

US and Taiwan Plan to Equip Kiev Regime Forces With 'Swarms-of-Swarms' Drones

by *Drago Bosnic*, published on *InfoBRICS*, March 28, 2023

There's very little doubt that warfare has changed dramatically in recent decades, with the tactical gap between leading militaries and those of local powers (or even the usually overlooked small countries) narrowing as the proliferation of unmanned systems continues unabated. With the advent of the information era, the abundance of war footage has essentially eliminated the once-assured readiness of tens of millions to go to war, leaving militaries around the globe struggling to meet their recruitment quotas. Losing even a hundred drones is certainly preferable to having ten soldiers (or even one) killed and/or wounded in action, particularly for politicians and their respective parties seeking reelection. As a result, drones, robots and other unmanned vehicles have become increasingly important.

The combination of these factors created the "perfect storm" for the dramatic rise and adoption of unmanned systems by most militaries around the world. Perhaps the best proof of this has been the mass usage of drones by both sides of the Ukrainian conflict. Ranging from commercial quadcopters to HALE (high-altitude, long-endurance) military drones, these weapons are changing the face of warfare in a manner no less revolutionary than airplanes and tanks did during the First World War. Interestingly, as both the Russian military and the Kiev regime forces deploy advanced long-range air defenses (particularly the former), the role of larger drones has subsided, leaving smaller platforms as the more cost-effective alternative, while also providing significant tactical advantages.

Aside from circumventing advanced SAM (surface-to-air missile) systems, miniature drones offer an important upper hand in terms of first-strike capabilities and forward reconnaissance. Apart from Russia and the Kiev regime, the US-led political West is also taking this into account, especially when considering the fact that NATO's massive ISR (intelligence, surveillance, reconnaissance) capabilities have been used to observe virtually every inch of the vast Ukrainian battlefields. Precisely this is pushing the belligerent alliance to equip the Neo-Nazi junta forces with the latest unmanned technologies, both as a way of providing its favorite puppet regime with weapons to counter the Russian military, as well as battle-testing the said drones against an advanced state adversary.

And while the Kiev regime's pompous announcements of an upcoming offensive may be dismissed as routine propaganda stunts, Russian intelligence found solid evidence that such weapons are being supplied to the Neo-Nazi junta. Needless to say, the political West sending advanced weapons to Kiev is hardly breaking news, but what's unusual is the participation of Taiwan. Apparently, China's breakaway island province is working directly with the US on developing and manufacturing the new unmanned systems. Another novelty in this particular case is the ostensible ability of these drones to autonomously coordinate their attacks and act as a swarm, or more precisely, "*swarms-of-swarms*", as the program's name clearly indicates.

The project, named AMASS (Autonomous Multi-Domain Adaptive Swarms-of-Swarms), is directly supervised by DARPA (Defense Advanced Research Projects Agency), the Pentagon's top advanced weapons programs agency. In order to accomplish the task of controlling hundreds of drones simultaneously, the use of advanced artificial intelligence (AAI) is a given in this case. Considering that AAI is one of DARPA's main fields of study, its involvement in the project is effectively

guaranteed. Military experts estimate that several hundred kamikaze drones can function within one network, further connected to a much larger system that includes thousands of drones. DARPA's share in the project is by far the largest, although Taiwan seems to be providing key manufacturing facilities.

Back in early February, several media reports emerged that the AMASS project was fast-tracked by DARPA due to Pentagon's plans to create a "swarms-of-swarms" system that would "simultaneously counter multiple adversarial assets and enable warfighters to operate within the A2/AD [anti-access/area denial] environment". With Russia and China being the only countries with such capabilities, it's essentially guaranteed they are the primary targets. This is further reinforced by the involvement of the government in Taipei, which clearly aims to counter China's A2/AD "bubbles". These still represent an insurmountable obstacle against which the Taiwanese military is effectively powerless, both in terms of offensive and defensive capabilities.

However, before the possible deployment of AMASS in Taiwan, the system needs to be battle-tested in Ukraine. If it were to be proven effective, Washington DC and Taipei would certainly mass-produce it. Thus, it's extremely likely that the project was discussed by Russian and Chinese military delegates during President Xi Jinping's latest visit to Moscow, as it's in the interest of both to see the program fail. Otherwise, if it proves successful in Ukraine, the Chinese military itself would most certainly face it in Taiwan, endangering the success of a possible amphibious operation in case of a US-orchestrated escalation. And while China has advanced systems capable of countering such weapons (including its own drone swarms), the best possible defense is preventing their deployment altogether.

Nevertheless, with the Russian military poised to be the first to encounter weapons such as the AMASS, Moscow has already

started crucial upgrades to its air defense systems. Still, Russia's A2/AD, better known as "*echeloned defense*" in Russian military nomenclature, is only one segment of its (recently revised) strategy, with the so-called "*active defense*" being the key to neutralizing immediate threats. This includes adopting new offensive capabilities and precisely this could have been one of the main topics of behind-closed-doors talks about Sino-Russian technological cooperation, which almost certainly includes the exchange of information on drone swarms.

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Military-Industrial Complex Is Itching to Send "Hunter-Killer" Drones to Ukraine

by *Sara Sirota*, published on *The Intercept*, May 18, 2022

After failing to convince the Biden administration to ship NATO fighter jets to Ukraine, the military-industrial complex is now trying to coax the White House into sending what are, essentially, unmanned fighter jets to counter Russia's invasion. Kyiv reportedly met with the major defense contractor General Atomics about obtaining the "*Hunter-Killer*" MQ-9 Reaper drone, armed with Hellfire missiles, which the U.S. has infamously used in botched airstrikes that killed and maimed civilians in Afghanistan, Somalia, and other countries around the world. The company and Kyiv's allies in Washington are appealing to policymakers to greenlight the export,

despite the high risk of escalation that could turn the devastating war nuclear.

Take retired Air Force Lt. Gen. David Deptula, dean of the influential and General Atomics-funded Mitchell Institute for Aerospace Studies, who penned an op-ed in Forbes advocating for the U.S. to give Ukraine Reapers in March, before Kyiv's interest was publicly known. He blasted skeptics who voiced concern about offering Poland's MiG-29 fighter jets to Ukraine, saying they're "*being cowed by Putin*," the Russian president.

In a phone call with The Intercept, Deptula reiterated his hawkish stance, arguing concern about conflict escalation "*is being fed by the Russians through a very sophisticated information operations campaign to deter U.S. and NATO actions to assist the Ukrainians. Anything's fair up to, but not including, the use of NATO forces in the conduct of hostile operations against the Russians.*"

"*Approve this, US Govt.,*" Rep. Adam Kinzinger, R-Ill., tweeted last month when the Washington Post reported that Ukraine's ambassador to the U.S. met with General Atomics. Notorious for calling on the U.S. to enforce a dangerous no-fly zone over Ukraine, Kinzinger, along with Reps. Ted Lieu, D-Calif., and Chrissy Houlahan, D-Penn., also asked the Defense Department to report on how long it would take to train a Ukrainian pilot to fly the MQ-9. This week, senior fellows from the General Atomics-funded Hudson Institute wrote an op-ed in The Dispatch endorsing sending Ukraine Reapers as well. And General Atomics sends lobbyists to Washington specifically to influence the strict export policy that the U.S. has enforced to limit the global proliferation of such dangerous drones.

The White House has shown an increased willingness to give Ukraine weapons as the war in Ukraine has dragged on and U.S. aims shift toward seeing a "*weakened*" Russia. Initially, it was only willing to give shoulder-fired missiles; backpack-

sized drones called Switchblades strapped with grenades; and encrypted communications equipment. More recently, the administration has greenlighted heavy artillery weapons, armored personnel carriers, and longer-flying experimental drones called Phoenix Ghosts. Last week, President Joe Biden signed into law the first “lend-lease” program to accelerate military shipments since World War II, and this week, Democrats are trying to fast-track \$40 billion to supply Ukraine with more arms and replenish the U.S.’s depleted stockpiles, at the expense of new Covid-19 relief spending.

Along the way, Kyiv and the U.S. defense industry have had a strong ally in the American media, which is constantly asking the administration why it’s not getting more involved. After the Washington Post reported on Ukraine’s discussions with General Atomics, Politico beckoned: *“Ukraine wants armed drones. Is the U.S. ready to deliver?”*

“It’s not every day that the United States approves the sale or transfer of armed drones to a foreign country – but Ukraine is hoping the Biden administration will heed the call of soldiers on the ground to do just that,” the story led.

If the government approves a deal, Ukraine would be one of only a few countries to receive Gray Eagles or Reapers. Unlike fighter jets such as the F-16, the U.S. hasn’t widely provided them because of an international agreement known as the Missile Technology Control Regime. Aiming to curb the spread of weapons of mass destruction, the nonbinding regime calls on exporters to use a *“strong presumption of denial”* standard when considering giving advanced drones like the MQ-9 to other countries.

However, following pressure from the defense industry, former President Donald Trump eased that burden in July 2020 as part of a broader effort to expand U.S. arms sales globally, opening the door for the State Department to authorize Reaper

exports to the United Arab Emirates and Taiwan. The policy shift drew strong rebuke from members of Congress, who may now be tested with a transfer to Ukraine.

Describing the Trump administration's policy shift, Sen. Bob Menendez, D-N.J., now chair of the Senate Foreign Relations Committee, said at the time, *"This reckless decision once again makes it more likely that we will export some of our most deadly weaponry to human rights abusers around the world."* Sen. Chris Murphy, D-Conn., quickly teamed up with Sen. Rand Paul, R-Ky., and other Democratic and Republican senators on legislation to ban exports of advanced drones, except to NATO members and a handful of other close allies. Ukraine was not on the list.

Asked their positions on giving Ukraine the Reaper now, both Menendez and Murphy said they'd have to review the proposed deal first before taking a position.

"I have to look at that. I have to see what their ability to use it [is]. I have to see how they use it," Menendez told The Intercept.

General Atomics has already tried to clear up such questions. A company spokesperson told Forbes last month that motivated Ukrainian forces could undergo an expedited training period much shorter than the U.S. Air Force's mandatory one-year lessons for drone pilots.

Paul, the Senate's strongest critic of U.S. military assistance to Ukraine, warned about the risk of NATO getting drawn in further. *"I do understand that there is a danger, and I haven't fully concluded where I am on this, but you know, there is always the danger of escalation,"* he said in an interview. (He added that he would be more comfortable if Ukraine paid for the weapons, but since MQ-9s cost tens of millions of dollars each, that is not likely.)

Bill Hartung, senior research fellow at the Quincy Institute

for Responsible Statecraft, warned in an email to The Intercept that giving Ukraine armed Reapers would be a major step up from what the U.S. has already supplied.

“In my view, Ukraine has the right to defend itself, and some weapons supplies are warranted on that basis,” Hartung wrote. “But supplying large, long-range drones would be a significant escalation in the types of systems supplied to Ukraine, and as such shouldn’t go forward without significant scrutiny by Congress.”

Members of Congress do have the authority to block an export, like when Paul introduced a motion to halt a missile sale to Saudi Arabia in November, which was voted down in the Senate. He distinguished that case from Ukraine, though. *“Most of the battles that I’ve chosen on selling arms have been to countries where there’s a lot of people ... who’ve talked about their human rights abuses,”* Paul said, noting he hasn’t objected to deals with NATO allies. *“Ukraine’s not NATO and I’m not a supporter of them being in NATO, but at the same time, I am sympathetic to their plight.”*

Meanwhile, Ukrainian forces have reportedly used internationally banned cluster munitions during the current war, and have a sizable neo-Nazi faction. Ukraine is also home to one of the largest arms trafficking markets in Europe, meaning weapons sent to Kyiv could end up with unintended militias or in other conflicts abroad.

Meanwhile, it’s not clear whether the State Department has made any formal moves toward a possible Reaper deal. Reporter Michael Peck, writing about the meeting between Ukraine and General Atomics, speculated in Forbes:

“[I]t is unlikely that such talks between Ukraine and a U.S. defense contractor would have happened without a green light from the Biden administration.”

A State Department official who requested anonymity said it cannot comment on possible arms transfers before formal notification to Congress. General Atomics spokesperson C. Mark Brinkley told The Intercept Tuesday that the company remains in close contact with Ukraine and U.S. government representatives.

Hartung warned that giving Reapers to Ukraine in service of weakening Russia, as stated by Defense Secretary Lloyd Austin, can especially be dangerous.

“A policy of trying to weaken Russia risks pushing Putin into a corner and increasing the risks of escalation of the conflict to a direct U.S.-Russia war, with all the risks that entails, including the possibility of the use of nuclear weapons,” he said.

Keep Your LAWS Off My Planet: Lethal Autonomous Weapons Systems and the Fight to Contain Them

by Rebecca Gordon, published on Tom Dispatch, January 9, 2022

Here's a scenario to consider: a military force has purchased a million cheap, disposable flying drones each the size of a deck of cards, each capable of carrying three grams of explosives – enough to kill a single person or, in a “shaped charge,” pierce a steel wall. They've been programmed to seek

out and “engage” (kill) certain human beings, based on specific “signature” characteristics like carrying a weapon, say, or having a particular skin color. They fit in a single shipping container and can be deployed remotely. Once launched, they will fly and kill autonomously without any further human action.

Science fiction? Not really. It could happen tomorrow. The technology already exists.

In fact, lethal autonomous weapons systems (LAWS) have a long history. During the spring of 1972, I spent a few days occupying the physics building at Columbia University in New York City. With a hundred other students, I slept on the floor, ate donated takeout food, and listened to Alan Ginsberg when he showed up to honor us with some of his extemporaneous poetry. I wrote leaflets then, commandeering a Xerox machine to print them out.

And why, of all campus buildings, did we choose the one housing the Physics department? The answer: to convince five Columbia faculty physicists to sever their connections with the Pentagon’s Jason Defense Advisory Group, a program offering money and lab space to support basic scientific research that might prove useful for U.S. war-making efforts. Our specific objection: to the involvement of Jason’s scientists in designing parts of what was then known as the “*automated battlefield*” for deployment in Vietnam. That system would indeed prove a forerunner of the lethal autonomous weapons systems that are poised to become a potentially significant part of this country’s – and the world’s – armory.

Early (Semi-)Autonomous Weapons

Washington faced quite a few strategic problems in prosecuting its war in Indochina, including the general corruption and unpopularity of the South Vietnamese regime it was propping up. Its biggest military challenge, however, was probably

North Vietnam's continual infiltration of personnel and supplies on what was called the Ho Chi Minh Trail, which ran from north to south along the Cambodian and Laotian borders. The Trail was, in fact, a network of easily repaired dirt roads and footpaths, streams and rivers, lying under a thick jungle canopy that made it almost impossible to detect movement from the air.

The U.S. response, developed by Jason in 1966 and deployed the following year, was an attempt to interdict that infiltration by creating an automated battlefield composed of four parts, analogous to a human body's eyes, nerves, brain, and limbs. The eyes were a broad variety of sensors – acoustic, seismic, even chemical (for sensing human urine) – most dropped by air into the jungle. The nerve equivalents transmitted signals to the "*brain.*" However, since the sensors had a maximum transmission range of only about 20 miles, the U.S. military had to constantly fly aircraft above the foliage to catch any signal that might be tripped by passing North Vietnamese troops or transports. The planes would then relay the news to the brain. (Originally intended to be remote controlled, those aircraft performed so poorly that human pilots were usually necessary.)

And that brain, a magnificent military installation secretly built in Thailand's Nakhon Phanom, housed two state-of-the-art IBM mainframe computers. A small army of programmers wrote and rewrote the code to keep them ticking, as they attempted to make sense of the stream of data transmitted by those planes. The target coordinates they came up with were then transmitted to attack aircraft, which were the limb equivalents. The group running that automated battlefield was designated Task Force Alpha and the whole project went under the code name Igloo White.

As it turned out, Igloo White was largely an expensive failure, costing about a billion dollars a year for five years (almost \$40 billion total in today's dollars). The time lag

between a sensor tripping and munitions dropping made the system ineffective. As a result, at times Task Force Alpha simply carpet-bombed areas where a single sensor might have gone off. The North Vietnamese quickly realized how those sensors worked and developed methods of fooling them, from playing truck-ignition recordings to planting buckets of urine.

Given the history of semi-automated weapons systems like drones and “*smart bombs*” in the intervening years, you probably won’t be surprised to learn that this first automated battlefield couldn’t discriminate between soldiers and civilians. In this, they merely continued a trend that’s existed since at least the eighteenth century in which wars routinely kill more civilians than combatants.

None of these shortcomings kept Defense Department officials from regarding the automated battlefield with awe. Andrew Cockburn described this worshipful posture in his book *Kill Chain: The Rise of the High-Tech Assassins*, quoting Leonard Sullivan, a high-ranking Pentagon official who visited Vietnam in 1968:

“Just as it is almost impossible to be an agnostic in the Cathedral of Notre Dame, so it is difficult to keep from being swept up in the beauty and majesty of the Task Force Alpha temple.”

Who or what, you well might wonder, was to be worshipped in such a temple?

Most aspects of that Vietnam-era “*automated*” battlefield actually required human intervention. Human beings were planting the sensors, programming the computers, piloting the airplanes, and releasing the bombs. In what sense, then, was that battlefield “*automated*”? As a harbinger of what was to come, the system had eliminated human intervention at a single crucial point in the process: the decision to kill. On that

automated battlefield, the computers decided where and when to drop the bombs.

In 1969, Army Chief of Staff William Westmoreland expressed his enthusiasm for this removal of the messy human element from war-making. Addressing a luncheon for the Association of the U.S. Army, a lobbying group, he declared:

“On the battlefield of the future enemy forces will be located, tracked, and targeted almost instantaneously through the use of data links, computer-assisted intelligence evaluation, and automated fire control. With first round kill probabilities approaching certainty, and with surveillance devices that can continually track the enemy, the need for large forces to fix the opposition will be less important.”

What Westmoreland meant by *“fix the opposition”* was kill the enemy. Another military euphemism in the twenty-first century is *“engage.”* In either case, the meaning is the same: the role of lethal autonomous weapons systems is to automatically find and kill human beings, without human intervention.

New LAWS for a New Age – Lethal Autonomous Weapons Systems

Every autumn, the British Broadcasting Corporation sponsors a series of four lectures given by an expert in some important field of study. In 2021, the BBC invited Stuart Russell, professor of computer science and founder of the Center for Human-Compatible Artificial Intelligence at the University of California, Berkeley, to deliver those *“Reith Lectures.”* His general subject was the future of artificial intelligence (AI), and the second lecture was entitled *“The Future Role of AI in Warfare.”* In it, he addressed the issue of lethal autonomous weapons systems, or LAWS, which the United Nations defines as *“weapons that locate, select, and engage human targets without human supervision.”*

Russell’s main point, eloquently made, was that, although many

people believe lethal autonomous weapons are a potential future nightmare, residing in the realm of science fiction, *"They are not. You can buy them today. They are advertised on the web."*

I've never seen any of the movies in the *Terminator* franchise, but apparently military planners and their PR flacks assume most people derive their understanding of such LAWS from this fictional dystopian world. Pentagon officials are frequently at pains to explain why the weapons they are developing are not, in fact, real-life equivalents of SkyNet – the worldwide communications network that, in those films, becomes self-conscious and decides to eliminate humankind. Not to worry, as a deputy secretary of defense told Russell, *"We have listened carefully to these arguments and my experts have assured me that there is no risk of accidentally creating SkyNet."*

Russell's point, however, was that a weapons system doesn't need self-awareness to act autonomously or to present a threat to innocent human beings. What it does need is:

- A mobile platform (anything that can move, from a tiny quadcopter to a fixed-wing aircraft)
- Sensory capacity (the ability to detect visual or sound information)
- The ability to make tactical decisions (the same kind of capacity already found in computer programs that play chess)
- The ability to "engage," i.e. kill (which can be as complicated as firing a missile or dropping a bomb, or as rudimentary as committing robot suicide by slamming into a target and exploding)

The reality is that such systems already exist. Indeed, a government-owned weapons company in Turkey recently advertised its Kargu drone – a quadcopter *"the size of a dinner plate,"* as Russell described it, which can carry a kilogram of explosives and is capable of making *"anti-personnel autonomous*

hits” with “*targets selected on images and face recognition.*” The company’s site has since been altered to emphasize its adherence to a supposed “man-in-the-loop” principle. However, the U.N. has reported that a fully-autonomous Kargu-2 was, in fact, deployed in Libya in 2020.

You can buy your own quadcopter right now on Amazon, although you’ll still have to apply some DIY computer skills if you want to get it to operate autonomously.

The truth is that lethal autonomous weapons systems are less likely to look like something from the *Terminator* movies than like swarms of tiny killer bots. Computer miniaturization means that the technology already exists to create effective LAWS. If your smart phone could fly, it could be an autonomous weapon. Newer phones use facial recognition software to “*decide*” whether to allow access. It’s not a leap to create flying weapons the size of phones, programmed to “*decide*” to attack specific individuals, or individuals with specific features. Indeed, it’s likely such weapons already exist.

Can We Outlaw LAWS?

So, what’s wrong with LAWS, and is there any point in trying to outlaw them? Some opponents argue that the problem is they eliminate human responsibility for making lethal decisions. Such critics suggest that, unlike a human being aiming and pulling the trigger of a rifle, a LAWS can choose and fire at its own targets. Therein, they argue, lies the special danger of these systems, which will inevitably make mistakes, as anyone whose iPhone has refused to recognize his or her face will acknowledge.

In my view, the issue isn’t that autonomous systems remove human beings from lethal decisions. To the extent that weapons of this sort make mistakes, human beings will still bear moral responsibility for deploying such imperfect lethal systems. LAWS are designed and deployed by human beings, who therefore

remain responsible for their effects. Like the semi-autonomous drones of the present moment (often piloted from half a world away), lethal autonomous weapons systems don't remove human moral responsibility. They just increase the distance between killer and target.

Furthermore, like already outlawed arms, including chemical and biological weapons, these systems have the capacity to kill indiscriminately. While they may not obviate human responsibility, once activated, they will certainly elude human control, just like poison gas or a weaponized virus.

And as with chemical, biological, and nuclear weapons, their use could effectively be prevented by international law and treaties. True, rogue actors, like the Assad regime in Syria or the U.S. military in the Iraqi city of Fallujah, may occasionally violate such strictures, but for the most part, prohibitions on the use of certain kinds of potentially devastating weaponry have held, in some cases for over a century.

Some American defense experts argue that, since adversaries will inevitably develop LAWS, common sense requires this country to do the same, implying that the best defense against a given weapons system is an identical one. That makes as much sense as fighting fire with fire when, in most cases, using water is much the better option.

The Convention on Certain Conventional Weapons

The area of international law that governs the treatment of human beings in war is, for historical reasons, called international humanitarian law (IHL). In 1995, the United States ratified an addition to IHL: the 1980 U.N. Convention on Certain Conventional Weapons. (Its full title is much longer, but its name is generally abbreviated as CCW.) It governs the use, for example, of incendiary weapons like napalm, as well as biological and chemical agents.

The signatories to CCW meet periodically to discuss what other weaponry might fall under its jurisdiction and prohibitions, including LAWS. The most recent conference took place in December 2021. Although transcripts of the proceedings exist, only a draft final document – produced before the conference opened – has been issued. This may be because no consensus was even reached on how to define such systems, let alone on whether they should be prohibited. The European Union, the U.N., at least 50 signatory nations, and (according to polls), most of the world population believe that autonomous weapons systems should be outlawed. The U.S., Israel, the United Kingdom, and Russia disagree, along with a few other outliers.

Prior to such CCW meetings, a Group of Government Experts (GGE) convenes, ostensibly to provide technical guidance for the decisions to be made by the Convention's "*high contracting parties*." In 2021, the GGE was unable to reach a consensus about whether such weaponry should be outlawed. The United States held that even defining a lethal autonomous weapon was unnecessary (perhaps because if they could be defined, they could be outlawed). The U.S. delegation put it this way:

"The United States has explained our perspective that a working definition should not be drafted with a view toward describing weapons that should be banned. This would be – as some colleagues have already noted – very difficult to reach consensus on, and counterproductive. Because there is nothing intrinsic in autonomous capabilities that would make a weapon prohibited under IHL, we are not convinced that prohibiting weapons based on degrees of autonomy, as our French colleagues have suggested, is a useful approach."

The U.S. delegation was similarly keen to eliminate any language that might require "*human control*" of such weapons systems:

"[In] our view IHL does not establish a requirement for

'human control' as such... Introducing new and vague requirements like that of human control could, we believe, confuse, rather than clarify, especially if these proposals are inconsistent with long-standing, accepted practice in using many common weapons systems with autonomous functions."

In the same meeting, that delegation repeatedly insisted that lethal autonomous weapons would actually be good for us, because they would surely prove better than human beings at distinguishing between civilians and combatants.

Oh, and if you believe that protecting civilians is the reason the arms industry is investing billions of dollars in developing autonomous weapons, I've got a patch of land to sell you on Mars that's going cheap.

The Campaign to Stop Killer Robots

The Governmental Group of Experts also has about 35 non-state members, including non-governmental organizations and universities. The Campaign to Stop Killer Robots, a coalition of 180 organizations, among them Amnesty International, Human Rights Watch, and the World Council of Churches, is one of these. Launched in 2013, this vibrant group provides important commentary on the technical, legal, and ethical issues presented by LAWS and offers other organizations and individuals a way to become involved in the fight to outlaw such potentially devastating weapons systems.

The continued construction and deployment of killer robots is not inevitable. Indeed, a majority of the world would like to see them prohibited, including U.N. Secretary General Antonio Guterres. Let's give him the last word:

"Machines with the power and discretion to take human lives without human involvement are politically unacceptable, morally repugnant, and should be prohibited by international law."

I couldn't agree more.

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Ukrainian Government Deploys Armed Drones Against Separatists

by Jason Melanovski, published on World Socialist Website, November 16, 2021

Despite its obligations under the signed 2015 Minsk Accords peace agreement, the Ukrainian government is continuing to ramp up its military capabilities against Russian-backed separatists in eastern Ukraine. In late October, it deployed Turkish-made Bayraktar TB2 drones there for the first time ever.

In response to an ostensible shelling by separatists, Ukraine used the TB2 drone to destroy a Russian-made howitzer, provoking the deployment of Russian troops to the Ukrainian

border and the renewed risk of a full-scale war between Moscow and NATO-backed Kiev.

The attack in the separatist-controlled village of Hranitne, which was reported on favorably by the *New York Times* on Tuesday, is another demonstration that the government of President Volodymyr Zelensky is committed to a policy of escalation as it seeks to reintegrate the breakaway provinces of Lugansk and Donetsk in eastern Ukraine.

For the past year the Ukrainian ruling class has sought to deepen military ties with the Turkish government, with both powers seeking to diminish Russian naval control over the strategic Black Sea region. The Ukrainian government offered Ankara advanced missile technology and in exchange received the coveted Turkish-made armed aerial drones.

Drones played a pivotal role in Azerbaijan's defeat of Russian-backed Armenia last year in the Nagorno-Karabakh war, and the Ukrainian oligarchy quickly became enamored with their potential use against its own Russian-backed separatists.

Kiev received the first shipment of drones in July and plans to purchase approximately 50 of the TB2 drones. In September, the two sides signed a memorandum to create a joint drone training and maintenance center in Ukraine.

Russia has predictably reacted with hostility to the use of drones in Ukraine, which could spark a new wave of targeted bombings and assassinations by Kiev in the more than seven-year-long war that has claimed the lives of over 14,000.

Speaking Saturday on Russian state television about drones and Ukraine, President Vladimir Putin accused the Zelensky government of violating the 2015 Minsk accords, which specifically ban the use of aerial weapons:

"Now the current president cheerfully reports they're using Bayraktars, that is, unmanned aerial vehicles. Europe said

something incomprehensible and the US even supported it and officials in Ukraine openly say that they used them and will use them further.”

With Russian troops now amassed across its northern border in response to its drone use, the Zelensky government has continued to duplicitously depict Russia as the aggressor while domestically preparing for war and refusing to abide by the 2015 Minsk peace accords that call for a cease fire, free elections, and a special federated status for the breakaway provinces.

Speaking of the reported Russian troop buildup, Zelensky hypocritically stated via a recorded video speech,

“I hope the whole world can now clearly see who really wants peace and who is concentrating nearly 100,000 soldiers at our border.”

In reality, the right-wing government of Zelensky, which originally came to power thanks to mass opposition to the militaristic, nationalist policies of former President Petro Poroshenko, has taken increasingly reckless actions in order to provoke Russia and gain military and economic support from its imperialist backers, namely the United States, France and Germany.

In March of this year, Zelensky and the country's National Security and Defense Council provocatively approved a strategy that is aimed at retaking Crimea and reintegrating the strategically important peninsula. This step ultimately led to a similar Russian troop buildup along the border last spring, although Moscow later withdrew its forces.

In addition to the purchase of Turkish drones, Zelensky's foreign policy since that time has only increased the risk of all-out war between the two countries.

Following the pull-back of Russian forces, the Zelensky government spent the summer begging for NATO membership and held a number of joint military and naval drills that were openly directed against Russia.

In August, the Zelensky government held its inaugural "*Crimea Platform*" summit, which brought together its imperialist backers in Kiev. Zelensky took photos with world leaders and declared "*Crimea is Ukraine.*"

In response, the Russian government openly declared its opposition to Ukraine's NATO accession, stating,

"President Putin has repeatedly noted the issue of the potential broadening of NATO infrastructure on Ukrainian territory, and (he) has said this would cross those red lines that he has spoken about before."

NATO's major powers have recklessly backed Kiev's escalation. On Monday, French President Emmanuel Macron warned Putin via a phone conversation that he would be prepared to defend Ukraine in case of war between the two countries.

"Our willingness to defend Ukraine's sovereignty and territorial integrity was reiterated by the president," a French adviser to Macron told reporters regarding the phone call between the leaders of the two nuclear-armed countries.

The US has sent a missile destroyer, the tanker USNS John Lenthall and the staff ship USS Mount Whitney, to participate in the US Joint Forces Command Europe military drills in the Black Sea.

This past Sunday, the British press reported that the UK was preparing to send 600 troops to Ukraine.

Ukraine itself has deployed 8,500 troops to its side of the border with Russia and announced that parts of its naval fleet would move from the Black Sea to the Sea of Azov, whose waters

are claimed by Russia.

The tensions between Moscow and Kiev are escalating as the conflict between neighboring Poland and Belarus escalates over a refugee crisis in which thousands of desperate migrants seeking safe harbor in the EU have been trapped at the border and brutalized by Polish forces. Russia, which is allied to Belarus' government, is accused of playing a central role in orchestrating the crisis.

Before the Reaper and Looking Forward

An overview of the roots of Reaper Drones and future Drone Wars

India has ordered thirty American 30 SeaGuardian UAVs, ten each for the army, navy and air force. SeaGuardian is the latest version of the American MQ-9B Reaper SkyGuardian UAV and was modified to handle maritime surveillance. This process was completed and certified in late 2020. India will pay about \$3 billion for the 30 Seaguardians and that includes sensors, training and tech support.

This is something new for the United States and India because since the 1990s India has obtained nearly a hundred similar large UAVs from Israel. There were two reasons for this. Israel pioneered the development and use of these larger UAVs that could carry vidcams and radar for surveillance. The Americans developed their very successful Predator based on the Israeli originals. One difference between the Israeli and American UAVs was that early on the Americans armed their UAVs with Hellfire laser guided weapons and equipped all these

large UAVs with satellite communications. There were practical reasons for this as Predator was used overseas, usually to search for Islamic terrorists and, with the addition of Hellfire missiles, kill them. A decade later Predator was joined by the larger Reaper, which has now replaced the Predator. The Americans also pioneered the development of laser guided bombs and missiles, putting the first of these into service during the 1970s.

The Israeli situation was different. They are a smaller nation and have no foreign commitments that can be handled by armed or unarmed UAVs. Israeli UAVs of similar size and capability as the Predator and Reaper were optimized for reconnaissance and surveillance and offered as export items. Most of that surveillance was along Israeli borders or in neighboring countries. If an Israeli UAV found something that needed an airstrike, they could quickly dispatch a nearby helicopter gunship or jet fighter armed with guided bombs or missiles.

The Americans considered Predator and Reaper military systems and restricted exports. The Israeli UAVs, especially the Herons, were easily obtained and optimized for the surveillance work the Indians needed done. Israel was also willing to lease their UAVs and had used this technique profitably with a number of its export customers. Finally, for most of the past two decades the American manufacturer of Predator and Reaper could barely keep up with orders from the U.S. Air Force, Army and CIA. This left Israel with most of the civilian market. Over a decade ago China began producing Predator clones, armed Chinese laser guided missiles. These were sold to anyone who could afford them and that included the many countries that did not qualify to buy weapons from the Americans.

The "*Guardian*" versions of the Reaper are selling mainly to export customers. This version was originally called MQ-9B ER (Extended Range) Reaper but after potential customers were approached, it was decided to expand the capabilities of MQ-9B

ER into what is now the unarmed MQ-9 SkyGuardian and SeaGuardian. New features include compliance with NATO STANAG 4671 standards. This means Guardian UAVs can fly in commercial airspace. STANAG 4671 sets the strictest UAV commercial airspace rules in the world. If a UAV is STANAG 4671 compliant it can basically operate anywhere. SkyGuardian can operate as high as 15,000 meters (50,000 feet) and stay in the air for up to 40 hours. This means SkyGuardian can (and has in 2018) flown across the Atlantic. SkyGuardian is equipped with a deicing system and lightning strike resistance. There is more systems redundancy, which increases reliability and reduces losses to mechanical or electrical failure.

SkyGuardian is based on the MQ-9B Reaper, which has been in production since 2013. The MQ-9B cost about \$12 million each and the U.S. Air Force has been replacing its older A models with the B model. In mid-2017 a MQ-9B Block 5 model, flew its first combat mission.

The latest 9B is called Block 5 and is a tremendous improvement over 2013's Block 1. The American air force was planning to halt production of Block 5 by 2019 and begin replacing Predator with the new ER/SkyGuardian version, which has passed initial flight tests in 2016 and has already broken endurance records with flights of over 40 hours. The ER is so impressive that the air force is making plans to upgrade Block 5s to the ER standard by equipping older MQ-9s with the larger (by 20 percent) ER wings, a new engine, two additional two fuel tanks (one under each wing) and new fuel management software. There are also several other electronic upgrades. These include the ability to land automatically. The new engine is more reliable and generates much more power on takeoff, enabling the MQ-9 to carry up to 1.3 tons of weapons, about twice what the 9B Block 1 could carry. Fire control electronics and software have been upgraded to enable the MQ-9 to use GPS guided bombs including the 500-pound (227 kg) Paveway smart bomb that uses laser and GPS guidance. Weapons

carried now include Hellfire missiles (up to eight), two Sidewinder or two AMRAAM air-to-air missiles, two Maverick missiles, or two 227 kg (500 pound) smart bombs (laser or GPS guided). The new engine and electrical systems generate a lot more electrical power and do so much more reliably, eliminating frequent problems with inadequate or interrupted electrical supplies. With the new electrical systems Predator can handle more powerful sensors and radios.

In addition to larger (24 meters versus 21 meters) wings, the SkyGuardian is heavier (5.6 tons versus 4.6 tons) than Reaper 9B and its payload is twice that of the original Reaper. The original MQ-9 Reaper looked like the earlier 1.2-ton MQ-1 Predator but was larger. The 4.6-ton MQ-9 is an 11.6 meters (36 foot) long aircraft with a 21.3 meters (66 foot) wingspan. It has six hard points and can carry 682 kg (1,500 pounds) of weapons. Max speed is 400 kilometers an hour, and max endurance was originally 15 hours. The Reaper is considered a combat aircraft, to replace F-16s or A-10s in many situations.

Most of the over 200 Reapers built so far have been for the U.S. Air Force and, since introduced in 2007, these Reapers have flown about 2.5 million hours. Efforts to design and build a Reaper replacement have so far failed, in part because the Reaper keeps getting upgraded to match proposed specifications for a replacement UAV. This a somewhat rare, and welcome, pattern in aircraft (and weapon) design.

SaeGuardian is going to operate in areas, and from bases, already operations the Israeli Heron. This UAV was developed during the 1990s as an improvement on earlier Israeli UAVs that the Predator was based on. The first version of Heron entered service in 2005 and India was one of the first export customers. So far India has bought or leased over 70 Herons and most of them are still in service. The latest order, in early 2021, leased four Heron TPs. India was one of the first export customers for the TP, having ordered 15 of them in 2013. The Indian air force and navy both have Herons. The navy

uses them for coastal patrol while the air force is moved more of its Herons, including the Heron TPs to the 4,000 kilometers long Chinese border. Heron TPs use satellite communications and can also be armed but most users prefer the unarmed version because that means the entire payload can be devoted to cameras, radars and other sensors.

India sticks with Israel as its main UAV supplier in part because Israel is always improving its equipment. In early 2014 Israel rolled out another new model of its Heron I (or "Shoval") UAV. The new version is called the Super Heron and is a little heavier (1.45 tons) and uses a more powerful engine that burns diesel instead of aviation gas. The Heron I is similar to the American MQ-1 Predator and has long been popular in India. The main improvements for the Super Heron are mainly the result of the more powerful (200 HP versus 115 HP) engine. This increases cruising speed to 210 kilometers an hour, provides for a faster climb rate and greater maneuverability.

The Heron 1, because it was so similar to the Predator has sold well to foreign customers who cannot obtain the MQ-1. In addition to being one of the primary UAVs for the Israeli armed forces others like India, Turkey, Russia, France, Brazil, El Salvador, the United States, Canada, and Australia have either bought, leased, or licensed manufactured the Heron.

The original Heron 1 weighs about the same (1.2 tons) as the Predator and has similar endurance (40 hours). Heron 1 has a slightly higher ceiling (10 kilometers/30,000 feet, versus 8 kilometers) than Predator and software which allows it to automatically take off, carry out a mission, and land automatically. Only some of the American large UAVs can do this. Heron 1 cost about \$5 million each although the Israelis are willing to be more flexible on price. Heron 1 does have a larger wingspan (16.5 meters/51 feet) than the Predator (13.2 meters/41 feet) and a payload of about 137 kg (300 pounds).

The Super Heron has a payload of 450 kg (990 pounds) and stay in the air for 45 hours.

Super Heron was designed to respond to requests from many users, especially export customers who like to use Heron for maritime patrol over long coasts (as in India) and need more payload, endurance and maneuverability to deal with the nasty weather sometimes encountered at sea. The larger payload also makes it easier to arm the Super Heron.

The Heron TP has been in service since 2009 and is similar to the 4.5-ton American Reaper. Equipped with a powerful (1,200 horsepower) turboprop engine, the 4.6-ton Heron TP can operate at 14,500 meters (45,000 feet). That is above commercial air traffic and all the air-traffic-control regulations that discourage, and often forbid, UAVs fly at the same altitude as commercial aircraft. The Heron TP has a one-ton payload, enabling it to carry sensors that can give a detailed view of what's on the ground, even from that high up. The endurance of 36 hours makes the Heron TP a superior surveillance UAV compared to the MQ-9 Reaper. The big difference between the two is that Reaper is designed to be a combat aircraft, operating at a lower altitude, with less endurance, and able to carry a ton of smart bombs or missiles. Heron TP is meant mainly for reconnaissance and surveillance, and Israel wants to keep a closer, and more persistent, eye on Syria and southern Lebanon. But the Heron TP has since been rigged to carry a wide variety of missiles and smart bombs because there were a few situations where Heron TPs operating far from Israel needed the weapons to deal with a distant threat.

Drone Swarms Are Going to Be Terrifying and Hard to Stop

“Now the improvised explosive devices will find our war fighters.”

by Alexis C. Madrigal

Mar 7, 2018



One of the drones from a swarm that Russian military officials say attacked their air base in Syria Russian Ministry of Defense

As regular people purchase more drones, the small, unmanned aerial systems keep dropping in price and growing in capability. Once expensive, under powered, remotely piloted toys with blink-of-an-eye battery life, consumer drones can now operate far more independently and for longer periods of time. They are nothing like the heavily armed fixed-wing drones such as the Reaper, which American forces have used to prosecute quiet wars across the world, but a new National Academy of Sciences report suggests that small, consumer-grade drones could be used in swarms to effectively attack American infantry with onboard bombs. “Contrary to the past, when U.S.

war fighters may have found improvised explosive devices, now the improvised explosive devices will find our war fighters," the report concludes. While there have been occasional reports of souped-up consumer drones used in military conflicts, Russian military authorities said in January that a swarm of fixed-wing drones, which were made of plywood and loaded with explosives, attacked the country's main air base in Syria. "More than a dozen armed drones descended from an unknown location onto Russia's vast Hmeimim air base in northwestern Latakia province, the headquarters of Russia's military operations in Syria, and on the nearby Russian naval base at Tartus," *The Washington Post* reported. "Russia said that it shot down seven of the 13 drones and used electronic countermeasures to safely bring down the other six. >And these drones appeared substantially less sophisticated and maneuverable than a DJI Phantom 4, the leading consumer drone. The National Academy notes that most of the counter strategies that the Army has developed are "based on jamming radio frequency and GPS signals." The thinking was: Drones needed those information flows to navigate effectively. Cut them off and you neutralize the attack. But, as more decision-making intelligence gets baked into groups of these systems, those techniques will become less effective. "Recently marketed sUASs [small unmanned aerial systems] have technological enhancements (e.g., obstacle avoidance and target-following technologies) that support autonomous flying with no need for a control link or access to GPS," the report states. And "kinetic" defenses—that means bullets and explosives—might also run into some problems with swarms of tiny aircraft. "Kinetic counters, such as shooting down a single, highly dynamic, fast-moving, low-flying hobby aircraft with small arms (rifles, shotguns, and light machine guns), are extremely difficult due to the agility and small size of sUASs," the report states. "Additionally, swarming sUASs can be employed to overwhelm most existing kinetic countermeasures."

These militarily attractive features are why the United States is working on massive drone swarms, too, and recent tests have included dropping more than 100 robin-sized Perdix drones out of two F/A-18 Super Hornets. The individual units then formed into a swarming formation, as seen below.

The report that was released to the public is an abbreviation of a much more extensive report available to military officials, but even the public's glimpse of the analysis demonstrates that small drones could be an important component of war from now on.

***Featured Image: 180322-N-GB257-002 Charleston, S.C. (March 22, 2018) Space and Naval Warfare Systems Center (SSC) Atlantic employee D.J. Tyree (seated at computer) launches an autonomous "swarm" of unmanned aerial vehicle's (UAV's) for a practice mission while fellow members of the SSC Atlantic Unmanned Systems Research (SAUSR) Range team; Chad Sullivan, Richard Kelly, Josh Carter and Brad Knaus look on and act as safety pilots. The SAUSR team is working with the Defense Advanced Research Projects Agency (DARPA) to get autonomous technology in the hands of warfighters. SSC Atlantic develops, acquires and provides life cycle support for command, control, communications, computer, intelligence, surveillance and reconnaissance (C4ISR) systems, information technology and space capabilities. A leading-edge Navy engineering center, SSC Atlantic designs, builds, tests, fields and supports many of the finest frontline C4ISR systems in use today, and those being planned for the future. (U.S. Navy photo by Joe Bullinger/Released)*

Trump's Military Drops a Bomb Every 12 Minutes, and No One Is Talking About It

by **Lee Camp**, originally published on **TruthDig**

We live in a state of perpetual war, and we never feel it.

While you get your gelato at the hip place where they put those cute little mint leaves on the side, someone is being bombed in your name. While you argue with the 17-year-old at the movie theater who gave you a small popcorn when you paid for a large, someone is being obliterated in your name. While we sleep and eat and make love and shield our eyes on a sunny day, someone's home, family, life and body are being blown into a thousand pieces in our names.

Once every 12 minutes.

The United States military drops an explosive with a strength you can hardly comprehend once every 12 minutes. And that's odd, because we're technically at war with—let me think—zero countries. So that should mean zero bombs are being dropped, right?

Hell no! You've made the common mistake of confusing our world with some sort of rational, cogent world in which our military-industrial complex is under control, the music industry is based on merit and talent, Legos have gently rounded edges (so when you step on them barefoot, it doesn't feel like an armor-piercing bullet just shot straight up your sphincter), and humans are dealing with climate change like adults rather than burying our heads in the sand while trying to convince ourselves that the sand around our heads isn't getting really, *really hot*.

You're thinking of a rational world. We do not live there.

Instead, we live in a world where the Pentagon is completely and utterly out of control. A few weeks ago, I wrote about the \$21 trillion (that's not a typo) that has gone unaccounted for at the Pentagon. But I didn't get into the number of bombs that ridiculous amount of money buys us. President George W. Bush's military dropped 70,000 bombs on five countries. But of that outrageous number, only 57 of those bombs really upset the international community.

Because there were 57 strikes in Pakistan, Somalia and Yemen—countries the U.S. was neither at war with nor had ongoing conflicts with. And the world was kind of horrified. There was a lot of talk that went something like, “Wait a second. We’re bombing in countries outside of war zones? Is it possible that’s a slippery slope ending in us just bombing all the goddamn time? (Awkward pause.) ... Nah. Whichever president follows Bush will be a normal adult person (with a functional brain stem of some sort) and will therefore stop this madness.”

We were so cute and naive back then, like a kitten when it’s first waking up in the morning.

The Bureau of Investigative Journalism reported that under President Barack Obama there were “563 strikes, largely by drones, that targeted Pakistan, Somalia and Yemen. ...”

It’s not just the fact that bombing outside of a war zone is a horrific violation of international law and global norms. It’s also the morally reprehensible targeting of people for pre-crime, which is what we’re doing and what the Tom Cruise movie “Minority Report” warned us about. (Humans are very bad at taking the advice of sci-fi dystopias. If we’d listened to “1984,” we wouldn’t have allowed the existence of the National Security Agency. If we listened to “The Terminator,” we wouldn’t have allowed the existence of drone warfare. And if we’d listened to “The Matrix,” we wouldn’t have allowed the vast majority of humans to get lost in a virtual reality of spectacle and vapid nonsense while the oceans die in a swamp of plastic waste. ... But you know, who’s counting?)

There was basically a media blackout while Obama was president. You could count on one hand the number of mainstream media reports on the Pentagon’s daily bombing campaigns under Obama. And even when the media *did* mention it, the underlying sentiment was, “Yeah, but look at how suave Obama is while he’s OK’ing endless destruction. He’s like the

Steve McQueen of aerial death.”

And let’s take a moment to wipe away the idea that our “advanced weaponry” hits only the bad guys. As David DeGraw put it, “According to the C.I.A.’s own documents, the people on the ‘kill list,’ who were targeted for ‘death-by-drone,’ accounted for only 2% of the deaths caused by the drone strikes.”

Two percent. Really, Pentagon? You got a *two* on the test? You get five points just for spelling your name right.

But those 70,000 bombs dropped by Bush—it was child’s play. DeGraw again: “[Obama] dropped 100,000 bombs in seven countries. He out-bombed Bush by 30,000 bombs and 2 countries.”

You have to admit that’s impressively horrific. That puts Obama in a very elite group of Nobel Peace Prize winners who have killed *that many* innocent civilians. The reunions are mainly just him and Henry Kissinger wearing little hand-drawn name tags and munching on deviled eggs.

However, we now know that Donald Trump’s administration puts all previous presidents to shame. The Pentagon’s numbers show that during George W. Bush’s eight years he averaged 24 bombs dropped per day, which is 8,750 per year. Over the course of Obama’s time in office, his military dropped 34 bombs per day, 12,500 per year. And in Trump’s *first year* in office, he averaged 121 bombs dropped per day, for an annual total of 44,096.

Trump’s military dropped 44,000 bombs in his first year in office.

He has basically taken the gloves off the Pentagon, taken the leash off an already rabid dog. So the end result is a military that’s behaving like Lil Wayne crossed with Conor McGregor. You look away for one minute, look back, and are

like, “What the fuck did you just do? I was gone for like, a second!”

Under Trump, five bombs are dropped per hour—every hour of every day. That averages out to a bomb every 12 minutes.

And which is more outrageous—the crazy amount of death and destruction we are creating around the world, or the fact that your mainstream corporate media basically *NEVER* investigates it? They talk about Trump’s flaws. They say he’s a racist, bulbous-headed, self-centered idiot (which is totally accurate)—but they don’t criticize the perpetual Amityville massacre our military perpetrates by dropping a bomb every 12 minutes, most of them killing 98 percent non-targets.

When you have a Department of War with a completely unaccountable budget—as we saw with the \$21 trillion—and you have a president with no interest in overseeing how much death the Department of War is responsible for, then you end up dropping so many bombs that the Pentagon has reported we are running out of bombs.

Oh, dear God. If we run out of our bombs, then how will we stop all those innocent civilians from ... farming? Think of all the goats that will be allowed to go about their days.

And, as with the \$21 trillion, the theme seems to be “unaccountable.”

Journalist Witney Webb wrote in February, “Shockingly, more than 80 percent of those killed have never even been identified and the C.I.A.’s own documents have shown that they are not even aware of who they are killing—avoiding the issue of reporting civilian deaths simply by naming all those in the strike zone as enemy combatants.”

That’s right. We kill only enemy combatants. How do we know they’re enemy combatants? Because they were in our strike zone. How did we know it was a strike zone? Because there were

enemy combatants there. How did we find out they were enemy combatants? Because they were in the strike zone. ... Want me to keep going, or do you get the point? I have all day.

This is not about Trump, even though he's a maniac. It's not about Obama, even though he's a war criminal. It's not about Bush, even though he has the intelligence of boiled cabbage. (I haven't told a Bush joke in about eight years. Felt kind of good. Maybe I'll get back into that.)

This is about a runaway military-industrial complex that our ruling elite are more than happy to let loose. Almost no one in Congress or the presidency tries to restrain our 121 bombs a day. Almost no one in a mainstream outlet tries to get people to care about this.

Recently, the hashtag #21Trillion for the unaccounted Pentagon money has gained some traction. Let's get another one started: #121BombsADay.

One every 12 minutes.

Do you know where they're hitting? Who they're murdering? Why? One hundred and twenty-one bombs a day rip apart the lives of families a world away—in your name and my name and the name of the kid doling out the wrong size popcorn at the movie theater.

We are a rogue nation with a rogue military and a completely unaccountable ruling elite. The government and military you and I support by being a part of this society are murdering people every 12 minutes, and in response, there's nothing but a ghostly silence. It is beneath us as a people and a species to give this topic nothing but silence. It is a crime against humanity.

Truthdig is running a reader-funded project to document the Poor People's Campaign. Please help us by making a donation.

Lee Camp is an American stand-up comedian, writer, actor and activist. Camp is the host of the weekly comedy news TV show “Redacted Tonight With Lee Camp” on RT America. He is a former comedy writer for the Onion and the Huffington Post and has been a touring stand-up comic for 20 years. *If you think this column is important, please share it. Also, check out Lee Camp’s weekly TV show “Redacted Tonight” and weekly podcast “Common Censored.”*

Does America Spend Enough on Defense?

In response to the Buffalo News’ interesting August 2 feature “Does America Spend Enough on Defense?”: We don’t need *more* military spending – we need *less*. Our military aggression makes us a target.

John Quigley rightly points out that we should be building bridges at home, rather than bombing bridges abroad and maintaining about 1,000 military bases worldwide. He observes that the average annual defense budget has risen, not fallen, since George W. Bush left office.

In opposition, James Jay Carafano claims that cuts to military spending will leave the US weaker than before 9/11: without continual increases in military spending, others will think we’re weak and attack us. However, Al-Qaida’s 9/11 attack was not caused by perceived weakness.

The USA spends \$15 Billion more on its military than the next nine countries put together, per the International Institute

for Strategic Studies, or more than 34% of the military spending for the entire world, per the Stockholm International Peace Research Institute, 2015.

What have we got to show for such spending?

- A drone program that kills 28 people for each one targeted, which person may be reported killed up to seven times (per *Reprieve's* 2014 study "You Never Die Twice") – prompting the question: who was actually killed?
- Ever-multiplying numbers of potential "terrorists," persons violently disposed toward U.S. citizens for the U.S.' terrorizing of whole communities (by soldiers' night raids on suspect family homes, and frequent drone surveillance with intermittent deadly attacks).
- Culpability for war crimes. Attacks are made without regard for humanitarian principles of international law governing armed conflicts (e.g., necessity and proportionality; protection for civilians, especially women and children; and prohibition against collective punishment).

The USA is also the major seller of arms worldwide, representing more than $\frac{3}{4}$ of all arms exports in 2011, per the NY Times. We sometimes arm both sides of a conflict, and not surprisingly are often attacked with weapons we provided, lately by Isis and Al-Qaida. (We are also #1 in guns per capita, with [per the UN Office of Drugs and Crime] an unbelievable 88.8 guns per 100 residents in 2012 – *excluding* arms held by the government!)

We are the only country that has used nuclear bombs (despite Japan's imminent surrender), and we maintain our nuclear arsenal at great financial and environmental cost rather than pursuing nuclear disarmament. The treaty with Iran is the first recent serious attempt toward nuclear nonproliferation. Hopefully Congress will support the treaty with Iran. The

accord prevents Iran from obtaining nuclear capabilities, and includes robust reporting and verification. Iran will benefit by the end of sanctions – as will U.S. businesses eager to enter that market. Diplomacy rather than military efforts make this a real victory for the U.S.

Such peaceful and just conflict resolution benefits all, and is much more effective in reducing violence. Let's invest in life-sustaining efforts instead.

Victoria Ross, QCSW, LMSW, MALD, is Peaceful Conflict Resolution Consultant for the WNY Peace Center and the Interfaith Peace Network.

Photonics In Rochester, A Question of Values

Guest post by George Payne of Gandhi Earth Keepers, International. George follows local and global issues, and has a radio show on Rochester Free Radio called The Broken Spear.

The \$600 million photonics hub promises to create manufacturing jobs and spur innovation in the science of light, robotics and medical imagery. Senator Charles Schumer has stated:

By combining the academic and research resources of the University of Rochester, Rochester Institute of Technology, and SUNY Polytechnic Institute together with the hundreds of New York photonics companies in Rochester and beyond,

Rochester will be able to lead the way in this cutting-edge industry with some of the finest minds in the world.

I agree that photonics research in Rochester is important. But do we need more improvements in the areas of drone, cyber and terrestrial warfare? Do we need more money spent on missiles, lasers, radars, and countless other gadgets and systems which maintain the global business of war? Should we not be concerned about the merger between private industry, research universities and the military?

Last week the world observed the 70 year anniversary of Hiroshima and Nagasaki. 66,000 people were horrifically killed at Hiroshima out of a population of 255,000. The bomb was a result of weapons research using public tax money, university scientists and laboratories, commercial manufacturing, and guidance from the Department of Defense. Without the genius of J. Robert Oppenheimer of the University of California Berkeley, the study of weapon detonation by professor John H. Manley, Robert Serber of the University of Illinois, who examined the problems of neutron diffusion, and several theoretical physicists from the University of Chicago, the bomb would not have been possible.

We have a moral obligation to challenge the military industrial complex. War will never come to an end as long as communities like Rochester succumb to the insane policy of killing lives in order to save lives. As much as I want to support this venture, as a community of conscience we should not tread cavalierly into this alliance. In the words of Gandhi, "The means may be likened to a seed, the end to a tree; and there is just the same inviolable connection between the means and the end as there is between the seed and the tree."

Why should we design lasers that heal disease on the same campuses where similar technologies are being developed to

terrorize populations in other countries? Moreover, why should we recruit brilliant minds to design faster computers with the same grant money used to feed a world wide addiction to war that has the power to make communication between people impossible? These are important questions that all of us should be asking before hopping on the photonics bandwagon

Hancock Solidarity Vigil to Close the US Drone Base in Germany, Ramstein



Syracuse Peace Council members protest Ramstein relay in solidarity with the German people

Report Back From: **Carol Baum** of the *Syracuse Peace Council* and the *Upstate Coalition to Ground the Drones and End the Wars*

Just wanted to let you know that today (May 21) we held a solidarity vigil to close the US Drone Base in Germany, Ramstein. We stood outside Hancock Air Base (in Syracuse),

getting some (but not a lot of) media attention, but we did get a lot of car honks of support (but not from the cars coming out of the base).

If you haven't planned one yet, please consider it – we need to stand in solidarity with the German activists trying to get Ramstein closed down. Please note – our translation of “Stop the Global Drone War” probably should have been *Stoppt den US-Drohnen-Krieg via Ramstein* (this is the slogan being used in Germany, but we found out about it too late).

———— Press Release ————

Solidarity Vigil to Close Ramstein: US Drone Base in Germany

Thursday, May 21 from 4:15-5:15 pm

On Thursday, May 21 from 4:15-5:15 pm, the Syracuse Peace Council is sponsoring a vigil to close Ramstein, a US military base in Germany. The vigil, which is part of our weekly Peace Outreaches, will be across the street from the main entrance of Hancock Air Base at 6001 E. Molloy Rd., Mattydale.

Ramstein Base, one of the largest U.S. military bases outside the U.S., is the site of a satellite relay station that plays a key role in the communication between drone operators here in the U.S. and their drones abroad. The importance of the Ramstein base to the U.S. drone war program cannot be overstated. Signals from drone operators in the U.S. are sent via transatlantic fiber optic cable to Ramstein, where the signal is bounced to a satellite that connects to drones in the Middle East and Africa.

German peace groups have put out a call to U.S. peace groups for solidarity actions to *Stoppt den US-Drohnen-Krieg via Ramstein* (Stop U.S. Drone Warfare Via Ramstein). This vigil is timed to support a lawsuit filed by Reprieve and the European Center for Constitutional and Human Rights against the German government on behalf of the bin Ali Jaber family, who lost two

members to a drone strike in Yemen. The case will begin with a hearing on May 27 before the high administrative court in Cologne, Germany. The suit demands that the German government “take legal and political responsibility for the U.S. drone was in Yemen” and “forbid use of the Satellite Relay Station in Ramstein.”

For more information see “Germany is the Tell-Tale Heart of America’s Drone War” by Jeremy Scahill and an interview with Andreas Schuller, the lead attorney on the case.