

**DRONING ON AND ON
ATHENAEUM SOCIETY**

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U.S. officials estimate one million consumer drones were sold in the U.S. during the last holiday season. There are also estimates that approximately four million consumer drones are owned in the U.S. Of course that number doesn't take into account the number of drones that are routinely crashed or lost on a daily basis, most within weeks of the owner opening the box! U.S. aviation officials expect another 2.7 million commercial drones in the sky by 2020. Furthermore industry experts predict the use of these commercial drones could generate more than \$82 billion for the U.S. economy and create more than 100,000 jobs in the next 10 years.

Prices for drones have dropped dramatically over the last couple of years. The ease of operating a drone has increased and the controls are easier to master. Apps will allow your smartphone, iPad or laptop to program, initiate and fly a flight plan. Many drones now have a "return home" feature so that if the operator panics or runs into trouble during a flight, he or she can just tell it to return home and it will automatically return to where it took off.

How many of you saw the Lady Gaga halftime show during this year's Super Bowl game? The video of Lady Gaga atop Houston's football stadium featured hundreds of lights in the background that moved and swirled, changed colors and formed intricate patterns, including an American flag. That wasn't

computer generated, at least in the sense of the use of a “green screen” background. It was created by drones...300 drones...all controlled by one computer program developed by Intel. If you haven't seen the video of how they created that programming and dramatic footage, you need to look it up on YouTube. The creative uses of drones is limited only by an operator's imagination.

Some examples of new and creative uses for drones...

Dronies...selfies by drone

Las Vegas' Cosmopolitan Marquee Dayclub offers a poolside drink service by drone.

Amazon and any number of smaller entrepreneurs are exploring numerous delivery services using drones.

The list of weird and wacky uses for drones is endless.

On July 26, 2015 Kentucky made national and international headlines when William “the Drone Slayer” Meredith took a shotgun and blasted a \$1,800 hobbyist's drone out of the sky because it was spying on his sunbathing teenage daughter. Meredith was arrested, jailed, and charged with a Class D felony punishable by up to a year in prison and a \$10,000 fine. On October 26, 2015 Kentucky again made national and international headlines when, after listening to the evidence presented from both the prosecution and the defense, Bullitt County District Judge Rebecca Ward told the media packed courtroom that the drone pilot, John Boggs, used his remotely piloted drone to invade the privacy of Meredith and his daughter, thus giving Meredith the right to shoot down and destroy the spying drone. In

dismissing all criminal claims against Meredith, Judge Ward set what is now known as the “Kentucky precedent” in the national debate over drone laws regarding hobbyists use, misuse, privacy, and available self-help.

But my legal advice would be: no it is not okay to shoot a drone out of the sky even if the “Drone Slayer” did it. With over 5,000 hobbyist drones registered in Kentucky since December 21, 2015 the intersection of recreational, high technology, remote flight and centuries old law is slowly coming into focus. As with all new growing technologies, whether drones, biotech, internet advances or new surveillance capabilities, laws and legislative bodies struggle to keep up with legislation to regulate such advances.

Within the Federal Aviation Administration, there is no such thing as either drones or “drone law”. Instead, what the public recognizes as drones are known federally as “unmanned aircraft vehicles” or “UAV”. The FAA has taken a long and circuitous route in its exercise of control over drones. Perhaps because it was absolutely blindsided by the explosion of consumer use drone technology, it was not until 2012 that the FAA was charged with analyzing the rise in drone use, and devising rules designed to keep our national airspace safe. Bowing to pressure from remote controlled model aircraft enthusiasts, the FAA carved out an exception for “model aircraft” flown for hobby or recreational use. The term model aircraft however was defined so broadly that any drone could qualify as a model aircraft, depending on how it was flown. With hobbyist drones specifically excluded from any FAA oversight, two drones flying the same exact routes, at the exact same time, but by two different people with different agendas,

may have been statutorily viewed as either flying for hobby purposes (and totally unregulated) or flying for commercial purposes (and totally regulated).

Consequently, per the FAA's *Small UAS Rule (Part 107)*, hobbyists looking to fly drones have two courses of action; either get a remote pilot certificate (as all commercial drone pilots must obtain) or at a minimum:

1. Limit drone flying to hobby or recreational purposes only;
2. Comply with a community-based set of safety guidelines;
3. Fly the drone within visual line of sight;
4. Fly during daylight hours only;
5. Stay under 40 mph and an altitude of 400 feet;
6. Fly for no longer than 30 minutes, uninterrupted;
7. Not fly within 5 miles of an airport without prior written notice and approval;
8. Limit the drone's weight to 55 pounds;

And most importantly...register the drone with the FAA!

With the physical differences between hobbyist drones and commercial drones basically nonexistent, the difference in use is solely that of the pilot's intent. Simply put, the FAA views all drones used in any potentially revenue deriving endeavor as "commercial" drones subject to commercial pilot regulations,

licensing and fines. The following innocuous uses by hobbyist pilots flying drones valued at less than \$1,000 were found by the FAA to be “commercial” in nature:

1. Real estate agents using drones to photograph and video homes for use online and in print advertising;

2. Investigators using drones to photograph or film accident or injury sites;

3. Contractors using drones for building inspection work via photographs and video;

4. Farmers using drones to check crops or map their fields;

5. Wedding caterers and photographers using drones to record event festivities for the bride and groom;

6. Posting any photographs or video on Facebook or YouTube, if that photograph or video is linked to an advertisement potentially benefiting anyone.

Unless the hobbyist drone is used for anything but recreational purposes for the entire time of the flight, the pilot is on the hook for all civil and criminal penalties associated with improper or unlawful commercial use. Such commercial use may seem trivial to the hobbyist pilot, but that view may quickly change when a competitor, who has extended the time and resources to obtain a commercial use certification and license, files an improper use complaint with the FAA, and the hobbyist pilot receives an Order of Assessment and potential \$5,500 fine. So the bottom line is either keep the use recreational or file with the FAA for a commercial use license.

Let's turn now to the dark side of drones. One minute Anwar al-Awlaki was in his vehicle in Yemen and the next minute his vehicle was a burning wreck. An American predator unmanned aerial vehicle (UAV), a drone, and fired a missile which had taken his life, along with the lives of three others who had been ill fortune of being with him. By most accounts, including his own, al-Awlaki was a key cog in the terror war. The question arises, is the use of an armed drone permissible under US and international law? What if the strike is outside of combat areas? What if the strike is against an American who has never been convicted of anything? Who approves such planned, deliberate, targeting killings – what some label “extra judicial killings” – of people who have never actually taken up arms against the US? What due process, if any, was there before the strike was carried out, and what laws govern the use of this weapon? These are just some of the legal questions which are implicated in the use of a drone to kill someone like al-Awlaki.

From the observation balloons used in the Civil War to the 8000 observation aircraft used in World War I, commanders seek the information airborne intelligence, surveillance and reconnaissance vehicles can provide. What has changed is that technology has developed drones with extraordinary capabilities, at reasonable cost, at a time when the US is extremely casualty averse, and these drones are now being employed beyond their original tasks by being armed. Drones are now lethal. A drone pilot may maneuver a drone over Afghanistan from an office in the US, firing its missiles with great precision against targets miles away from the drone itself.

A company commander in Afghanistan or Iraq can open a suitcase and launch a small Raven drone by throwing it into the air. It can fly for 7 miles and its color video camera tells the commander what is behind the next building or hill. Such small surveillance drones are getting smaller and smaller and increasingly easy to use. It is not a stretch of the imagination to think they will be used at even the squad level for surveillance and reconnaissance. On a more strategic scale, the U.S. has drones that can fly above other nations at 65,000 feet for two days. The Sentinel is a stealth aircraft designed for covert information gathering, with cameras, thermal sensors, radar and an array of other information gathering tools.

However, the most interesting questions arise out of the use of armed drones such as the Predator and Reaper which combine the cameras and data-gathering devices of surveillance drones with lethal weapons. The Predator is 27 feet long with a top speed of 80 mph and a range of 770 miles. It carries two air-to-ground laser guided Hellfire missiles which travel faster than the speed of sound and have their own range of 5 miles. The Reaper improves on the Predator in every respect and carries twice the missiles as well as 500 pound bombs at an altitude of 50,000 feet. Essentially both the Predator and the Reaper are invisible to their potential targets.

Both President Bush and President Obama have authorized the lethal use of drones, although there were more drone strikes during President Obama's first year than in all eight of the Bush administration.

Americans tend to characterize the armed conflict against terrorists as a war. Under this view, one may kill one's enemies

wherever they are so long as the means used are otherwise lawful. The U.S. position is that the use of drone strikes is perfectly lawful under international and U.S. national law. In a 2010 speech a legal advisor to the State Department explained and defended the U.S. position. First, the U.S. is engaged in an armed conflict against an aggressive foe who is frequently found in weak or dysfunctional states where governments, if not actively hostile, cannot or will not restrain the activities of those who kill Americans. A law enforcement model does not work in such a context.

Second, drones are simply another weapon, and their use is judged by the international standards applicable to the uses of all weapons. Does their use discriminate between combatants and noncombatants? Is their use, and the damage they inflict, proportional, or do they cause collateral damage beyond what is necessary? Does their use cause unnecessary suffering? Drones actually minimize unintended damage and casualties because of their great precision.

Third, in an armed conflict, the enemy can be engaged any time, any place with an otherwise lawful weapon.

As a result of a Freedom of Information Act lawsuit in August, 2016 the Obama administration released its Presidential Policy Guidance on the use of force in counterterrorism operations outside those areas of active hostilities such as Afghanistan and Iraq. The policy itself is dated May 2013. According to the policy, a terrorist can be nominated to the "capture or kill" list by various agencies, such as the CIA, Defense Department, or Department of Homeland Security. Nominees usually become targets by consensus of the agencies involved,

but only the president can approve lethal action against a US citizen. The burden of proof to justify lethal direct action is very high. In addition, every nomination receives a legal review by the nominating agency, who will consult with the Department of Justice, which also separately reviews more serious cases, such as the targeting of Americans.

Tough questions remain. Even if one generally accepts the law of armed conflict paradigm for analyzing lethal force and drones, this approach does not answer every question. For example, how does the targeted killing by drone relate to the older U.S. policy of a prohibition on assassinations?

In the 1970's the Church Senate Committee found evidence that the CIA had engaged in assassinations. Presidents Ford, Carter and Reagan all promulgated what became an Executive Order which prohibits assassinations, EO 12333. The pertinent sections provide as follows:

2.11 *Prohibition on Assassination.* No person employed by or acting on behalf of the United States Government shall engage in, or conspire to engage in, assassination.

2.12 *Indirect Participation.* No agency of the Intelligence Community shall participate in or request any person to undertake activities forbidden by this Order.

The language is plain. However, was the targeted killing of al-Awlaki, as an example, carried out by drone strike an assassination? One might draw the same analogy to a kill by a skilled sniper. Is there any difference?

This problem is not new, but is growing in complexity. Geographical lines and areas of armed conflict, are being blurred. Legal definitions – chain of command, combatant, and military operational control - are also blurred. Who is in charge? Who is legally responsible and accountable for targeted killings by drones and by what standards will they be judged?

So the next question becomes, to what extent will drones be used in law enforcement in the U.S.? Certainly drones can be armed with nonlethal weapons, but is arming drones with lethal weapons the next step? In one sense, it has already happened. On July 7, 2016 Dallas police equipped a robot with a small explosive device to kill an armed man who had shot and killed five police officers. The assailant had barricaded himself and an assault against his position was considered high risk. Both the robot and the explosives were remotely controlled by police. The controllers piloted the device to the vicinity of the assailant and detonated it killing the armed man.

So, is the use by law enforcement of aerial drones armed with lethal weapons the next logical step? If so, what rules will be put into place to ensure due process is followed prior to the use of deadly force by drone? Another issue for legislative leaders to consider...one fraught with difficult shades of gray. Stay tuned!