

Combat Hammer by Staff Sgt. Nadine Barclay, May 15, 2014. Airman 1st Class Steven (left) and Airman 1st Class Taylor prepare an MQ-9 Reaper for flight during exercise Combat Hammer at Creech Air Force Base, Nevada. Source: U.S. Air Force.

They are known as unmanned combat aerial vehicles—"UCAVs" in Pentagonese—and they are the go-to weapons of today's wars. UCAVs have been credited with disabling the convoy carrying Moammar Qaddafi in Libya; killing al Qaeda's Abu Yahya al-Libi in Pakistan and Anwar al-Awlaki in Yemen; eliminating Taliban leader Akhtar Mansour in Pakistan; eviscerating the Taliban's ranks across the AfPak theater; and striking ISIS leaders in Syria and al-Shabaab commanders in Somalia—all without putting their pilots in harm's way. As then-CIA Director Leon Panetta famously put it during President Obama's first term, UCAVs are "the only game in town in terms of confronting or trying to disrupt the al Qaeda leadership."

But the promise of risk-free war offered by UCAVs obscures the dangers of waging war by remote control. The challenge for the American people is to make sure Washington employs this new technology in a way that conforms to America's values.

A RAPID REVOLUTION

The appeal of UCAVs is understandable. As an Air Force report concludes, drones "are not limited by human performance or physiological characteristics...extreme persistence and maneuverability are intrinsic benefits." Drones can handle what humans cannot—G forces, tedium, boredom. They also deprive the enemy of human targets, and they're cheap.

Given the human and financial costs of wars in Afghanistan and Iraq, which have claimed 6,882 U.S. personnel and devoured \$1.7 trillion,³ it's no coincidence that UCAVs are playing a central role in U.S. military operations as Americans grow weary of war's toll. By keeping pilots and ground crews far from harm's way, drones make military operations dramatically less dangerous. And at a time when national defense is coming under severe budgetary pressure, the fact that drones are less expensive than other weapons systems is also a factor. An unmanned Predator drone costs \$4.5 million, a manned F-35 \$159 million. Moreover, training a UCAV controller

costs less than a tenth of what it costs to train a traditional combat aviator.

It's no surprise, then, that drones are dislodging manned aircraft from the central role they have played in warfighting since World War II. Consider some of the evidence:

- Reaper and Predator UCAVs have conducted 33 percent of the sorties targeting ISIS in Iraq and Syria.⁴ In 2015, Predator and Reaper UCAVs were airborne 800 percent longer than in 2005.⁵
- The yet-to-be-built B-21 bomber will be "optionally manned."
- In the past 12 years, the U.S. drone fleet has swelled from 50 planes to more than 7,500, although UCAVs comprise only a fraction of that number. The Air Force deploys 325 UCAVs, the CIA between 30 and 80.6 America's fleet of combat-class drones is expected to grow to 650 by 2021.7
- The Navy has opened a "drone command center" aboard the aircraft carrier USS *Carl Vinson* and will add another aboard the USS *Dwight D. Eisenhower*.8
- The Air Force concedes that growth in demand for UCAVs has made relying on "experienced pilots" to fly drones "unsustainable." So the Air Force is hiring civilian contractors to fly UCAVs, tasking personnel with no flight experience to drone operations, and planning to assign multiple drones to a single operator. 10

- Max Boot of the Council on Foreign Relations notes that UCAVs equipped with "target-recognition systems" and "autonomous attack systems" are on the near horizon. Under a mode of operation known as "self-learning autonomy," drones could be empowered to hit targets based on predetermined conditions.¹¹
- Washington has built a global infrastructure to support America's drone war, enfolding Turkey, Italy, Ethiopia, Kuwait, Qatar, the UAE, Niger, the Philippines, Djibouti, Saudi Arabia, and Afghanistan.¹²

This rapid revolution has sobering implications—political, legal, moral, geostrategic—that policymakers have not fully contemplated.

POLITICAL IMPLICATIONS: COSTS & CONSEQUENCES

Genesis 4 provides an account of humanity's first killing. Although some scholars argue Cain used a stone, there's no indication in the text that Cain used a weapon, which suggests that man's first weapon was probably his hands, which explains why war was once conducted face-to-face. Rocks and spears increased the distance between warriors. The sling, the bow, and the arrow increased it further. With gunpowder, the distance between warriors grew, and so did the battlefield. Artillery made it possible to kill the enemy without seeing him. Airplanes and rocketry became an extension of artillery, adding another dimension to the battlefield.

This multi-dimensional area of land, sea, and sky where war is waged is the battlespace. Soldiers and Marines fight there on the ground; sailors fight there on and under the water; airmen fight there in the sky. Nowadays, UCAVs are there too, but their pilots are not. UCAVs are unique because they completely separate the warrior from the battlespace—unless we define the battlespace as the entire planet (a conundrum discussed below).

Thus, UCAVs make war far less dangerous for the warriors who operate them and the nation

they serve. After all, the loss of a drone is the loss of nothing more than metal. To be sure, this is good for pilots no longer being sent into harm's way, but it may be bad for our republic. Military operations involving manned warplanes, by definition, put American pilots at risk. This forces the commander-in-chief to consider the consequences of losing pilots and serves as a final check on the commander-in-chief's war-making power. This doesn't always prevent the commander-in-chief from taking military action—nor should it. Given America's special role as civilization's first responder and last line of defense, military action is often necessary. However, the prospect of losing American personnel—and justifying that to their spouses, children, parents, and congressional representatives—does give the commander-in-chief pause, which is a good thing before taking the nation to war.

To be sure, in the century since President Wilson anguished over sending troops to Europe, the United States has grown adept at striking its enemies with increasing levels of precision and decreasing levels of risk to those pulling the trigger. But UCAVs erase the risk further, and that makes an enormous difference.

As the risks related to war decrease, it seems the likelihood of waging war increases. "If war becomes unreal to the citizens of modern democracies," political theorist Michael Ignatieff worries, "will they care enough to restrain and control the violence exercised in their name?"¹³The answer is coming into focus over Syria, Iraq, Pakistan, Yemen, and eastern Africa—ground zero for America's relentless drone war.

The Executive's inclination toward war is not new—recall Madison's letter to Jefferson noting how "the Executive is the branch of power most interested in war and most prone to it"—but the prospect of risk-free war is. The temptation to gain all the benefits of kinetic military operations with none of the costs, consequences, or risks may be too strong for the Executive to resist. President Obama, for instance, has deployed UCAVs in Libya, Somalia, Yemen, and Pakistan in ways he

has not—and arguably would not—deploy manned aircraft.

"More willing to lose is more willing to use," as Daniel Haulman of the Air Force Historical Research Agency puts it.¹⁴

LEGAL IMPLICATIONS: A BREWING BACKLASH

A 2012 New York Times portrait of the drone war describes President Obama "at the helm of a top-secret 'nominations' process to designate terrorists for kill or capture, of which the capture part has become largely theoretical." According to the *Times*, the president approved "every new name on an expanding 'kill list" and "every strike in Yemen and Somalia and…the more complex and risky strikes in Pakistan," often deciding "personally whether to go ahead" with a UCAV strike.¹5

The results are not for the squeamish: Upwards of 3,600 people have been killed by UCAV strikes in Pakistan, including between 300 and 800 non-militants. The use of drones to target al-Awlaki's Yemeni branch of al Qaeda, for instance, killed dozens of people, many of them apparently not affiliated with al Qaeda, including a 16-year-old relative of al-Awlaki born in Denver.

Not surprisingly, UN officials suggest that aspects of the drone war do not conform to international law. Navi Pillay, former UN High Commissioner for Human Rights, worries that drone strikes contribute to "indiscriminate killings and injuries of civilians."18 Noting that the United States "has used drones...for targeted killings," the UN Human Rights Council (UNHRC) has raised concerns about the drone war. "Targeted killing is only lawful when the target is a 'combatant' or 'fighter," according to the UNHRC. "Everything feasible must be done to prevent mistakes and minimize harm to civilians."19 Toward that end, the UNHRC formed a special unit to investigate U.S. drone attacks.²⁰

Now, consider the preceding three paragraphs in the context of the Rome Statute, which spawned the International Criminal Court (ICC). Although the U.S. is not party to the ICC, the statute considers launching an attack "in the knowledge that such attack will cause incidental loss of life or injury to civilians" as a war crime and defines "widespread or systematic attack directed against any civilian population" as a crime.

In short, the gray area of international law in which Washington is conducting the drone war could ultimately undermine the international support needed to wage and win the war against jihadism. In fact, a Pew survey found that in 17 of 20 countries, "more than half disapprove of U.S. drone attacks targeting extremist leaders and groups."21 Even America's strongest, oldest ally is showing signs of concern: A committee of the British Parliament has raised the prospect of "criminal prosecution for murder or complicity in murder" for drone operators, military commanders, and government officials involved in drone strikes conducted without clear legal justification.22

Yet 58 percent of the American people approve of the "U.S. conducting missile strikes from drones to target extremists."²³ One wonders how long this disconnect can be ignored.

None of this is an argument for international watchdogs tying America down. The UN may refuse to recognize America's special role, but by turning to Washington when civil wars erupt, sea lanes are threatened, terrorists maim civilization, and genocide is let loose, it is tacitly conceding that the United States is, well, special. Washington has every right to kill those who are plotting to kill Americans. However, the brewing international backlash against the drone war reminds us that means and methods matter as much as ends. As Jefferson wrote in the Declaration of Independence, Americans should pay "decent respect to the opinions of mankind." If that was true when America was a tiny republic on the backwater of the globe, it seems even truer today.

MORAL IMPLICATIONS: TAKING A TOLL

Scripture and human experience have helped humanity develop codes of conduct for waging war. The byproduct is broadly known as "just war theory," which calls on governments to stay within certain parameters in times of war. Among those parameters: the reason for going to war should be just (self-defense, answering an attack, protecting innocents); war should be a last resort; weapons should not be used indiscriminately; and force must be used in a proportional manner, which enfolds the notion that there should be limits on the duration of the war.²⁴

UCAVs, in and of themselves, don't violate any of these parameters. But how and why we use them might. Like any tool—a hammer, a gun, a computer—drones can be used for right or wrong purposes.

According to *The New York Times*, the Obama administration embraced a controversial method for determining civilian casualties in drone strikes that "counts all military-age males in a strike zone as combatants...unless there is explicit intelligence posthumously proving them innocent." At best, that's a creative way to rationalize some unpleasant realities. At worst, it appears *how* we employ UCAVs is unjust on occasion. Applying an after-the-fact-proof-of-innocence standard turns justice on its head.

In addition, some of the reasons *why* we are employing UCAVs may be unjust. The main appeal of UCAVs is their ability to wage risk-free war—that is, war without any risk to those pulling the trigger. Having the capacity to conduct remote-control war opens the way to some very slippery ground.

First, as discussed above, drones make it easier to go to war. Thus, war is increasingly becoming a first resort rather than a last resort. This is a function of political cost, which is high when a commander-in-chief loses a pilot, but negligible when a commander-in-chief loses a pilotless plane. Just compare the public's non-reaction to the loss of drones under the Obama administration with



At Day's End by 1st Lt. Shannon Collins, September 14, 2007. An MQ-1 Predator unmanned aerial vehicle and F-16 Fighting Falcon return from an Operation Iraqi Freedom combat mission. Source: U.S. Air Force.

the crises other presidents faced when U.S. pilots were shot down: President Eisenhower weathered international humiliation after the Soviets brought down Francis Powers' U-2. President Kennedy was pressed to go to war when Rudolf Anderson's U-2 was shot down over Cuba. President Clinton had to deal with a hostage crisis abroad and a political crisis at home when Michael Durant's UH-60 Blackhawk was shot down in Mogadishu. President Bush (43) faced a Cold War-style crisis when China literally intercepted a Navy reconnaissance plane and held the crew for 11 days.

Second, drones make it easier to keep wars going. Pilotless planes make endless war possible. Before scoffing at this, recall that today's UCAV strikes are conducted under the auspices of a 2001 war resolution that authorized the president to target "those nations, organizations or persons he determines planned, authorized, committed or aided the terrorist attacks that occurred on September 11, 2001...to prevent any future acts of international terrorism against the United States."26 It would be a stretch to say this piece of legislation authorized—15 years later—an autopilot war against targets in Pakistan, Afghanistan, Yemen, Libya, Syria, Iraq, Somalia, Mali, and beyond. Those targets may indeed be enemies of, and threats to, the United States. But few, if any, of them



"planned, authorized, committed or aided" the 9/11 attacks.

A recent book links the rise of drones to what its authors call "the permanent war." The problem, as former National Security Council official Paul Miller observes, is that "wars are supposed to end...Endless war is unacceptable and dangerous."²⁷

Third, drones remove the warrior from the battlespace. The story of David and Goliath is instructive. In arguably the most famous decapitation strike in history, David eliminated Goliath with the stand-off weapon of his day: the slingshot. Yet David was close enough to hear Goliath's taunts, close enough to see that the giant "had a bronze helmet on his head and wore a coat of scale armor of bronze." Although technology allowed David to attack his enemy from a distance, David remained in the battlespace.

Many drone operators are based in Nevada—more than 7,500 miles from their targets. This is transformational—and arguably not in a positive direction. Separating the warrior from the battlespace worries Scott Taylor, an F-15E pilot who served for 20 years in the Air Force, including in combat.

"Being removed from the *battlefield*—and as a pilot, I understand this relative to, say, a Marine in the trenches—makes a huge difference," Taylor explains. "But it's important to remember that a pilot, unlike a

drone operator, is in the *battlespace*. I can be shot down. My plane can have a mechanical failure. I can crash and die or fall into enemy hands. A drone pilot simply doesn't have to think in those terms. That has to have an impact on your decisions. It's different to make a decision to take a life or destroy a target when your own life is at risk," he argues—something David understood. "When that element of the act of war is removed, the sense of reality is removed."²⁸

This isn't to suggest that drone warfare is easy on those pulling the trigger. In fact, the psychological-emotional impact may be heavier on drone operators than on traditional combat pilots, given that UCAV operations feature long periods of loitering over a target before and after a strike-thus providing a much clearer picture of who the target was, how he lived, and how he died. This takes a toll on UCAV operators. Nor is this to suggest that one side of the drone debate holds the moral high ground: UCAV advocates are concerned about U.S. casualties and want to employ drone technologies to save lives. UCAV opponents are concerned that drone technologies could make war too easy to wage.

GEOSTRATEGIC IMPLICATIONS: ERROR WAR

This issue of defining the battlespace is important. If we argue that UCAV pilots are not in the battlespace, which seems reasonable, it invites friend and foe alike to draw an unsettling conclusion about American power.

Amid the bombing raids on Germany at the end of World War II, British physicist Patrick Blackett worried that the Allies had developed a "Jupiter Complex," which historian Paul Johnson describes as "the notion of the Allies as righteous gods, raining retributive thunderbolts on their wicked enemies." The Allies concluded, as Johnson explains, that strategic bombing "was the best way to make the maximum use of their vast economic resources, while suffering the minimum manpower losses."²⁹

UCAVs take the logic of the Jupiter Complex to its ultimate conclusion: maximum use of economic and technological resources with zero manpower losses and zero risks—all buffered by the virtual-reality nature of the delivery system.

Being seen in such a light—as detached and remote in every sense of the word, especially in waging war—should give Americans pause. "Reliance on drone strikes allows our opponents to cast our country as a distant, high-tech, amoral purveyor of death," argues Kurt Volker, former U.S. Ambassador to NATO.³⁰ "The resentment created by American use of unmanned strikes," adds Gen. Stanley McChrystal, former commander of Joint Special Operations Command, "is much greater than the average American appreciates."³¹

If we argue that UCAV pilots are in the battlespace, then we are effectively saying that the battlespace is the entire earth. If that's true, then the enemy would seem to have the right to wage war on those places where UCAV operators are based. The Air Force recently unveiled plans for new UCAV operations hubs at Beale AFB in California (outside Sacramento), Davis-Monthan AFB in Arizona (near Tucson), Joint Base Pearl Harbor-Hickam in Hawaii (in Honolulu), and Langley AFB in Virginia (in suburban Norfolk), to go along with an existing UCAV control center at Creech AFB in Nevada (near Las Vegas).³²

In addition, other nations are following America's lead and developing drones to target their distant enemies by remote control. The U.S., Britain, Israel, Pakistan, Iraq, Nigeria, and Iran have used UCAVs in combat, and 19 countries have, or are in the process of acquiring, UCAVs.³³ China has a dozen drones on the drawing board or in production. Russia is earmarking \$13 billion for UCAV development. Israel is sharing drone technologies with India, Turkey, Azerbaijan, and Ecuador. China is supplying UCAVs to Iraq, Saudi Arabia, Egypt, and the UAE.³⁴

This proliferation of drones will enable non-power-projecting nations—and non-nations—to join the ranks of power-projecting nations. Drones are a cheap alternative to long-range, long-endurance warplanes. Yet despite their low cost, drones can pack a punch. And owing to their size and range, they can conceal their home address far more effectively than the typical, non-stealthy manned warplane. Recall that the possibility of a drone attack was cited to justify the war against Saddam Hussein's Iraq.³⁵

Moreover, many of the newcomers to the drone club are less discriminating in employing military force than the United States—and less skillful. Let's stipulate that America's UCAV program is the best in the world. Yet the accident rate for the Reaper UCAV is 16.4 per 100,000 hours, while the accident rate for the manned F-16 is 4.1 per 100,000 hours. More than half of the Predator UCAVs acquired by the Air Force have crashed.³⁶ Unresponsive U.S. drones have crashed in eastern Iran, collided with manned aircraft, and veered out of control. The Washington Post reports that a Predator drone based in Djibouti "started its engine without any human direction, even though the ignition had been turned off and the fuel lines closed."37

To be sure, manned aircraft have mechanical problems. But America's manned warplanes don't start on their own; they don't fly renegade sorties; they don't have to be chased down and destroyed; and they don't fly into friendly aircraft—at least as often. If the best drones deployed by the best military on earth malfunction this often, imagine the accident rate for substandard drones deployed by substandard militaries. And then imagine the international incidents this will trigger. It would be ironic if the promise of risk-free war presented by drones spawned a new era of danger for the United States and its allies.

JUDGMENT CALLS

The drone age finds some of us in the unusual position of advocating a kind of arms control. It's unusual because those of us who write about national defense know that peace through strength—what Reagan prescribed at the end of the Cold War and Winston Churchill at the beginning—works.

Because of their many military applications, it's unlikely that UCAVs will ever be abandoned. Yet it pays to recall that the United States has drawn the line at certain technologies: the U.S. halted development of the neutron bomb in the 1970s and dismantled its neutron arsenal in the 2000s; agreed to forswear chemical weapons; and renounced biological warfare "for the sake of all mankind."³⁸

"Technology sets the parameters of the possible," Boot observes.³⁹ Drone technology makes it possible not just to remove humans from the battlespace, but to remove the unique characteristics humans bring to the battlespace. Perhaps we need humans in the battlespace not just because humans make better judgments than machines—judgment is a very human action, after all—but because having humans in the battlespace can help policymakers make better judgments about when, where, and whether to wage war. P

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