the US Air Force (Cockburn, 2016).

On 23 January 2009, just three days after Obama's inauguration, drone strikes in North and South Waziristan, Pakistan, authorized by the new president, killed 25 people, including as many as 20 civilians, killing none of their intended high-value targets. "The

second killed a local elder and member of a progovernment peace committee named Malik Gukistan Khan along with four members of his family" (Cockburn, 2016: 225).

During Obama's presidency foreign policy aimed to maximize the protection of military personnel through the use of drones (Chamayou, 2015). Rather than maintain a costly military presence in the Middle East, the Obama administration used surrogate warfare as a means of preserving national interests (Krieg, 2016). The drone-killing program was stepped up and targeted killing was normalized in no-boots battlefields. During Obama's presidency, over 3,000 Iraqi civilians were killed in airstrikes. As the War on Terror and the Arab Spring continued to claim victims, in Iraq through the brutality of ISIS and the Coalition airstrikes that resumed at the start of summer 2014, we were celebrating the triumph of our technology: "Advancements in technology, improved capabilities for target discrimination, and limited risk of collateral damage made RPAs the weapon of choice for targeting High Value Individuals (HVI)" (Fowler, 2014: 109). Limited risk of collateral damage? As the British parliament began to debate further intervention in Syria in September 2014, to "dismantle and ultimately destroy what President Obama has rightly called 'this network of death,'"[4] the question of precision bombing could not be ignored. While the House of Commons did not yet endorse airstrikes in Syria (that would come the following year), it did endorse the resuming of airstrikes in Iraq:

> (The House) acknowledges the request of the Government of Iraq for international support to defend itself against the threat ISIL poses to Iraq and its citizens and the clear legal basis that this provides for action in Iraq; notes that this motion does not endorse UK air strikes in Syria as part of this campaign and any proposal to do so would be subject to a separate vote in Parliament; accordingly supports Her Majesty's Government, working with allies, in supporting the Government of Iraq in protecting civilians and restoring its territorial integrity, including the use of UK air strikes to support Iraqi, including Kurdish, security forces' efforts against ISIL in Iraq; notes that Her Majesty's Government will not deploy UK troops in ground combat operations; and offers its wholehearted support to the men and women of Her Majesty's armed forces. (Cameron, 2014)

The precision of airstrikes was already in question. By September 2014 over 15,000 Iraqi civilians had already been killed in Coalition airstrikes since the invasion, according to Iraq Body Count records. Another thousand Iraqi civilians would be killed through airstrikes by December 2015, when the House of Commons finally endorsed further airstrikes, this time in Syria. The need to address the security of vulnerable persons in the continuing War on Terror was urgent (though a little altered, in terms of strategy and tactics).

The words "precision bombing" or "precision-guided missiles" are used to make us think that British warplanes can go there and help the good guys, the so-called moderate rebels, without much, if any, collateral damage. It is important to emphasize this point, not just because many people think it is morally wrong to cause civilian casualties, but also because the killing of civilians can be used as a recruitment tool for the terrorist groups (Gokay and Hamourtziadou, 2015).

How precise are these precision bombs? The words precision bombing (or smart bombing) refer to the aerial bombing of a target with some degree of accuracy, with the aim of limiting unintended, collateral damage. Such bombing allows fast high-flying aircraft to engage targets in urban environments with very little collateral damage. We have seen such weapons used by all major powers for the last 20 years, in Operation Desert Storm, Afghanistan, Kosovo, Libya, Iraq, and Syria currently. Modern "smart weapons" laser-guided munitions can be and are more effective in hitting clearly identified targets. Yet the level of precision is still no more than 60%. During Operation Desert Storm, less than 60% of bombs hit their targets. In the U.S./NATO war in Kosovo, only 58 strikes were successful out of a total of 750. During the 2003 invasion of Iraq, several U.S. 'precision-guided" bombs managed to miss Iraq entirely, falling into Turkey and Iran (Gokay and Hamourtziadou, 2015).

"In Iraq for a year and three months there have been no reports of civilian casualties related to the strikes that Britain has taken. Our starting point is to avoid civilian casualties altogether," said Prime Minister David Cameron during the debate relating to ISIL in Syria in the House of Commons on 2 December 2015.[5] The sad truth was that in the previous year and three months, that is, between August 2014 and December 2015, over 1,400 civilians had been killed as a result of those airstrikes, according to the Iraq Body Count database.

Did Coalition airstrikes at least reduce the overall killings of civilians? Since August 2014, according to Iraq Body Count, more than 22,000 civilians were killed in Iraq, in mass executions, bombings, shootings, and mortar attacks.

> The result of our intervention has not been the creation of a peaceful state, it has not defeated ISIS, it has not stopped the violent deaths of innocents, it has not abated sectarian conflicts, and it has not alleviated suffering. All violence has continued unabated, violence to which we added more than a thousand deaths in 15 months. (Gokay and Hamourtziadou, 2015)

After the Coalition renewed its airstrikes in Iraq, the country witnessed its highest incidence of bombing in years: 120 civilians were blown up by a suicide bomber on 17 July 2015 in Khan Bani Saad. The violent regime change brought anarchy, death, and devastation, from which the country has been unable to recover. Overthrowing dictators in the name of freedom and bombing in the name of peace have been U.S. and U.K. foreign policy for over a decade. The consequences of this policy have been plaguing not only the Middle East but Europe as well: terrorist attacks, migrant crisis, anarchy, and rising global insecurity. If our "precision bombs" are supposed to free and secure, they are failing.

Airwars has been monitoring international airstrikes against the so-called Islamic State and others in Iraq and Syria:

> Following the capture of much of northern Iraq and eastern Syria by so-called Islamic State – and atrocities committed by the terror group against local populations – an international Coalition led by the United States began military actions against ISIS in August 2014, in partnership with local forces. An intense air and ground campaign over several years led to ISIS being driven out of almost all territory it had previously held – though this also resulted in significant destruction and loss of life. The kinetic element of the Coalition presently comprises the US, the UK, France and Iraq (in Syria). Previous active belligerents include The Netherlands, Canada, Australia, Belgium, Denmark, Turkey, Saudi Arabia, the United Arab Emirates, Bahrain and Jordan. While the Coalition described its campaign as 'the most precise in history', significant civilian casualties were reported in both Iraq and Syria.[6]

By 1 August 2019, in 1,773 days of campaign, 14,570 Coalition airstrikes in Iraq and 19,785 in Syria, up to 13,000 civilians had been killed, of which 2,300 were children.

Civilians like Mohannad Rezzo, a university professor, and his 17-year-old son, Najeeb, his sister-in-law Miyada and her 21-year-old daughter, Tuka. The four family members were killed when a Coalition airstrike flattened their home as they slept, on 21 September 2015 (*New York Times*, 2015).

Figures from the UN Assistance Mission in Afghanistan (UNAMA) show the number of civilian casualties from U.S. strikes rose from 158 in the first half of 2018 to 430 in the same period in 2019. The total number of civilian casualties from airstrikes in the country rose by 39% to 519. The U.S. was responsible for more than 80% of those casualties, according to UNAMA, a sharp increase from 45% in the same period in 2018. The number of civilians injured or killed in U.S. airstrikes in Afghanistan has almost tripled in the first six months of this year compared to the same period last year.[7]

Among the civilian casualties recorded by UNAMA were ten children, all members of the same family, who were killed with at least three others in a U.S. strike in Kunduz. The

strike was called in after an Afghan soldier, described by officials as a Taliban insider, opened fire on U.S. troops, deliberately provoking a firefight between the allies that lasted 20 minutes, the *New York Times* (Rudic, 2019) reported. When the U.S. called in air support, one of the strikes hit a house where the family was staying. All refugees, they had moved to the home just a month earlier (Rudic, 2019).

Abbie Cheeseman, for the Bureau of Investigative Journalism, explains this rise in civilian casualties as being the result of increased U.S. airstrikes, as well as the collaboration between U.S. and Afghan air forces:

> This is the first time since 2015, when the Afghan Air Force took over primary responsibility for air support, that the US has been responsible for more civilian harm from air strikes. Afghan forces were blamed for just 9% of civilian casualties from strikes so far this year. The US has rejected UNAMA's findings. The rising rate of US strikes could explain why they are responsible for more civilian casualties than their Afghan partners. There has been a noticeable uptick in US strikes in Afghanistan. This May, figures from the US showed the highest number of strikes they have publicly declared in a single month since the Bureau started monitoring the conflict in 2015. The escalation of air strikes is probably part of US efforts to force the Taliban to negotiate. Both sides of the 18-year conflict are waging aggressive operations to strengthen their hands in the Doha peace process. The US campaign in Afghanistan has grown increasingly reliant on air strikes. Since the Trump administration relaxed the rules of engagement in the country in 2017, civilians have been more at risk. The shift removed certain constraints on the use of airpower, such as a requirement that restricted strikes based on their proximity to US or Afghan forces.[8]

Afghanistan, Iraq, Syria, and Pakistan are not the only countries in the region hit by this technology. "Over fifteen days in the summer of 2013 the United States hit Yemen with nine strikes, killing as many as forty-nine people, including up to seven civilians, three of whom were children" (Cockburn, 2016: 241). The latest on Yemeni casualties was an attack that killed six civilians, four of them children, on 16 May 2019. It was a response to another drone attack:

> At least six people, including four children, have been killed in Saudi-led coalition airstrikes on Yemen's capital Sanaa . . . The airstrikes came two days after Yemen's Iran-backed Houthi rebels launched a drone attack on a critical oil pipeline in Saudi Arabia, Tehran's biggest rival in the region. The drone strikes followed mysterious sabotage attacks on tankers in the Persian Gulf.[9]

The myths of technology are that victory in war can be quick and guaranteed, that it is designed to protect military and civilians, that it is exclusive to one's own military, and that no significant losses can result from it. Like a *deus ex machina*, technology is thought of as appearing in a sticky situation to swiftly reward the just and punish the unjust. However, the reality of this technology does not resemble gods appearing to save the heroes and punish the villains. Insight into the reality of airstrikes and drone warfare is found in the words of David Rhode, who called it "hell on earth." *New York Times* journalist David Rhode, held hostage in North Waziristan, Pakistan, from November 2008 to June 2009, described the terror of life under drones:

> From the ground, it is impossible to determine who or what they are tracking as they circle overhead. The buzz of a distant propeller is a constant reminder of imminent death. Drones fire missiles that travel faster than the speed of sound. A drone's victim never hears the missile that kills him. (cited in Cockburn, 2016: 226)

Security, winning, and losing

On the road to victory, human security must not come second to national security. Any conception of "victory" must include triumph over the sacrifice of innocent life. Restructuring states

requires a large-scale commitment of resources and people, which is no myth. It is also important that commanders do not allow their expectations, dreams, and ambitions to cloud the strategic realities and capabilities of military technology. On 30 March 2011 at an event at the Ritz-Carlton Hotel, Pentagon City, Secretary of Defense Robert Gates praised the new technology that would enable him to win the war in Iraq. When he first arrived at the Pentagon in 2007, he said he found resistance to new technology, but that had changed. Factories were now working to turn out the vital weapons for the fight against terrorism. From now on, he concluded, "the watchword is drones, baby, drones!" (cited in Cockburn, 2016 215). Gates' 2007–08 "Surge" in Iraq did not help the U.S. win the war and it also led to the deaths of 1,300 Iraqi civilians.

The threat of this technology in war is threat to life, threat to national security, threat to human security, and, ultimately, to global security, because security is indivisible; of nations, of states, of humans; economic, political, environmental, societal. All of which suffer when there is a war and even more so when technology that guarantees mass killing is deployed. Looking at weapons used in the context of the Iraq War, the *New England Journal of Medicine* in collaboration with Iraq Body Count, published a report entitled "The Weapons that Kill Civilians: Deaths of Children and Noncombatants in Iraq, 2003–2008" (Hsiao-Rei Hicks et al., 2009). The report makes it clear that a big part, maybe the biggest, of what war is is its casualties – that prevention of civilian harm is central to any conception of winning. It is shows the indivisibility of security: the insecurity of Iraqis cannot be understood separately from the insecurity of the Iraqi state, or from the insecurity of all those holders of rights, as international law dictates:

> Armed violence, such as that in the on-going conflict in Iraq, is a threat to global health. It causes serious injuries and deaths of civilians, makes orphans of children, traumatizes populations, and undermines the ability of communities to provide adequate medical care even as it dramatically increases health care needs. Moreover, indiscriminate or intentional harm to civilians violates humanitarian principles and basic human rights. (Hsiao-Rei Hicks et al., 2009: 1585)

In a five-year period (20 March 2003 to 19 March 2008), a total of 91,358 Iraqi civilian deaths from armed violence were recorded by Iraq Body count. The report excluded 10,027 deaths from prolonged violence (e.g., the two sieges of Fallujah and prolonged episodes of violence during the invasion of 20 March 2003 to 30 April 2003), and 20,850 deaths recorded only in aggregate reports from morgues and hospitals. Since these deaths were not reliably linked to specific events of a weapon's use, they focused on the remaining 60,481 deaths of Iraqi civilians and the causative weapons in 14,196 armed violence events considered to be of short duration (lasting up to two calendar dates), occurring in an identifiable location, and directly causing one or more reported civilian deaths.

It is not only new technology that poses a threat to life. Civilians die from a variety of weapons, old and new, as this study shows: guns, suicide jackets, improvised explosive devices (IEDs), and aerial attacks. The greatest proportion of victims – 19,706 of 60,481, or 33% – were killed by execution after abduction or capture. Iraqi civilians also suffered heavy tolls from small-arms gunfire in open shootings and firefights (20% of deaths), apart from executions involving gunfire and from suicide bombs (14% of deaths), according to Iraq Body Count data.

However, the methods that killed the *most civilians per event* were aerial bombings (17 per event), combined use of aerial and ground weapons (17 per event), and suicide bombers on foot (16 per event). Aerial bombs killed, on average, nine more civilians per event than aerial missiles (17 vs. 8 per event). Indeed, *if an aerial bomb killed civilians at all, it tended to kill many*. The study concludes:

> It seems clear from these findings that to protect civilians from indiscriminate harm, as required by international humanitarian law (including the Geneva Conventions),

military and civilian policies should prohibit aerial bombing in civilian areas unless it can be demonstrated – by monitoring of civilian casualties, for example – that civilians are being protected. We believe that all combatant forces and governments should implement policies of routine and transparent collection and release of verifiable data on the civilian casualties of military actions. Such monitoring would facilitate timely reparative action and must inform planning if armed combat is to be prevented – as much as possible – from harming noncombatants. Policymakers, war strategists of all persuasions, and the groups and societies that support them bear moral and legal responsibility for the effects that particular combat tactics have on civilians, including the weapons used near and among them. (Hsiao-Rei Hicks et al., 2009: 1588)

What of the security of the United States of America? If those air attacks are, at the very least, able to safeguard U.S. security, then could an argument be made for the U.S. military, which is of course driven by the U.S. "national interest," to cease conducting them? Matthew Crosston has argued that American drone dominance is fast becoming a myth, as more and more groups, some hostile to America and American interests, are acquiring it (Crosston, 2014).

A Brookings Institute report in 2012 warned that

to believe that drones will remain the exclusive province of responsible nations is to disregard a long history of weapons technology. It is only a matter of time before rogue groups or nations hostile to the United States are able to build or acquire their own drones to use them to launch attacks on our soil or on our soldiers abroad. (Casey-Maslen, 2012: online report, no page number)

Crosston, writing in 2014, argued that America was "relying too heavily on its continued drone dominance and not thinking about the empirical ethical lessons it is setting for the rest of the world when it comes to technology, war, and the rules of Engagement" (Crosston, 2014: 24). It appears then that drone deployment may also be, in the end, to the detriment of American national security. It may lead to more victims than victors.

War not only looks like its victors and its heroes, it also looks like its victims. War looks primarily like its losers: its dead, its maimed, its terrorized, its homeless, and its refugees. Given the failure of technology to protect life and the decrease in all security, what has been won in the 21st century War on Terror? When the human cost is so great, it surpasses concerns over "victory" or "defeat." Even if no civilians died violent deaths in Iraq from this day forward, talk of winning or losing devalues us and the lives lost. Assessment of this war in such terms makes us lose sight of the real losses. Can "we" still win? After so many deaths, we have all lost already.

Notes

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[2] Iraq Body Count, www.iraqbodycount.org (accessed 10 September 2019).

[3] CNN LIVE EVENT/SPECIAL, War in Iraq: Day 21, 8 April 2003, http://edition.cnn.com/TRANSCRIPTS/0304/08/se.08.html (accessed 10 September 2019).

[4] https://publications.parliament.uk/pa/cm201415/cmhansrd/cm140926/debtext/140926-0001.htm (accessed 10 September 2019).

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