

# Modern Drone Warfare: An Ethical Analysis

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**Abstract** – The revelation of drone warfare presents an onslaught of new and never-before considered ethical issues. These aircraft are the equivalent of the robotic armies discussed in so many science fiction novels. While indeed drones do a great justice by protecting the lives of our countrymen and preventing the unnecessary loss of thousands of soldiers' lives, the long-term impact of this approach is not yet well understood. Popular culture uses terms like “Convenient Killing”, “Death by Remote Control”, “PlayStation Mentality” and “Death Machine” to describe these drones. This very much describes some of the issues surrounding this technology. Drones simplify the time and effort required for effective military operations, and remove the soldier from the reality of the situation. With the ever-changing defense technology industry, our policies and strategies need to progress correspondingly, and so far, they have not.

*Keywords:* Air safety, appropriate technology, electrical engineering, ethics, international relations, military aircraft, military computing, standards, telerobotics, unmanned aerial vehicles.



Fig. 2. The underbelly of a fully armed reaper drone en route.

[http://www.ga-asi.com/resources/library/var/albums/Images/Aircraft-Platforms/Predator-B/JG-AF008\\_7537\\_PRED B MODIFIED.jpg](http://www.ga-asi.com/resources/library/var/albums/Images/Aircraft-Platforms/Predator-B/JG-AF008_7537_PRED B MODIFIED.jpg)

**Student Learning Activities** - This work is intended to develop the following student learning outcomes (a) ability to identify a contemporary ethical issue, (b) the ability for life-long learning, (c) ability to disseminate the information in the form of research paper within ethical dimensions.

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## ETHICAL ISSUES

Numerous ethical issues are raised by the heralding of this drone era in warfare. This is still a new technology as far as its mainstream usage is concerned. The long-term consequences of these actions, social or otherwise, have yet to be realized. The majority of the ethical issues concern those being attacked, but there are some things the operating country should realize with regard to the impact they can have. [Klein, 3]

### Armchair Warfare

A common perception of drone warfare is that it takes marginal skill and expertise to manage, and because of this, the operators cannot fully grasp the immensity of their actions and the greater impact those actions can have. The United States government goes so far as to encourage this perception by marketing the drone programs to people who play video games, even kids. The operation of a drone aircraft is so similar to the controls of a video game that the military has cooperated to produce flight and combat simulators to emulate the process in the hopes of recruiting more and more drone pilots for the ever-increasing drone arsenal. This is like hiring a bus driver to fly a commercial airliner. Air Force pilots go through years of rigorous training to fully immerse themselves in the gravity of flying a plane designed to kill. Drone pilots have been deregulated and require nowhere near the same qualifications as pilots that fly inside of a cockpit. In some sense, this is to be expected. In another sense, operator error now poses an increased risk in this endeavor with pilots who have not received ample training.



Fig. 3. Image showing a drone pilot in operation of a reaper drone.

[http://i.telegraph.co.uk/multimedia/archive/02079/08\\_08\\_2007get\\_2079778i.jpg](http://i.telegraph.co.uk/multimedia/archive/02079/08_08_2007get_2079778i.jpg)

### Desensitization

The ease, precision, and effectiveness of drone warfare operations makes military operations seem less impactful. The reduction in troop exposure and a public perception of low-risk in foreign military operations means that the United States military now has the power to operate with fewer barriers to entry. The result of this is a renewed sense of freedom by the military to engage in operations in which it might have otherwise been met with public outcry. The marketing of the Syria operation was that of a hugely successful mission that didn't involve the risk of life of any United States troops. The ground troops and fighter pilots were supplied by other countries. While this put the United States in an advantageous position militarily, it can also be leveraged. If other countries are putting their own countrymen at risk, the expectation of the United States would be that of greater involvement due to their reduced exposure. There are huge ethical issues with us becoming more and more reactionary in foreign affairs. With the current perception of the United States in the Middle East, we can only expect increased polarization. The public has been desensitized to the drone operations, and because of this, the trend towards larger utilization will increase exponentially until met with some significant opposition.

### Retaliatory Strategies

With increased precision and effectiveness of attacks because of drone operations, retaliatory strategies of opposition nations will have to change with the tides. There is no question that retaliatory strategies will change; it is a matter of just how those changes will affect us. Just like the introduction of penicillin and the evolution of antibiotic-resistant bacteria strains, so too will the situation be with drones and the opposition. Because the destruction of any number of drones represents a negligible impact on any true set of operations of the military, opposition forces will have to resort to more impactful methods of making their presence and position known. Through whatever means necessary, those attacked nations will eventually find a way to hit us where it hurts. This more than likely means an attack within our nation, rather than one in the Middle East. If such an attack were to occur, we would again risk further regulation for the “security” of the nation. This is where forethought is absolutely essential. Currently, the drone strategy is far too effective for its own good.

### Targeting Individuals

There are some concerns that attacks that are too targeted are closer to civilian homicide than military defense. In military operations, it is normally one group against another. In targeted attacks, with surgical precision, key targets are picked off discriminately. This is far too reminiscent of murder, and does not give the target a proper right to defend themselves against the accusations or discriminations. This issue needs to be considered in further detail. How should we approach military targets, and is it fair to give them a right to defend themselves? That being said, targeted attacks are the most sociologically effective methods of deconstructing an opposition force. [O’Connell, 5] Lacking leadership, a group loses its organization and its voice. The question remains whether human rights or operational success take greater precedence in warfare. It is not entirely safe, after all, to keep an opposition leader alive as this could embolden the opposition.

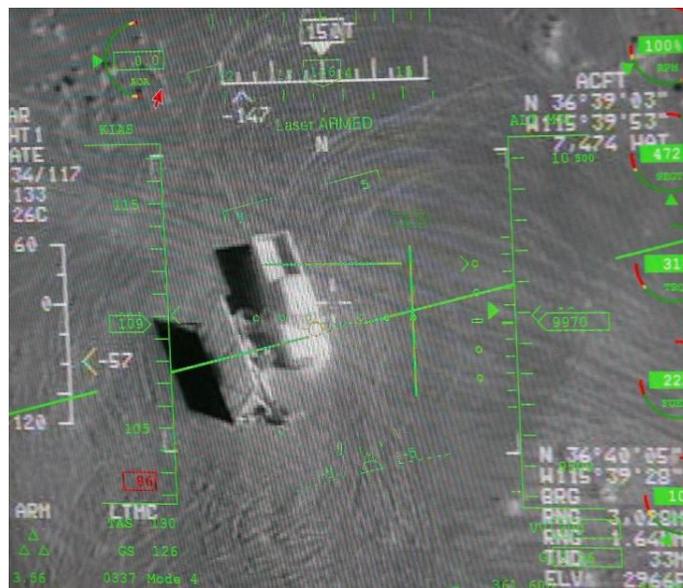


Fig. 5. A drone screen display showing a target lined up for attack.

[http://www.foreignpolicy.com/files/fp\\_uploaded\\_images/120808\\_Inbox\\_AOAI\\_76025450.jpg](http://www.foreignpolicy.com/files/fp_uploaded_images/120808_Inbox_AOAI_76025450.jpg)

## ETHICAL FRAMEWORK

### Professional Ethics

In a professional sense, the United States government has a responsibility to maintain itself as the world's military super-power. To manage this position while regarding a consideration for the lives of the soldiers that make up its ranks, it must be on the leading edge of military innovation. The latest step, and arguably one of the most successful, is the introduction of drone warfare. These planes perform a new level of combat with greater-than-ever personnel safety. These aircraft are both efficient and effective in their mission. The soldiers piloting these aircraft can be on the opposite site of the world and still achieve their mission objectives. The goals of the United States military are the protection of the citizens and the successful execution of its mission objectives. Drone warfare has become increasingly sophisticated in its approach to these resolutions, but meets the goals better than nearly all other approaches. Compared to diplomacy, the drone attacks have a far more direct psychological impact on the opposition and do so with better speed. Diplomacy takes time, and in many situations, this is time the soldiers do not have. Diplomacy also requires an excessive use of resources to accomplish a similar goal. Trying to convince a nation that is diametrically opposed to the United States' motives and convictions that they should consider some flexibility in their perceptions and policies can take millions or billions in trade agreements and currency influx before the brick wall crumbles. A few targeted strikes by a drone aircraft could justify their flexibility more economically. The targeted approach is exactly the reason why drone attacks are better than some more destructive methods for the military. The Cold War era game of chicken played a pivotal and an instructional role with regard to excessive use of force. With a targeted approach, civilian casualties can be minimized as compared to less precise methods, and the risk of nuclear retaliation is negligible. When picking a splinter, the right tool would be a pair of tweezers, not a chainsaw; the analogy of drones to nuclear warfare is similar.

### Common Morality

The common morality of drone attacks is two-fold, one from the side of those being attacked and the other from the attackers. For both sides, drone warfare presents many notable advantages to conventional warfare tactics. Most notably, drone warfare minimizes collateral damage and troop exposure. The defending nation can at least be assured that the risk to their civilian population is minimized. Unless countries are leveraging their civilians for military and political presence, this is an enormous benefit. For those being attacked, however, drones represent an unfair advantage against those countries without them. They are relatively cheap and their destruction has a negligible impact on the operations of their home nation. This means that regardless of the effort against drones, the attacks will be nearly impossible to stifle. Because of this, these countries will have to divert their focus onto more effective tactics. These tactics would only get results if they were to actually harm the people of the opposing nation. If no lives are lost in another country, those attacked could bring their retaliation to our homes where it's not just soldiers that would risk their lives, but everyone. For the attacking nation, drones represent an incredible advantage, especially in mass. The warfare strategy remains relatively unchanged in spite of this new advantage, however. Because of this, undesirable consequences are eminent. This affects everyone, and forethought and planning is required to minimize this risk. For now though, drones reduce troop exposure, limit the leverage of civilian casualties, and provide an efficient and effective means of combatting the opposition. For the opposition, targeted drone attacks reduce collateral damage and help to expedite conflict resolution.

## STEPS FOR FACILITATING SOLUTIONS TO ETHICAL ISSUES

Each of the ethical issues raised has a proper and appropriate solution. Each of these solutions will need to be adapted with the changing warfare environment and as the long-term consequences of drone warfare become more well-known and better-understood.

### Training

The most empowering tool in dealing with these ethical issues is proper pilot training. It's not enough to teach the pilots to operate a drone aircraft. The drone pilots need a full and complete understanding of the impact that their actions will have. They need to be constantly aware that they are not in fact in front of a video game. [Joint, 7] These pilots are indeed flying real aircraft with real missile capable of killing real people.

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### **Awareness**

The issue of desensitization is the most difficult to combat. As people, we want to distance ourselves as much as possible from feelings of guilt. Knowing that our troops have limited exposure to opposition attacks with the advent of drone warfare, we will inevitably lose sight of the meaning of combat. Lives are being lost, and as long as they are not our own, we want to remove ourselves from the guilt of war as much as possible. The solution to this is awareness. Just as the pilot needs to fight to urge to convert to a video game mentality, the citizenship needs to maintain an awareness of the consequences of drone warfare and constantly realize that every life has value.

### **Forethought**

Just as any chess player is thinking moves ahead for each position of his pieces, so too must we think about the long-term consequences of drone warfare before it is too late. There are consequences to everything and drone warfare is not different. The use of drones represents a significant military advantage that is just now being realized; only time will tell how retaliatory efforts emerge. With few options, opposition forces could use tactics that drive our nation into citizen securitization and a corresponding loss of freedom.

### **Opposition Rights**

Every person has natural rights, whether they are citizens of our country or any other. How these rights apply to military operations need to be further resolved in order to fully comprehend the impact of targeted attacks en masse. Every drone is a precision instrument meant to deliver a surgical blow to the enemy. Whether or not opposition leaders have a right to defend themselves from targeted military action has yet to be determined, but the outcome will have drastic consequences for both sides. [Radsan, 6] Even warfare should be fair.

## **IMPACT OF ETHICAL RESOLUTION**

The impact of the resolution of these ethical issues has yet to be determined, and many of the issues themselves are dependent upon a better understanding of drone warfare which can only come in time. Drone warfare is an emerging technology, and as such, its consequences are not well known yet, but there is no doubt there will be consequences. Maintaining awareness for new issues and conflicts will be paramount to the minimization of future impacts. That said, if each of the steps for facilitating solutions to the ethical issues were implemented, current ethical issues could be resolved and the frontier of modern warfare could be revolutionized. [Billitteri, 1] Drone warfare is indeed a powerful tool, but the niche for this technology is still developing and its impact will only be discovered in time.

## **CONCLUSION**

The sun has barely risen on the challenges to come with modern drone warfare. These aircraft are the most efficient, effective, and precise tactical technologies on the military front today. The consequences of their use are not yet well understood and how opposition forces will retaliate effectively has yet to be seen. That said, drones represent a huge advantage for the military forces that utilize them. They reduce the troop exposure to ground and aerial opposition attack and minimize the cost and time required for tactical operations. There are many ethical issues that need to be considered. The ease at which drone operations can be mobilized and executed makes warfare seem low-risk and therefore, of minimal concern by the civilian population. This complacent attitude will only deregulate the opposition to further military empowerment and growth in the Middle East and elsewhere. [McDaniel, 4] With increased training requirements and further consideration of the impact of drone warfare, drone warfare has a bright future that will not be dimming anytime soon.



Fig. 6. The sun rising on a Predator drone as maintenance is done.  
<http://www.af.mil/shared/media/photodb/photos/030313-F-1644L-024.jpg>

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### BIOGRAPHY

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Joshua Olson was born in Daytona Beach, FL on August 26, 1987. He graduated from Spruce Creek High School in 2005 and studied Physics and Mathematics at Florida Atlantic University until 2008. He returned to Daytona Beach, FL to help his mother run her interior design company until 2011. Joshua is current enrolled in the Electrical Engineering program at the University of West Florida. Joshua’s interests include trail running, surfing, weightlifting, and most notably, electrical engineering. His academic interests include programming, robotics, unmanned systems and electronic circuit design.

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