Death Strikes from the Sky: The Calculus of Proportionality

NOEL SHARKEY

© U.S. DoD

The use of Unmanned Aerial Vehicles (UAVs) in the conflict zones of Iraq and Afghanistan for both intelligence gathering and "decapitation" attacks has been heralded as an unprecedented success by U.S. military forces. There is a demand for substantially increased production of Predator MQ-1 and Reaper MQ-9

drones and funding has been boosted to enable the training of many more operators.

But perhaps there is a danger of over-trusting and overreaching the technology, particularly with respect to protecting innocents in war zones. There are ethical issues and pitfalls. It is time to reassess the meanings of discrimination and proportionality in the deployment of UAVs in 21st century warfare.

Showcasing UAVs

The conflicts in Iraq and Afghanistan have showcased the military advantages of using unmanned aerial vehicles for reconnaissance in warfare. UAVs are the most requested resource from ground forces. The Predator RQ-1 made by General Atomics is the most popular U.S. military UAV and was first used in the Bosnia conflict in 1995. In February 2001, the Predator was successfully

armed and tested with two Hellfire missiles (first used in Panama in 1989). The Judge Advocate General's office said that there was no need to apply for approval for the combination as the Predator was not a weapon and the Hellfires had previously been approved [1]. It was now called an MQ-1, where the M designates multi-role to replace the R for reconnaissance.

The first "kill" was in November 2002, in Yemen when a CIA controlled MQ-1 Predator fired its payload into a sport utility vehicle containing a known Al Qaeda leader and five other men. This was controversial at the time but it was considered, by U.S. Department of Defense (DoD) lawyers, to be a legitimate defensive pre-emptive strike against Al Qaeda. It was also a foretaste of many Unmanned Aerial Vehicle decapitation attacks to come. The success of the Predator in the conflict zones of Iraq and Afghanistan has resulted in a large increase in the number of missions. The MQ-1 fleet flew 250 000 hours through June 2007. As a mark of its military usefulness, it clocked up an additional 150 000 hours in the Afghan and Iraqi conflicts in the subsequent 14 months. The missions are flown by "pilots" of the 432nd Air Expeditionary Wing at the Creech Air force base in the Nevada desert, thousands of miles away from the operations.

In October 2007, the Predator fleet in the Middle East conflict was joined by the much larger and more powerful MQ-9 Reaper. The MQ-9 Reaper carries a payload of up to 14 hellfire missiles or a mixture of missiles and bombs. Shifts of pilots can fly them around the clock so that there is a constant overhead presence. These so-called hunter-killer UAVs have conducted many decapitation strikes since they were first deployed in Afghanistan in October 2007. And there is a demand to get many more operational as soon as possible. The number of Reapers flying over the conflict zones has doubled to 20 during their first year of operation (2007–2008)—a year ahead of schedule—and there has been a push from the U.S. Air Force (USAF) for General Atomics to increase production levels above the current four per month. In late 2008, $412 million was added to the UASF budget for training more non-aerial pilots.

Aerial Decapitation and Innocents

One of the functions of the Predators and Reapers, and certainly the most publicized, is their use in *decapitation strikes*. The word decapitation is used because it means cutting off the head of an organization or nation that is necessary for fighting a war. The aim of the current spate of aerial decapitations is to target Al Qaeda leaders and technical experts without risk to U.S. military personnel. With less risk, the targeted leaders do not have to be at the highest level. The idea is to eventually leave only replacements from the shallowest end of the talent pool that will be ineffective and easy to defeat. This explains the increasing number of death-delivering attacks in Iraq, Afghanistan, and over the border in Pakistan using Predators and Reapers.

These individually targeted killings are not considered to be illegal even though all U.S. presidents have banned politically motivated killing of individuals since the famous Church commission report on the CIA political assassinations in 1975. In 1976, President Ford issued a presidential order decreeing that "no person employed by or acting on behalf of the United States Government shall engage in, or conspire to engage in, assassination." This is not codified in the U.S. law but is an executive order that the president can change at will and without public notice. It has been supported by subsequent presidents and President Reagan issued Executive Order 12333, which expanded the ban to include persons acting on *behalf* of the U.S. government.

However, EO 12333 does not limit lawful self-defense options against legitimate threats to the national security of U.S. citizens.[1] During wartime, a combatant is considered to be a legitimate target at all times. If a selected individual is sought out and killed it is not termed an assassination. According to a Memorandum on EO 12333, which is said to be consistent with United Nations (UN) Charter 51, "a decision by the President to employ clandestine, low-visibility, or overt military force would not constitute assassination if U.S. military forces were employed against the combatant forces of another nation, a guerrilla force, or a terrorist or other organization whose actions pose a threat to the security of the United States" [2].

As Seymour Hersh puts it, "the targeting and killing of individual Al Qaeda members without juridical process has come to be seen within the Bush Administration as justifiable military action in a new kind of war, involving international terrorist organizations and unstable states" [3]. The insurgents have been redefined as combatants, but without receiving the rights of prisoners of war and without being given the chance to surrender or to face trial. This move gives the military the legal right to decapitate known insurgent combatants.

Regardless of the legality of decapitation, extreme care must be taken to protect innocents. This is fundamental to the Laws of War as specified in the Principles of Discrimination and Proportionality. Humanitarian law,[2] as established in the Geneva and Hague conventions and the various treaties

---

[1] A Joint Resolution of Congress on September 14, 2001, gave the president authority to use "all necessary and appropriate force against 'persons he determines planned, authorized, committed, or aided the terrorist attacks that occurred on 11 September 2001.'"

[2] For a more detailed discussion of humanitarian law see [4].

> ## The commander was such a "high-value target" that it was worth the risk that some children might be casualties.

and protocols, seeks to protect the innocent—those who are not party to the combat or its justification. Under *jus in bello*, justice in the conduct of war, the principle of *discrimination* specifies that only combatants/warriors are legitimate targets. All others, including children, civilians, service workers, and retirees, hold immunity from attack [5].[3] Soldiers who are wounded, have surrendered or are mentally ill are also immune, though it is not clear if this applies to insurgents.

The matter of legitimate targets has been greatly complicated in the current insurgency conflicts in Afghanistan and Iraq where all of the enemy combatants are non-uniformed. In many cases the combatant/non-combatant distinction can only be made on the basis of intelligence information or by interpretation of actions, e.g., if a non-uniformed person opens fire on soldiers, then they may be treated as a legitimate target. Often subtler distinctions must be made to interpret actions of individuals in a war zone. For example, is a person running from an improvised roadside explosive because they put it there or because they saw someone else putting it there?

Decapitation attacks mainly rely on inferences drawn from aerial observations and intelligence reports that can often be scant and unreliable. For example, investigations of Operation Phoenix in which thousands were assassinated by the U.S. during the Vietnam war, revealed that many of those on the assassination list had been put there by South Vietnamese officials for personal reasons such as erasing gambling debts or resolving family quarrels [3].

---

[3]But see also [6].

It is clear that many innocents are dying in the raids. If only a small percentage of the news reports are to be believed, innocent women, children, and elderly are regularly being killed. This is sometimes confirmed by U.S. forces following the examination of bodies after an attack. Take the example of the attempted decapitation attack on Abu Laith al Libi—one of Al Qaeda's top commanders—on June 17, 2007. The ensuing enquiry found that those killed included seven Afghan children but the target, Abu Laith al Libi, was not among the dead. A coalition spokesman, Army Maj. Chris Belcher, told *The New York Times*, "We are saddened by the innocent lives that were lost as a result of militants' cowardice" [7]. After some confusion and denials, U.S. military officials later told NBC News [8] that they had been aware of the childrens' presence but that the commander was such a "high-value target" that it was worth the risk that some children might be casualties.

The difficulties of fully protecting non-combatants in warfare are well known and have been considered since the beginnings of Just War Theory. Thomas Aquinas, in the 13th century, developed the doctrine of Double Effect. In essence, the killing of innocents during a conflict can be acceptable providing that a) it was not intentional, or b) it was not a means to winning, or c) the importance to the defense of the nation is proportionally greater than a number of civilian deaths. The modern equivalent, the *Principle of Proportionality*, "requires that the anticipated loss of life and damage to property incidental to attacks must not be excessive in relation to the concrete and direct military advantage expected to be gained" [9]. In this formulation, the intentional killing of civilians has been removed. It is now down to a trade-off between civilian deaths and target value.

Calculus of Proportionality

The term *high-value target* is often used to describe decapitation attacks that result in innocent casualties; it implies that there is some underlying mechanism for calculating proportionality where *high-value* translates into "the anticipated loss of life was not excessive in relation to the concrete and direct military advantage expected to be gained." But how can such values be assigned and how can such calculations be made? What could the metric be for assigning value to an alleged Al Qaeda leader relative to the value of non-combatants, particularly children who could not be accused of willingly contributing to insurgency activity? The military say that it is one of the most difficult decisions that a commander has to make; but that recognition does not answer the question of what metrics should be applied.

Uncertainty needs be a factor in any proportionality calculus. Post-attack investigations such as DNA analysis of bodies sometimes reveals that the target was not even present during the decapitation attempt either because they escaped or the military were misinformed. Thus the target value must be weighted by a probability of presence/absence. This is an impossible calculation unless the target is visually identified at the onset of the attack. Even then, the Predator and Reaper high resolution cameras working from above human targets cannot be fully trusted. Hersh gives the example of a man in Afghanistan being mistaken for bin Laden by CIA Predator operators in 2002. A Hellfire was launched killing three people who were later reported to be three local

men scavenging in the woods for scrap metal [3]. Not only does the reliability of the informant need to be taken into account but so does the reliability of each link in the chain of information reaching the informant before being passed onto the commander/operator/pilot. There can even be deliberate deception anywhere along the information chain.

Another factor that is practically impossible to calculate is a value for the actual military advantage in killing a particular individual. This is not necessarily the same as the political advantage of creating a sense of military success by putting a face to the enemy to rally public support at home and to boost the morale of the troops. The military advantage of decapitation at best results in *deterrence* of the enemy from acting in a particular way, *disruption* of the social, political, economic, and/or military functions and *destruction* of the social, political, economic, and/or military functions [10].

Any such calculation would have to be based on the likely differences in military outcome if the target was still alive [11]. This is called Target Value Analysis and as pointed out in an extensive analysis of value of decapitation attacks, "Targeting enemy leadership offers very few tangible effects that can provide concrete evidence in a cost/benefit analysis. Measuring coercion, deterrence, and/or disruption is problematic" [11, pp. 48–49]. It is also impossible to measure the costs of decapitation in terms of martyrdom leading to more terrorist recruitment, greater stealth and higher determination. These factors also need to be part of the value analysis of the target.

A recent argument in favor of decapitations suggests that while leaders and technical specialists can be replaced, they cannot be replaced by those with the same level of experience. In this case, the aim is to intensify decapitations until the talent pool is diluted. This suggests that there is some way to measure the amount of talent in the deep end of the pool and that such talent can all be eliminated before others are trained. But how many decapitation raids will be required to get into the so called shallow end of the talent pool [12]? It also assumes a meritocratic system in which the leaders are the most talented rather than the most ideologically committed; in actuality, their replacements could turn out to be more talented and more skilful leaders [13].

Despite the impossibility of proportionality calculations, military commanders have a political mandate to make such decisions on an almost daily basis. Commanders must be employing a subjective metric to weigh the circumstances before making a decision. Clearly the extremes of wiping out a whole city to eliminate even the highest value target, say Osama bin Laden, is out of the question. So there must be some subjective estimates about just how many innocent people equal a *high value* target, where high value seems to mean any suspected Al Qaeda commander or technical expert.

Research efforts are needed to scrutinize the basis of the subjective proportionality calculations despite the political discomfort this may cause. More transparency would help to check for compliance with humanitarian law and would assist in meaningful international discussions about discrimination and proportionality in the new hitech warfare of the 21st century. For example, blunt and crude as it may seem, it would be useful to have decision makers draw up a table of how many civilian casualties/deaths would be acceptable for each of the Al Qaeda suspects thought to be in the deeper end of the talent pool. How many children is a given leader worth? Are nationality and religion part of the calculation? Surely a U.S. military commander's decision would be quite different in the, admittedly unlikely, event of a group of U.S. schoolchildren visiting a Pakistani village containing suspected Al Qaeda leaders.

Without facing up to such difficult questions about discrimination and proportionality in unmanned decapitation attacks, we are carelessly overreaching and over-trusting the technology by failing to realize its discriminatory weaknesses. Before rushing headlong into overusing new lethal technologies, we should think long and hard about their impact on non-combatants.

Author Information

The author is with the Dept. Computer Science, University of Sheffield, Sheffield, U.K.; noel@dcs.shef.ac.uk.

References

[1] J.S. Canning, G.W. Riggs, O.T. Holland, and C.J. Blakelock, "A concept for the operation of armed autonomous systems on the battlefield," presented at *2004 AUVSI Conf.*, Anaheim, CA, 2004.

[2] H.W. Parks, Col., memorandum on Executive Order 12333, reproduction, Dept. of the U.S. Army, Office of the Judge Advocate General of the Army, Washington, DC, 1989.

[3] S.M. Hersh, "Manhunt: The Bush administration's new strategy in the war against terrorism," *New Yorker*, p. 66, Dec. 2002.

[4] M.N. Schmitt, "The principle of discrimination in 21st century warfare," *Yale Human Rights. & Dev. Law J.*, p. 143, 1999.

[5] N.E. Sharkey, "Grounds for discrimination: Autonomous robot weapons," *RUSI Defence Systems*, vol. 11, no. 2, pp. 86-89, 2008.

[6] J.S. Ford, "The morality of obliteration bombing," *Theological Studies*, pp. 261-309, 1944.

[7] B. Bearak, T. Shah, C.J. Chivers, and A.W. Wafa, "7 children killed in coalition airstrike on religious compound in Afghanistan," *New York Times*, Nov. 10, 2007.

[8] J. Miklaszewski, C. Kube, and R. Windrem , *NBC News*, June, 19, 2007; http://www.msnbc.msn.com/id/19318805/.

[9] D.H. Petraeus and J.F. Amos, *Counterinsurgency*, Headquarters of the U.S. Army, Field Manual FM 3-24 MCWP 3-33.5, Section 7-30.

[10] V.D. Hyder, "Decapitation operations: Criteria for targeting enemy leadership," Monograph/report approved for publication, School of Advanced Military Studies, United Sates Army Command and General Staff College, Fort Leavenworth, KS, 2004.

[11] B. Chakwin, D. Voelkel, and S. Enright, "Leaders as targets," Joint Forces Staff College, Seminar # 08, 2002.

[12] J. Dunnigan, "Decapitation in Afghanistan," strategy page, Sept. 9, 2008; http://www.strategypage.com/dls/articles/200899222542.asp.

[13] N. Griffith, personal communication, 2006. Limerick, Ireland.