

THE INVISIBLE KILLERS: DRONES ON THE RISE



Many Americans have heard of the stories told by US soldiers about their time in the army and some of the horrific things that they experience during times of war. We have heard about these stories of ground soldiers and how terrible some of their stories are. Have you ever heard of the stories from drone pilots and their experiences? US citizens and other countries know the US government has had an active drone program for a long time.

As you might imagine it is fairly difficult to find some of the ways that the US uses drones. There is one man who came up to the media and talked about his experiences as a drone pilot. That man is Brandon Bryant, ex-air force pilot and drone pilot, who has been suffering through PTSD for the past 2 years. His trauma is induced by a series of missions, but one in particular was very horrific. He had an interview on *Democracy Now!* He describes the grisly scenes he watched unfold on his monitor as an Air Force drone operator in a new article in GQ magazine, "Confessions of a Drone Warrior" by Matt Power." (A Drone Warrior's Torment Democracy Now!).

His experiences with drones have been horrific to say the least, but there is one instance that he talks about that has really scared him for the rest of his life. That instance refers to January 26th, when he took over control of a drone that was flying around a combat situation. The ground troops were calling for air support, and he was told to fire upon multiple targets 2 clicks away from their current position. When he got this group of guys in his drone's sights, he had a wrenching feeling that these guys were not part of the conflict going on the ground. With this feeling still in his gut he was given the order to fire and take them out, because conformation had come through that they were carrying weapons and were armed hostiles.

With a twitch of his trigger finger he fired on of his hellfire missiles at them, and watched as it obliterated 3 of the guys, literally blasting their bodies apart.

As the Smoke cleared from the blast he could see the body parts of these guys spread all over the place. One of the guys, caught on the edge of the blast was slowly bleeding out. He watches this buy bleed out for 30 minutes as his drone flew away. Using the inferred setting he could see the blood still hot flowing out into a puddle around him, then cooling, and this guy's body slowly cooling and becoming the same color as the sand around him. This was his first ever hellfire shot, and over his entire drone pilot career he shot 231 shots, and yet of all his experiences, his first is the one he remembers the most.

"I was still feeling the effects of my first Hellfire shot... And it made me realize that, you know, we can have all the intel in the world, and it's still not going to be perfect. And as clean as these types of strikes can be, they're in reality really dirty. And military operations—being part of the military, talking about military operations, like, that's just the nature of what it is. The real debate should be about places other than where we went to war and, you know, violating the constitutional rights of an American citizen who was in another country, who was killed without due process, and that type of thing. My goal in all of this is to talk about, like, these aren't killer robots. They're not like unfeeling people behind this whole thing. There are—there are some people that are extremely scary when talking to them, and there was one individual who got the word "infidel" tattooed in Arabic on his side, and he had Hellfire tattoos marking every shot. But that's an extreme. (Democracy Now!).

This story shows that there isn't even an escape form PTSD from combat, and that despite the fact that they are removed from actual combat, it doesn't mean that they don't experience the fallout from it. Brandon's story is a tragic one and he and possible other drone operators could be suffering from PTSD because of the civilian casualties. Drones are taking a spotlight in the eyes of America, and in the eyes of the government, drones are good because they keep our troops out of harms way. The new direction of warfare, is a military made up of

autonomized drones, rather than a military made up of intuitive thinking individuals either controlling drones themselves or being in the actual combat situations.

This increased use of unmanned aerial vehicles has led to an increase in the number of recorded instances of PTSD, civilian casualties, and precision strikes of a possible illegal nature. Manned reconnaissance is still vastly superior to unmanned. Drones have the potential to increase the possibility of war. For these reasons, drone development should be stopped and the whole "project" should be scrapped.

Unmanned Aerial Vehicles (or UAVs) are literally unmanned vehicles that can fly. Drones are more commonly associated with UAVs, mostly because of the MQ-1 Predator drone, which is responsible for many of the drone strikes that happen nowadays; in addition, they were used in the invasion of Iraq back in 2002. Drones are unmanned vehicles are remotely guided vehicles, or autonomous vehicles. Autonomous vehicles are capable of sensing their environment and navigating themselves. But drones origins have a history that reaches back to before World War 1; the allure of unmanned vehicles usage has been around since 1849. The earliest recorded use of an "unmanned aerial vehicle" for warfighting occurred on August 22, 1849, when the Austrians attacked the Italian city of Venice with unmanned balloons loaded with explosives (Wikipedia). Although these balloons do not generally meet today's definition of a UAV, but the concept was strong enough that once winged aircraft were invented, the effort to fly them unmanned for military purposes was not far behind.

The first pilotless aircraft were built during and shortly after World War I, they were intended to be used against Zeppelins. In 1916, the Hewitt-Sperry Automatic Airplane, otherwise known as the "flying bomb" demonstrated the concept of an unmanned aircraft.

They were an early version of today's cruise missiles. Control of these “flying bombs” was achieved using gyroscopes developed by Elmer Sperry of the Sperry Gyroscope Company. Later, in November 1917, the Automatic Airplane was flown for representatives of the US Army. While the Bug's revolutionary technology was successful, it was not in time to fight in the war, which ended before it could be fully developed and deployed (Wikipedia).

The US Navy began experimenting with radio-controlled aircraft during the 1930s as well, resulting in the Curtiss N2C-2 drone in 1937. The Curtiss was remotely controlled from another aircraft, called a TG-2. The US Army Air Forces (USAAF) adopted the N2C-2 concept in 1939. USAAF acquired hundreds of later versions of the Curtiss, they were called Culver PQ-8 and PQ-14 target drones. There was also the "TDN-1", which was an unmanned drone that was developed for use in 1940. It was based off of the B-17 and B-24 bomber aircraft, which was literally taking those aircraft and putting remote control equipment in the plane. The TDN was capable of delivering a 1,000 pound bomb but never saw operational duty (Wikipedia).

From those early beginnings they have developed into the drones that we know today. There are hundreds of different types of drones out in the world, ranging from the massive Global Hawk, which has a wingspan of 39.9m and a height of 4.7m, to the Switchblade, which is able to be carried fully assembled in a common foot soldiers backpack. But the US alone has approximately 140 different kinds of drones in use in the USAAF. They are used for a variety of tasks in the Air Force. Reconnaissance is the main purpose that they're used for (RQ-4 Global hawk which has a flight capability of 26 hours is used for this purpose), but also they are used for precision strikes. The infamous MQ-1 Predator drone, well known for its precision strikes, is

the most recognized drone in the world today. It has been used in many of the armed US strikes.

The recently developed Switchblade, is launch out of a tube, and the wings, the tail, and propeller all spring open, hence called the Switchblade. When the operator finds the target, on the viewing screen, he sends a command to the Switchblade that triggers it to hone in on that target and detonate its explosive charge upon contact.¹ There are many other types of drones that have been created for many other purposes, and they are still improving upon current modes. For example, in the next few years Amazon.com is hoping to have drones that will drop off packages and pick up returned packages. (Yost)

Unlike manned aircraft pilots, drone pilots are able to see the effects of their strikes. Watching the outcome of what you've done unfold in front of your eyes is a very scaring experience for most people, an example of this would be Brandon Bryant.

Many People also assume that drone pilots don't suffer from PTSD, but on the contrary there are actually a higher statistical number of drone pilots that suffer from combat related PTSD than soldiers. According to the New York Times, "remotely piloted aircraft pilots may stare at the same piece of ground for days,' said Jean Lin Otto, an epidemiologist who was a co-author of the study. 'They witness the carnage. Manned aircraft pilots don't do that. They get out of there as soon as possible.' "(Dao) Air Force officials and independent experts have suggested several potential causes, among them, witnessing combat violence on live video feeds, working in isolation and inflexible shift hours, juggling the simultaneous demands of home life with combat operations and dealing with intense stress because of crew shortages.

¹ This one seems particularly interesting and a little scary because something like this has been featured in some well-known video games like Call of Duty: Black Ops 2.

The Air Force has also conducted research into the health issues of drone crew members. “In a 2011 survey of nearly 840 drone operators, it found that 46 percent of Reaper and Predator pilots, and 48 percent of Global Hawk sensor operators, reported “high operational stress.” Those crews cited long hours and frequent shift changes as major causes.”(Dao) After analyzing diagnosis and treatment records, the researchers initially found that the drone pilots had higher incidence rates, including post-traumatic stress disorder (PTSD), depressive disorder, and suicidal ideation. But after the data were adjusted for age, number of deployments, time in service and history of previous mental health problems, the rates were similar. What is surprising though is that both manned and unmanned aircraft pilots have a lower number of mental health diagnoses than the other Air Force personnel. Researchers have conceded that their studies might be off by a possibly large margin; this is because among both manned and unmanned aircraft pilots, who may feel pressure not to report mental health symptoms to doctors out of fears that they will be grounded. (Dao)

There are other types of drones that aren't UAVs but when you think of drones you automatically think of a Predator drone. Abe Kareem, who created the first ever modern drone called the Albatross, which later developed into the Amber drone, has said that, “Drones were originally created to be only used for surveillance” (Yost). Kareem believed that efficiency and lightness were the key to creating an affordable, high endurance U.A.V., so, first, he gave his craft long wings, to prioritize lift over speed. Abe developed the drone during the Cold War, because the US government wanted a way to observe the Soviet Union without endangering their own pilots. Kareem built the Albatross from scratch, in his garage.

“He modified a go-kart engine to burn only 1/10th of a gallon of fuel an hour. And ‘Albatross’ soon evolved into ‘Amber,’ a 15 foot long, 28 foot span U.A.V., with 38-hour endurance. Karem relied on seed money from DARPA, the Defense Advanced Research Projects Agency. Its early investments in artificial intelligence and other technologies led to countless civilian uses and made modern U.A.V.s possible.” (Yost)

Karem's Amber prototype never went into full production, but after a number of incarnations, by the mid-90s, his design became known as the Predator with its down-deflected tails to protect the prop, so when it tilts back, it's hitting the skids and not hitting the propeller.

In a lab at the University of Pennsylvania, Vijay Kumar is funded, in part by the military, to create autonomous drones that don't need external links and, like us, can sense their environment. Vijay Kumar is a professor of General Robotics, and since 2012 has been developing a drone that can operate without external links or control and sense their environment. The robot he's been developing is a quad propeller helicopter drone, about the size of a laptop computer. Kumar describes the essential components,

“What you see on this robot are these two chips, here, which are, essentially, rate gyroscopes. These play the same role as the semicircular canals in the human body, located near the ears, which, essentially, tell us orientation. So the rate gyroscopes that are on board can actually measure these angular velocities at thousands of times a second. This chip here is the accelerometer, and this allows the robot to sense accelerations in the lateral direction. So these are analogs to the otolith organs that measure acceleration in the human head.”(Yost).

Since drones are still a new technology there are times that the equipment malfunctions and the drones can fall from the sky and crash. In one case, the US was flying a drone over Afghanistan, which was a route that the drone had flown many times. While the drone flew

over, the Afghan military remotely took control of the drone and landed it on one of their runways. The drone was never found by the US and a few years later Afghanistan revealed it during a press conference. They acknowledged the fact that they had captured the drone from the US and we're now creating drones of their own but also selling it to China. In addition to this the Afghanistan asked why the US was flying drones over their country.

There have been other incidents that a drone has been shot down, malfunctioned or been hijacked; this cannot continue, because after while a country who may have a vendetta against the US; This country would have conveniently just found a crashed drone, could use the technological scrap from the crashed drone to create their own drones, and therefore could be used to attack the US. In addition the development of drones in other countries has might have unforeseen consequences, because now countries can go to war without risking the lives of their soldiers.

There have been talks about unmanned aircraft taking the place of manned aircraft, this is more in the sense of surveillance. It appears that this is the way that it looks like things will lean towards unmanned aircraft for surveillance. However, the US Air Force has made a public statement saying that for surveillance they would rather choose the U-2 Dragon Lady, an early surveillance aircraft which was manned, over the RQ-4 Global Hawk. (Thompson)

“Global Hawk is what Pentagon managers call a “high-altitude, long-endurance” unmanned aerial system, meaning a drone that can cover vast areas in a single flight with sensors capable of seeing many miles from their lofty vantage point. Prime contractor Northrop Grumman says the most common version of the drone can fly 2,000 nautical miles from its base and then loiter above areas of interest for up to 19 hours, which is something no manned aircraft could do without repeated refuelings. The drone’s long reach would seem to make it well-suited to conducting reconnaissance in the Western Pacific – the main geographical focus of the Obama administration’s post-Afghanistan defense posture.”(Thompson)

The Air Force recognizes the value of long endurance in sustaining continuous surveillance of potential aggressors, but when it evaluated U-2 and Global Hawk in light of its shrinking budget and the needs of regional combatant commanders, it came to the surprising conclusion that the vintage spy plane was a better bargain than the futuristic drone. Once the comparisons got beyond range, the U-2 tended to have superior performance characteristics, those that can easily outweigh range. (Thompson)

Though there seems to be a lean towards UAVs for reconnaissance because they, 1.) Take the pilot out of danger, and 2.) Have a longer flight time. These reasons seem to have a lot of weight behind them but there are other reasons which aren't considered as often, that say the manned recon aircraft are actually better. In regard to the RQ-4 Global Hawk and U-2 Dragon Lady, there have been debates on which one is better. The advantages of the U-2 are that it can fly at a higher altitude and carry a heavier payload, it has a more diverse set of sensors and can collect many types of intelligence, has a higher mission success rate, can adapt to quickly changing environments, is able to avoid crashing into other aircraft and into storms, doesn't require satellite uplink, can't be electronically hijacked, and is less expensive by a large margin.

The use of drones can cause increased aggression between nations. An example of this would be Yemen.

“The almost weekly killing of terrorists in Yemen and Pakistan rarely make headlines. But when there are claims that innocent civilians have died in a rare drone strike mistake it creates news around the world. The mere accusation of a mistake in what the CIA euphemistically calls "bugsplat" strikes can create

tremendous backlash against the USA and provide fodder and motivation for those who hate America.” (Williams)

According to most media accounts, the Joint Special Operations Command (JSOC) drone strike on December 12, 2013 on a road outside the town of Radda in al Bayda Province, Yemen was a strategic mistake, and an example of the massive public relations fallout that comes from even one possible drone error. In a deadly drone attack on a convoy of 11 trucks carrying 60 men to a wedding, between 12 and 17 people were killed in four vehicles and many others wounded. News reports around the globe spoke of a scene of carnage as burnt body parts and burning trucks littered the blackened stretch of road turning the wedding procession into a bloody mess. One report of the attack based on an interview with a local whose son, a father of seven, was killed stated, "We heard a loud explosion coming from down in the valley. There were bodies scattered all over the place," and the women of the village were gathered together crying and screaming.” (Williams)

This strike caused a lot of the native people around that area to become infuriated with JSOC, and has increased the hatred of the US with the people here. Though civilian casualties are never deliberately done it doesn't change the fact that they do still happen, and is it really worth civilian casualties to kill one or two terrorists? The strike assignment was to take out terrorists, among them, Shawqi Ali Ahmad al Badani, a mid-level operative, who was behind the Al Qaeda terror plot that the CIA learned about last August which led to the protective closing of as many as nineteen US embassies in Africa and the Middle East. He also attacked the U.S. embassy in the Yemeni capital of Sanaa in 2012 and had a \$100,000 reward offered by the Yemenis for his capture. Al Badani is no civilian, he is described by the Yemenis as a "very

dangerous, high-risk operational militant" who has engaged in operations designed to kill Americans and Yemenis.(TheWorldPost)

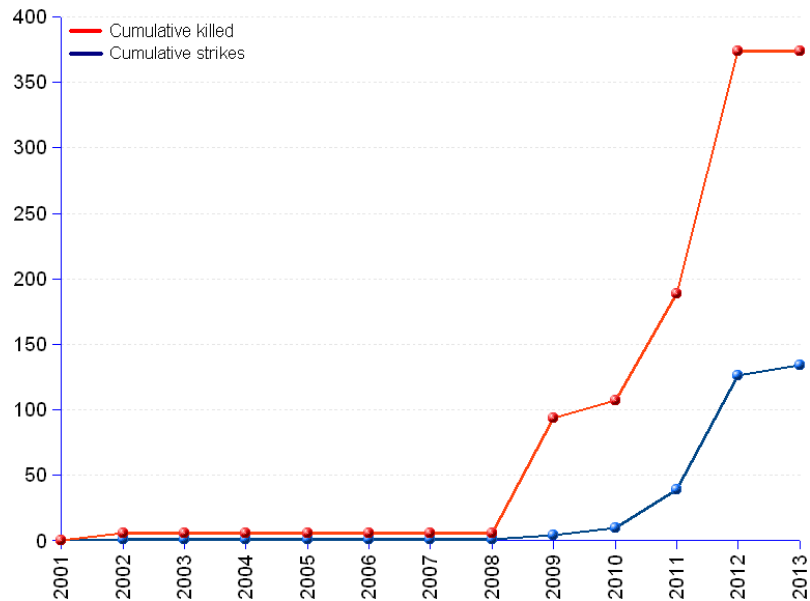
Unfortunately, Al Badani was only wounded in the attack and managed to escape. According to U.S. officials quoted by the Associated Press, some of his fellow terrorist comrades were not so lucky, and the officials claim the U.S. killed between "nine and 12 other militants" in the armed convoy. This source further states that the U.S. official said the Americans "know of no civilian casualties" and that "the militants were traveling to the wedding, but were not near civilians when they were hit."(Williams)

“It does, however, seem likely that the CIA or allied Yemeni spy networks had provided JSOC with "actionable" intel that there were Al Qaeda terrorists in the convoy traveling to the wedding. The drone operators then felt it would either be a "clean kill" that would take out only terrorists, or that the benefit of killing Al Badani and other terrorists, despite the risk of civilian bystander deaths, was worth it (recall there were 60 people traveling in the 11 vehicle convoy, it is highly dubious that all of them were terrorists).” (Williams)

This seems like an incredible hard decision and one that one person should make, especially if they are the person with the finger on the trigger. But the question that needs to be asked is: Was the killing of one mid-level operative and a handful of other low ranking terrorists worth the "collateral damage" in lives. Were those 9 to 12 men killed in the convoy really terrorists as the U.S. official claimed?

“Other incidents in Yemen, like the July 6, 2012, drone attack in the village of Zowi Sidgi, near the city of Miran Shah, in which it said 18 civilians — including a 14-year-old boy — were killed, continue to draw sidelong looks from our allies and hatred from countries that have experienced something like this. The CIA and the military are carrying out an illegal “targeted killing” program in which people far from any battlefield are determined to be enemies of the state and killed without charge or trial” (Williams).

The chart below shows the number of targeted killings and the number of deaths from the corresponding strikes.



“The executive branch has, in effect, claimed the unchecked authority to put the names of citizens and others on “kill lists” on the basis of a secret determination, based on secret evidence, that a person meets a secret definition of the enemy.”(ACLU) The targeted killing program operates with virtually no oversight outside the executive branch, and essential details about the program remain secret, including what criteria are used to put people on CIA and military kill lists or how much evidence is required.

Outside of armed conflict zones, the use of lethal force is strictly limited by international law and, when it comes to U.S. citizens, the Constitution. Specifically, lethal force can be used only as a last resort against an imminent threat to life. Even in the context of an armed conflict against an armed group, the government may use lethal force only against individuals who are directly participating in hostilities against the U. S. Regardless of the context, whenever the

government uses lethal force, it must take all possible steps to avoid harming civilian bystanders. These are not the standards that the US executive branch is using. (ACLU)

The U.S. continues to carry out illegal targeted killings in Pakistan, Yemen, Somalia, and elsewhere. The government must be held to account when it carries out such killings in violation of the Constitution and international law. If they continue the death toll will only grow, and the confidence of the people giving the kill orders will grow. The definition of a person who is a threat to the US will drop, and disapproval of the US drone strikes will increase. Many Middle Eastern countries which have experienced drones have reacted very strongly to them. The continued use of drones in these countries has cause some people who may have lost someone, or been a part of a drones strike, to join a terror group. In addition they also find it hard to understand why the US can call the Taliban or Al Qaeda a terrorist group, when there are many civilian casualties in drone strikes.



Therefore, with the increased usage of unmanned aerial vehicles leading to increased numbers of recorded instances of PTSD, civilian casualties, and precision strikes of a possible illegal nature, drone development should be stopped and the whole “project” should be

scrapped. Manned reconnaissance is still vastly superior to unmanned. In addition, drones have the potential to increase the possibility of war.

Though this will be an ongoing fight and will take a lot of effort, talks, awareness, and general activism against drones, there is a possibility that if not to remove drones all together then at least get regulation on their usage and keep the usage to a minimum. What people need to understand is that drones are basically another military weapon and like any weapon it has flaws and it's not perfect. People should also make their own distinction about what is or isn't a terrorist and also what do they think would be a necessary use, if any, of military force despite the fact that there will be civilian casualties? These two questions are probably the most important questions that people should answer for themselves and then make their judgments on whether drones are helping the US or only hurting the US.

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