THE IMPACT OF DRONE TECHNOLOGY ON INTELLIGENCE PRACTICES: REVOLUTIONARY OR EVOLUTIONARY?

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ABSTRACT

The intelligence community has become increasingly reliant on drones for intelligence collection and operations. This paper assesses the benefits and disadvantages of using drone technologies in intelligence to determine whether drones have had a revolutionary impact on intelligence practices. The paper argues that drones offer several significant advantages to intelligence practices because they are cheaper to produce than conventional military aircrafts, and they reduce the risk of losing human pilots and soldiers in warfare because drones can be operated outside the battlefield. Drones also have the ability to fly closer to targets and areas of interest to collect intelligence and can simultaneously distribute large quantities of real time signals and imagery intelligence. Drones have also become crucial technological tools in counterterrorism strategies because they are used as weapons of lethal surveillance that can identify, target and kill combatants while reducing collateral damage. However, the paper also argues that using drones has not helped to overcome the age-old limits of intelligence such as the cognitive and time/space limits and the technology also has vulnerabilities which inhibit their overall effectiveness during intelligence operations. Taking into account the advantages and drawbacks of using drones deduces the technology's evolutionary rather than revolutionary impact on intelligence practices.

KEYWORDS: Drones; Intelligence; Counterterrorism; Lethal surveillance; Intelligence limitations

INTRODUCTION

The integration of drone technology in military and intelligence strategy is fraught with controversy and has engendered both ethical and legal concerns (Keene, 2015: 5-23). The term 'drone' also referred to as 'unmanned aerial vehicles' (UAV), is in itself contentious.

Williams and McDonald (2018: 96) argue that "discourses of drone warfare as unmanned leaves a powerful impression linguistically producing a sense of war absent of people." As a result, the term 'remotely piloted aircraft' (RPA) has become the preferred alternative, particularly within the British Ministry of Defence (Keene, 2015: 3). Regardless of controversy and conceptualization, drones have become important tools for intelligence gathering. The use of drone technology in intelligence practices is not a new phenomenon. NATO used drones for intelligence collection during the 1999 airstrikes over Kosovo. Drone technology during this operation was used solely for the purpose of aerial surveillance and reconnaissance. The photographs and videos taken by the drones served as crucial intelligence tools for NATO and helped to identify Serbian troops and targets on the ground (Becker, 1996: 2). The use of drone technology for intelligence gathering in the Kosovo airstrikes was significant as the US Department of Defence reported to congress that the Kosovo operations "saw an unprecedented use of unmanned aerial vehicles" (DOD report to congress 2000: 3-4). More importantly, it was during the Kosovo airstrikes that drones began taking on a weaponized role (Zurich, 2010: 4) as they were integrated into the targeting process to identify combatants. Following the 9/11 terrorist attack, the use of drone technology in intelligence practice became a paramount aspect of US strategy in the fight against terrorism. The US drone programme in the post 9/11 world focused not only on intelligence gathering but also on targeted killing of individuals that were deemed to be a security threat to the US. The use of drone technology in this way is referred to as 'lethal surveillance'. Lethal surveillance, according to Kindervater (2016: 224) is the process "where Intelligence, Surveillance and

Reconnaissance capabilities are linked directly to target killings in an attempt to close the temporal and spatial gap between the two."

The use of drones has added an edge to modern warfare as tools for targeted killing and as technologies that have pushed the boundaries of aerial intelligence collection previously limited to conventional airpower. Drone technologies have offered several benefits to contemporary intelligence practices such as financial cost reduction and reducing the risk of losing human pilots in battle. Drones also have the ability to fly closer to targets and areas of interest than satellites and conventional aircraft, and the technology can also simultaneously collect and distribute real time signals and imagery intelligence. Lastly, and perhaps the most consequential is the use of drones to integrate intelligence collections with targeted killings referred to as lethal surveillance. However, despite the benefits that drone technology has offered to intelligence practices, drones have not been able to overcome the limits of intelligence, such as time and space and cognitive limits which will be evaluated along with other vulnerabilities to determine whether drones have had a revolutionary impact on intelligence practices.

THE BENEFITS OF USING DRONE TECHNOLOGY IN INTELLIGENCE PRACTICES

The primary advantage to using drones is cost. The cost of using drone technologies should reference both financial cost and the cost in human lives (Keene, 2015: 4). Drones are viewed as a better financial alternative to conventional piloted aircrafts because the design of the technology does not have to take into consideration the need for safety systems such as pressurized cabins for human pilots. The drone's architecture is designed to operate without a human pilot, so production cost reduces significantly when compared with piloted jets. According to Walsh (2017: 430) "using a drone to gather intelligence or to destroy a high value

target in a hostile and hard-to-access environment, [is preferable to] putting boots on the ground" because it reduces the cost of losing human lives when operations take place in hostile enemy territories. Clearly, drones can significantly reduce the risk of pilots losing their lives, because they can be operated safely from much greater distances than piloted aircrafts. Secondly, drones offer a greater advantage than satellites and piloted aircraft because drones can fly much closer to areas of interest to collect intelligence. Drones can also hover undetected over an area or target for longer durations of time because of their lingering surveillance capabilities. Two types of drones developed by the US that can hover undetected in the air for long periods of time are the Predator, which can hover for forty hours and the Global Hawk which can hover for a little over twenty-four hours (Garamore, 2002: 1).

LETHAL SURVEILLANCE: THE USE OF DRONES IN COUNTERTERRORISM OPERATIONS

The fact that drones can get closer to areas of interest and targets for prolonged periods of time highlights the third advantage of drone technologies which is the ability to collect and distribute large amounts of real-time signals and imagery intelligence. Lowenthal (2020: 133) explains that the ability of drones to collect real-time intelligence makes it possible for the collected signals and imagery intelligence to be "immediately available for use instead of having to be processed and exploited first." This allows the operators and analysts to have a good idea of what is happening on the ground in real-time before a strike. It provides the operator with better information and the ability to clearly identify targets and reduce collateral damages, which is usually the death of civilians. The Reconnaissance, Surveillance and Target Acquisition (RSTA) capabilities of the drone make it the perfect tool for counterterrorism operations. According to Farrow (2016: 7) drones are useful in

counterterrorism operations because they "collect useful intelligence about the behavioural patterns of the enemy (ie: family ties, associations, daily activities) while flying at a high altitude, unseen to the target on the ground." For example, drones were useful for gathering intelligence on two infamous leaders of Al Qaeda, Abu Musab al-Zarqawi and Osama Bin Laden, whose locations were identified with the help of drones. The drones simultaneously collected and distributed the location of the two Al Qaeda leaders which led to their eventual execution. The executions were successful and remained covert until the missions were completed because of the clandestine capability of drones to collect intelligence (Farrow, 2017: 7-9).

The combination of intelligence with targeted killings is perhaps one of the most notable uses of drones in contemporary intelligence practice and warfare. Kindervater (2016: 224-226) conceptualizes lethal surveillance in more rudimentary terms as "a practice in which mechanisms of surveillance and knowledge production and decisions on life and death have become one and the same." Essentially, the use of drones has consolidated "intelligence gathering/information processing and targeting" into one process (Ibid,. 224-226). The use of drones in targeted killings proved to be advantageous because drones collected and relayed real-time intelligence back to operators which helped to reduce the amount of time it took to identify and execute targets. Drones can also immediately assess the aftermath of a strike and relay that information back to operators to help determine whether a strike was successful or not. Lethal surveillance has become a major part of US strategy in the fight against terrorism since 9/11. Wirtz (2017: 434) argues that drones are the most appropriate tools for counterterrorism operations because "their limited weapons payload can engage a single soft target, while the intelligence community can support their demand for queuing against a limited target list." The integration of intelligence gathering and information processing with targeted killings is

argued to be effective because it leads to precision in executing targets while minimizing civilian casualties. Drones are capable of hovering for long durations of time over targets to ensure that civilians are not attacked. During his presidency, President Barack Obama admitted that targeted killings were precision strikes only against members and affiliates of terror groups such as Al-Qaeda (McCrisken, 2013: 98-102). The intelligence, surveillance and reconnaissance capabilities of the drone have thus made it a crucial technological tool in the fight against terrorism while users of the technology assert that civilians are not affected in the process.

DRONES AND THE TIME AND SPACE LIMITS OF INTELLIGENCE

Drones have indeed added substantially to intelligence collection, but to determine whether they have revolutionized intelligence practices would require assessing whether drones have been able to overcome the challenges posed by the limits of intelligence. According to Jackson (2010: 3), time and space impose a major limit on intelligence because collected intelligence is 'time bound' meaning that "its usefulness depends upon the speed at which it can be transmitted and analyzed." It is true that drones have been able to quickly transmit large amounts of real-time SIGINT and IMINT intelligence, but these large quantities of data can considerably slow down the analysis of the intelligence which can obstruct the decision making process. Zurich (2010: 2) makes an interesting observation about how drones can cause information overload highlighting that "Predator and Reaper drones in Afghanistan deliver around 400 hours of video footage daily to US forces", but the collection of such a vast amount of data is of no use if it is not analyzed. The challenge for the analyst is sifting through all that information while hoping that the situation on the ground does not change. The vast amount of data provided by drones has the potential to strain communication systems and can also lead to information fatigue amongst analysts.

Drones have also not been able to help states track and control the movement of suspected terrorists across international borders (Jackson, 2010: 3-4). More broadly, Jackson (ibid., 4) asserts that technology has not "provided intelligence with the means to overcome time and space considerations when dealing with the 'asymmetric threat' posed by terrorism. Although drones have proven effective in target killings during counterterrorism operations, they have by no means been able to provide the intelligence community with long term solutions to make obsolete the threat of terrorism in western countries. In addition, the vast amount of information these technologies provide requires more manpower to analyze.

DRONES AND THE COGNITIVE LIMITS OF INTELLIGENCE

Drones strikes particularly in targeted killings are also susceptible to the cognitive limits of intelligence. The cognitive limits of intelligence refer to confirmation bias and cognitive dissonance. Jackson (2010: 7) defines "confirmation bias as the practice of looking for evidence to confirm the existing hypotheses based on previous analysis and cognitive dissonance as the mind's tendency to resist knowledge that contradicts established beliefs." Drones are operated by humans and thus rely on human judgements which make drone operations such as signature strikes susceptible to both confirmation bias and cognitive dissonance. Signature strikes target anonymous terrorist suspects through algorithmic identification based on patterns of behaviour. The behavioural patterns of suspected militants are analysed using signal intelligence from multiple intelligence agencies. Signature drone strikes are controversial because the identities of the individuals are unknown but if their behavioural patterns suggest that the individual is a militant a signature drone strike will be ordered to execute the individual. However, the process of identifying targets in signature drone strikes can often be influenced by confirmation bias and cognitive dissonance which was evident under the

Obama administration that viewed all military-age males in a strike zone as militants (Entous et al, 2012: 2). Wilcox (2017: 23) described the problem with this logic in signature strikes by explaining that

"data and visual analysis are used to render into action what is already decided. Rather than seeking an accurate assessment of threat, evidence that the object might not be a threat are effectively screened out, while evidence that confirms what is affectively known through gendered assumptions (male bodies are seen as potential threats whereas female bodies are not) is sought."

The consequence of these cognitive limits is that innocent civilians may lose their life during a signature drone strike. Schwarz (2017: 24) argues that "if with [drones] we identify and unnecessarily kill the wrong individuals or indeed civilians, drones may in fact have counterproductive consequences and fail to achieve a preferred outcome." Intelligence officers may not always be able to identify a target with an absolute degree of certainty in signature strikes which can be further exacerbated by the cognitive limits of intelligence. This challenge can create an ethical dilemma because of the possibility of identifying and isolating the wrong targets when drones are used for signature strikes in intelligence operations.

THE EXTERNAL AND INTERNAL VULNERABILITIES OF DRONE TECHNOLOGY

Drones also have several other vulnerabilities that can limit their functions in intelligence practices. The weather can affect the drone's ability to collect intelligence and can even cause drones to crash. Drones are also susceptible to hacking for example; in 2016 a member of the Islamic Jihad terror group hacked an Israeli surveillance drone and was able to view the Israeli drone's surveillance for up to two years before the hack was detected (Axe, 2017: 1). Low flying drones are also vulnerable to Surface-to-air missiles especially because drone operators are not capable of detecting these missiles. It is also possible to create geofences, which is a virtual

barrier that uses GPS to inhibit the flight of drones over certain areas.

CONCLUSION

Drones have become important technological tools in modern warfare and intelligence. They have added substantial value to the process of intelligence gathering as these devices have been able to simultaneously collect and distribute real-time intelligence. Drones have also overcome the limits of conventional aircrafts by removing human pilots from entering the battlefield which has both reduced economic cost and decreased the risk of losing human lives in warfare, and they have been able to get closer to targets with stealth making the devices nonpareil to other types of aircrafts used in war and intelligence collection. More importantly, drones have made it possible to integrate intelligence with the real-time use of force in target killings. The drone has made lethal surveillance an inseparable strategy in counterterrorism operations. However, despite these substantial advantages drones have offered to intelligence practices the device has not been able to help overcome the limits of intelligence such as time and space and cognitive limits of intelligence. Drones also face several vulnerabilities during operations which can affect the collection of intelligence and the outcome of intelligence operations. Although the advantages are noteworthy, the drawbacks of using drones in intelligence and warfare perhaps make the devices evolutionary rather than revolutionary in intelligence practices. Drones have indeed played a part in the gradual development of intelligence practices, but the technology is still susceptible to the limits of intelligence which presents challenges to the drones overall effectiveness in intelligence operations.

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