

Dedicated to Global First Responders

C B R N E

NEWSLET**TERRORISM**



February 2018



www.cbrne-terrorism-newsletter.com

CBRNE-Terrorism Newsletter – 2018[®]

February 2018

Website: www.cbrne-terrorism-newsletter.com**Editor-in-Chief****BrigGEN (ret) Ioannis Galatas MD, MA, MC (Army)**

PhD cand

Consultant in Allergy & Clinical Immunology

Medical/Hospital CBRNE Planner & Instructor

Senior Asymmetric Threats Analyst

Manager, CBRN Knowledge Center @ International CBRNE Institute (BE)

Athens, Greece

➔ **Contact e-mail:** igalatas@yahoo.com**Editorial Team**

- **Bellanca Giada**, MD, MSc (Italy)
- **Hopmeier Michael**, BSc/MSc MechEngin (USA)
- **Kiourktsoglou George**, BSc, Dipl, MSc, MBA, PhD (cand) (UK)
- **Photiou Steve**, MD, MSc EmDisaster (Italy)
- **Tarlow Peter**, PhD Sociol (USA)

Advertise with us!

CBRNE-Terrorism Newsletter is published on-line monthly and distributed free of charge.

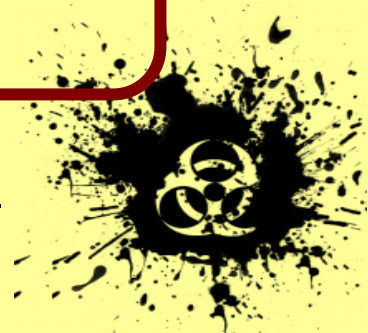
- Sponsors of the International CBRNE Institute can advertise for free.
- **CBRNE related companies:** negotiable (very low) fees upon request.

PUBLISHER**Mendor Editions S.A.**

3 Selinountos Street
14231 Nea Ionia
Athens, Greece
Tel: +30 210 2723094/-5
Fax: +30 210 2723698

Contact e-mail: Valia.Kalantzi.info@mendor.gr

DISCLAIMER: The CBRNE-Terrorism Newsletter[®] is a **free** online publication for the fellow civilian/military First Responders worldwide. The Newsletter is a collection of papers/articles related to the stated thematology. Relevant sources/authors are included and all info provided herein is from **open** Internet sources. Opinions and comments from the Editor, the Editorial group or the authors publishing in the Newsletter **do not** necessarily represent those of the Publisher or the International CBRNE Institute.



CBRNE-Terrorism Newsletter is:

1. Read by First Responders in more than **80** countries around the globe;
2. Distributed to more than **700** institutions, organizations, state agencies, think tanks, defense companies, institutions and universities.





Editor's Corner



Editorial

Brig Gen (ret'd) Ioannis Galatas, MD, MA, MC

Editor-in-Chief
CBRNE-Terrorism Newsletter

Dear Colleagues,

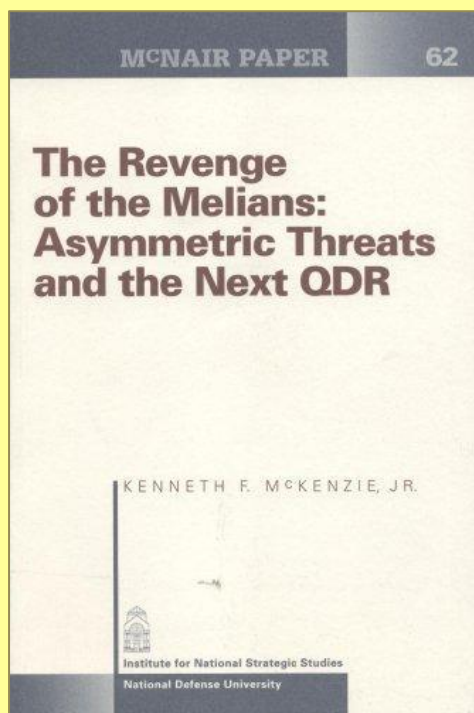
February is the month with the fewer days; so I thought that we might escape bloody incidents. But as always in life the pattern remained the same after the Florida school bloodshed. You might call it shooting; I will call it domestic terrorism. Sooner or later we must stop the stupid, nonsense debate on the definition of terrorism. If Nikolas Cruz was shouting “Alahu Akbar” while shooting innocent school children it would be terrorism. But he did not; so it is not terrorism? Do you think that those injured or the relatives of the dead would know the difference or care about it?

Apart from this, there are some eye catching news of interest:

- ◆ Space clinic to treat Emirati astronauts travelling to Mars – but also use telemedicine for the needs of today!
- ◆ Artificial intelligence is infiltrating new sectors day after day.
- ◆ Olympic Truce – something that the media remember during summer and winter Olympic Games since nobody implements what the truce dictates.
- ◆ Spain: women only transport – once a privilege of countries where women meant nothing in life. That means that Spanish women face similar problems? Is it only violence from Muslim immigrants or something deeper and more alarming?
- ◆ Transgenic extremism (for hormone control) and eco-radicals (for bioterrorism) – it seems that we have to go back to school!
- ◆ Sweden – the nice country that once loved everybody around the globe now things again since love is a two-way interaction: I love you; I rape you is not a fair exchange of feelings.
- ◆ Military Brazilian Carnival 2018 – what happened two years after Rio2016 where peace was so widely advertised?
- ◆ Animal decontamination – an issue that the majority of us totally ignore (have you tried to bath your own dog that he/she does not like it at all?)
- ◆ Gas attacks sporadically continue in Syria – by whom? By all sides involved. Mostly chlorine.
- ◆ “Red Zone” in France with hidden war CWAs – a problem similar to similar locations in Belgium. A problem that can provide terrorists the material for the first chemical attack in Europe.
- ◆ 3D printing as a CBRN enabler – every progress has a dual use or dual users i.e. detonators for EOD and IEDs.
- ◆ Cyberterrorism as a means to disrupt of CBRN facilities.
- ◆ Cyber incidents doubled in 2017.
- ◆ Cyber security for medical devices – perhaps for high profile assassinations.
- ◆ Synthesis of horsepox virus and the failure of dual use research oversight.
- ◆ Bill Gates “thinks” an infectious disease outbreak could kill 30 mil people in the next decade – since when rich people became virology experts? Or is he trying to sell something?
- ◆ White powder was mailed to Donald Trump Jr’s wife – it seems that the position of chief of security will soon be open!
- ◆ Doomsday Clock – 2 min to midnight – closest since 1953 at the height of the Cold War.
- ◆ 3 Russian heroes that saved Europe 30 years ago! Salute!



- ◆ Radiation device was stolen in Mexico – could be a conventional steal; could be a future RDD
- ◆ Ambulance bomb kills 95, wounds 158 in Kabul, Afghanistan.
- ◆ Mental preparedness for First Responders – YES, because we care!
- ◆ Climate change will displace millions in coming decades. Where will they go? Climate does not discriminate between poor and rich countries.
- ◆ Is ISIS better now after losing many of its territories
- ◆ Returning jihadist in Belgium – they “don’t want us to know” (but they are pissed for being defeated)
- ◆ Padala and hawala at the center of terror funding.
- ◆ UK: Stop using the term “Islamist terrorism” – once more I will repeat a previous proposal that goes like this “Man-white-Catholic-terrorist” or “Man-black-Muslim-terrorist”.
- ◆ Hezbollah threatens Israeli offshore gas rigs. Same as Turkey threatens Cyprus offshore drillings inside Cyprus national waters.



Finally, in Greece the name of FYROM is the modern hot topic mainly because it is difficult for our neighbors to understand that they cannot be called Macedonia just because they like the name! The same applies for the unspeakable negotiator that insists on the name; the dark wishes of our allies on both sides of the ocean and our own politicians that have forgotten that “no” is also an option. My prediction is that we will lose this round but those who think that is was the last round they are so bloody mistaken. Similar situation is happening in the Aegean Sea and off-shore Cyprus. Constant violations of air and sea national space by Turks and nobody cares or reacts – Greece included. NATO and UN helpless high paid groups of high paid individuals that do not have the guts to apply sanctions because they need them to do materialize their dark plans. Read the [“Revenge of the Melians”](#) to understand how the situation currently is.

Despite all the ugly thoughts, if you have not decided where to spend your vacations, consider Greece for a fantastic relaxing time in one of the most beautiful countries worldwide! For those who cannot afford to travel or have working obligations, keep on working and remember that the unexpected might happen in your shift! Take care First Responders!

The Editor-in-Chief



Airports turn to Artificial Intelligence to find the dangers within

Source: <https://www.thenational.ae/uae/government/airports-turn-to-artificial-intelligence-to-find-the-dangers-within-1.697740>

Jan 23 – Regional airports are ramping up their internal security measures as they say the most dangerous threats in today's aviation world come from within.

Artificial intelligence will play a major role in staff clearance in cities like Dubai and Jeddah in the coming years as it will ensure swift analysis and predictions of potential criminal or terrorist behaviour, a security forum heard on Monday.



Dubai Airport's New Security Tunnel

“The concept of security has completely changed,” said Farah Al Ansari, head of airport security at Dubai International Airport.

“The threats used to be in restricted areas but now they've moved and affect people and government as they're more spread, like what happened in Brussels and Ataturk Airport in Istanbul, so we're upgrading our systems to be in line with modern technologies.”

The airport is currently working on staff entrance to ensure greater control by introducing biometrics, more advanced face recognition and artificial intelligence, as opposed to only CCTV cameras and police monitoring now.

“A security pass is still a security threat because an unauthorised person can still access,” she said on the sidelines of the Intersec Security Conference in Dubai.

“We're already using AI in our Amin system, which covers airport and terminal driving permits, incident reports, inspections and security passes but we still have to test it on security passes this year in Terminal 3.”

It currently takes an hour to issue a security pass.

With the new AI system, police will not be required to check, unless needed, allowing the issuance of 9,000 passes in the same time it took police to issue 250.

“Today, everything is systematic and we can't stay behind with everything done manually,” said Ms Al Ansari.

“We need to have intelligent systems in place to support security and passenger movement.”

Internal employee threats have been placed into sharp focus in recent years.

After the bombing of Metrojet Flight 9268 in October over the Sinai desert, which led to the deaths of all 224 people on board, an EgyptAir mechanic with a cousin fighting for Isis, a baggage handler and two police officers were arrested.



And in Australia, the authorities have carried out a series of arrests in recent years of airport border force officers linked to international drug smugglers.

"There are many threats in today's world so you always need to be alert and be ahead of what's going on," Ms Al Ansari added.



"It's a challenge for us. Techniques of criminals are also more sophisticated so you can never say you're satisfied with your security systems, especially with more passengers growing through the airport."

Dubai's airport is the busiest in the world, handling more than 88 million travellers last year.

Employees are therefore seen as the most vulnerable threat to airport and passenger security.

"Terrorism is the most important issue we have to focus on," said Capt Adnan Alghamdi, manager of security affairs at King Abdulaziz International Airport in Jeddah.

"We saw a few years ago Isis and many terrorist groups trying to access airports to harm the aviation industry. Those people can be insider threats and among us so you can't even know."

Saudi Arabia is looking to introduce similar AI systems whereby employee profiles and records would be gathered and analysed to predict potential future threats.

"The system makes an analysis of the staff's behaviour, any record for violence, crime, safety, security and minor incidents, even before they are hired," he said.

"AI can give us a prediction of his behaviour in the future and the aim is to predict behavioural changes. The problem around the world is we issue a badge, we make a security clearance for a specific person but in a couple of months, he can change so this pays more attention."

With up to 35 million passengers travelling through Jeddah's airport every year, the system will be key in unveiling any potential danger.

"You can clearly see through Isis' videos on the internet that they are sending messages to their sleeping cells," Capt Alghamdi said.

"Employees are the most dangerous threat and it damages the reputation of the country, it's like a cancer growing inside."

The new airport in Jeddah, set to open in May, will also include an auto-segregation system for travellers to be categorised by security clearance according to frequent travellers, moderate and those who need additional checks.

"Isis is being pushed out of Iraq and Syria but if they leave Syria and Iraq, they will start leaking into surrounding countries so they have time to find their next attack," he said.

"AI has a big role to play here. It's very useful to minimise the manpower and use them somewhere else and let the systems help security agencies to perform efficiently and stream data to use it and come up with results. Analysis is the most important thing in airports because we have continuous 24/7 operations and an immensity of data."





U.S. AIR FORCE



**FUTURE
IS HERE**



SAVE HERMIEN



Περετζιά
στην Ερμιόνη!

Even cows have the right to live!!

Meet Antifa's Secret Weapon Against Far-Right Extremists

Source: <https://www.wired.com/story/free-speech-issue-antifa-data-mining/>

Jan 23 – The email arrived just as Megan Squire was starting to cook Thanksgiving dinner. She was flitting between the kitchen, where some chicken soup was simmering, and her living room office, when she saw the subject line flash on her laptop screen: “LOSer Leak.” Squire recognized the acronym of the League of the South, a neo-Confederate organization whose leaders have called for a “second secession” and the return of slavery. An anonymous insider had released the names, addresses, emails, passwords, and dues-paying records of more than 4,800 members of the group to a left-wing activist, who in turn forwarded the information to Squire, an expert in data mining and an enemy of far-right extremism.

Fingers tapping across the keyboard, Squire first tried to figure out exactly what she had. She pulled up the Excel file’s metadata, which suggested that it had passed through several hands before reaching hers. She would have to establish its provenance. The data itself was a few years old and haphazardly assembled, so Squire had to rake the tens of thousands of information-filled cells into standardized sets. Next, she searched for League members near her home of Gibsonville, North Carolina. When she found five, she felt a shiver. She had recently received death threats for her activism, so she Googled the names to find images, in case those people showed up at her door. Then she began combing through the thousands of other names. Two appeared to be former South Carolina state legislators, one a firearms industry executive, another a former director at Bank of America.

Once she had a long list of people to investigate, Squire opened a database of her own design—named Whack-a-Mole—which contains, as far as anyone can tell, the most robust trove of information on far-right extremists. When she cross-checked the names, she found that many matched, strengthening her belief in the authenticity of the leak. By midafternoon, Squire was exchanging messages via Slack with an analyst at the Southern Poverty Law Center, a 46-year-old organization that monitors hate groups. Squire often feeds data to the SPLC, whose analysts might use it to provide

information to police or to reveal white supremacists to their employers, seeking to get them fired. She also sent several high-profile names from the list to another contact, a left-wing activist who she knew might take more radical action—like posting their identities and photos online, for the public to do with what it would.

Squire, a 45-year-old professor of computer science at Elon University, lives in a large white house at the end of a suburban street. Inside are, usually, some combination of husband, daughter, two step-children, rescue dog, and cat. In her downtime she runs marathons and tracks far-right extremists. Whack-a-Mole, her creation, is a set of programs that monitors some 400,000 accounts of white nationalists on Facebook and other websites and feeds that information into a centralized database. She insists she is scrupulous to not break the law or violate Facebook’s terms of service. Nor does she conceal her identity, in person or online: “We shouldn’t have to mask up to say Nazis are bad. And I want them to see I don’t fit their stereotypes—I’m not a millennial or a ‘snowflake.’ I’m a peaceful white mom who definitely doesn’t like what they’re saying.”

Though Squire may be peaceful herself, among her strongest allies are “antifa” activists, the far-left antifascists. She doesn’t consider herself to be antifa and pushes digital activism instead of the group’s black-bloc tactics, in which bandanna-masked activists physically attack white supremacists. But she is sympathetic to antifa’s goal of silencing racist extremists and is unwilling to condemn their use of violence, describing it as the last resort of a “diversity of tactics.” She’s an intelligence operative of sorts in the battle against far-right extremism, passing along information to those who might put it to real-world use. Who might weaponize it.

As day shifted to evening, Squire closed the database so she could finish up cooking and celebrate Thanksgiving with her family and friends. Over the next three weeks, the SPLC, with help from Squire, became comfortable enough with the information to begin to act on it. In the shadowy world of the



internet, where white nationalists hide behind fake accounts and anonymity is power, Whack-a-Mole was shining a searchlight. By mid-December, the SPLC had compiled a list of 130 people and was contacting them, to give them a chance to respond before possibly informing their employers or taking legal action. Meanwhile, the left-wing activist whom Squire had separately sent data to was preparing to release certain names online. This is just how Squire likes it. Hers is a new, digitally enabled kind of vigilante justice. With no clear-cut rules for just how far a citizen could and should go, Squire has made up her own.

Squire grew up near Virginia Beach in a conservative Christian family. She has been involved in left-leaning movements since she was 15, when her high school environmental club took a trip to protest the pollution from an industrial pig farm. “I loved the activist community,” she says, “and saying things we weren’t supposed to say.” After getting degrees in art history and public policy from William & Mary, she became interested in computers and took a job as a secretary at an antivirus software company, working her way up to webmaster. She eventually got a PhD in computer science from Nova Southeastern University in Florida and moved to North Carolina to work at startup companies before landing a job teaching at Elon. Between classes she could often be spotted around town waving signs against the Iraq War, and in 2008 she went door to door campaigning for Barack Obama. But Obama’s failure, in her view, to live up to his rhetoric, compounded by the Great Recession, was “the turning point when I just threw in the towel on electoral politics,” she says. She plunged into the Occupy movement, coming to identify as a pacifist-anarchist, but she eventually became disillusioned with that as well when the movement’s “sparkle-fingers” utopianism, as she puts it, failed to generate results. In 2016, she cast a vote for the Green Party’s Jill Stein. Donald Trump’s campaign, though, gave Squire a new sense of mission: “I needed to figure out what talents I had and what direct actions I could do.” When a mosque in the nearby city of Burlington was harassed by a local neo-Confederate group called Alamance County Taking Back Alamance County, she decided to put her skills to use. ACTBAC was using

Facebook to organize a protest against the opening of the mosque, so Squire began scraping posts on the page that threatened to “kick Islam out of America.” She submitted her findings to the SPLC to get ACTBAC classified as a hate group, and to the North Carolina Department of the Secretary of State, which started an investigation into the group’s tax-exempt nonprofit status. She also organized a counterprotest to one of the group’s rallies, and it was at this event and others like it where she first became acquainted with the black-clad antifa activists. She was impressed. “They were a level of mad about racism and fascism that I was glad to see. They were definitely not quiet rainbow peace people.” Over the following months, she began feeding information to some of her new local antifa contacts. As white pride rallies intensified during 2017’s so-called Summer of Hate—a term coined by a neo-Nazi website—Squire began to monitor groups outside of North Carolina, corresponding with anonymous informants and pulling everything into her growing Whack-a-Mole database. Soon, in her community and beyond, antifa activists could be heard whispering about a new comrade who was bringing real, and potentially actionable, data-gathering skills to the cause.

The first big test of Whack-a-Mole came just before the white supremacist Unite the Right rally in Charlottesville on Saturday, August 12. In the weeks before, because of her database, Squire could see that nearly 700 white supremacists on Facebook had committed to attend the rally, and by perusing their posts, she knew they were buying plane tickets and making plans to caravan to Charlottesville. Her research also showed that some of them had extensive arrest records for violence. She sent a report to the SPLC, which passed it on to Charlottesville and Virginia law enforcement. She also called attention to the event on anarchist websites and spread the word via “affinity groups,” secret peer-to-peer antifa communication networks.

The night before the rally, Squire and her husband watched in horror on the internet as several hundred white supremacists staged a torch-lit march in Charlottesville to protest the removal of a statue of Robert E. Lee, chanting “Jews will not replace us!” The next morning, the couple got up at 5 am and



drove more than 150 miles through rain and mist to Virginia. At a crowded park, she met with a half-dozen or so activists she knew from North Carolina, some of them antifa, and unfurled a banner for the Industrial Workers of the World. (She'd joined the Communist-inspired labor organization in December 2016, after witnessing what she considered its well-organized response to KKK rallies in North Carolina and Virginia.) Just before 10 am, the white supremacists began marching into Emancipation Park, a parade of Klansmen, neo-Nazis, militia members, and so-called alt-right adherents, armed with everything from homemade plexiglass shields to assault weapons. Squire screamed curses at the white supremacists by name—she knew them because she had their information on file in Whack-a-Mole and had memorized their faces. At one point, a group of clergy tried to blockade the white supremacists, and Squire linked arms with other activists to protect them. A petite woman, she was pushed aside by men with plexiglass shields. Fights broke out. Both sides blasted pepper spray. Squire put on a gas mask she'd been carrying in a backpack, but the pepper spray covered her arms, making them sting.

After the police finally separated the combatants, Squire and dozens of other counterprotesters took to Fourth Street in triumph. But then, a gray Dodge Challenger tore down the street—and rammed into their backs. The driver, who had marched with the white nationalists and was later identified as James Alex Fields, missed Squire by only a few feet. She stood on the sidewalk, weeping in shock, as the fatally injured activist Heather Heyer lay bleeding in the street.

Recounting the event months later, Squire began to cry. “I had all this intelligence that I hadn't used as effectively as I could have. I felt like I'd wasted a chance that could have made a difference.” When she returned home, she threw herself into expanding Whack-a-Mole.

One morning in December, I visited Squire in her small university office. She had agreed to show me the database. First she logged onto a foreign server, where she has placed Whack-a-Mole to keep it out of the US government's reach. Her screen soon filled with stacks of folders nested within folders: the 1,200-plus

hate groups in her directory. As she entered command-line prompts, spreadsheets cascaded across the screen, each cell representing a social media profile she monitors. Not all of them are real people. Facebook says up to 13 percent of its accounts may be illegitimate, but the percentage of fakes in Squire's database is probably higher, as white nationalists often hide behind multiple sock puppets. The SPLC estimates that half of the 400,000-plus accounts Squire monitors represent actual users.

Until Whack-a-Mole, monitoring white nationalism online mainly involved amateur sleuths clicking around, chasing rumors. Databases, such as they were, tended to be cobbled together and incomplete. Which is one reason no one has ever been able to measure the full reach of right-wing extremism in this country. Squire approached the problem like a scientist. “Step one is to get the data,” she says. Then analyze. Whack-a-Mole harvests most of its data by plugging into Facebook's API, the public-facing code that allows developers to build within Facebook, and running scripts that pull the events and groups to which various account owners belong. Squire chooses which accounts to monitor based on images and keywords that line up with various extremist groups.

Most of the Whack-a-Mole profiles contain only basic biographical sketches. For more than 1,500 high-profile individuals, however, Squire fills out their entries with information gleaned from sources like the SPLC, informers, and leaks. According to Keegan Hanks, a senior analyst at the SPLC, Squire's database “allows us to cast a much, much wider net. We're now able to take a much higher-level look at individuals and groups.”

In October, after a man fired a gun at counterprotesters at a far-right rally in Florida, SPLC analysts used Squire's database to help confirm that the shooter was a white nationalist and posted about it on their blog. Because so much alt-right digital data vanishes quickly, Whack-a-Mole also serves as an archive, providing a more permanent record of, say, attendees at various rallies. Squire's database has proven so useful that the SPLC has begun



laying the groundwork for it to feed directly into its servers.

When Squire sends her data to actual citizens—not only antifa, but also groups like the gun-toting Redneck Revolt—it gets used in somewhat less official ways. Before a neo-Nazi rally in Boston this past November, Squire provided local antifa groups with a list of 94 probable white nationalist attendees that included their names, Facebook profiles, and group affiliations. As one activist who goes by the pseudonym Robert Lee told me, “Whack-a-Mole is very helpful. It’s a new way to research these people that leads me to information I didn’t have.” He posts the supposed identities of anonymous neo-Nazis and KKK members on his blog, Restoring the Honor, which is read by journalists and left-wing activists, and on social media, in an effort to provoke the public (or employers) to rebuke them.

Lee is careful, he says, to stop short of full-on doxing these individuals—that is, publicizing more intimate details such as home addresses, emails, and family photos that would enable electronic or even real-world harassment against them. Squire says that’s why she feels comfortable sending him information. Of course, once a name is public, finding personal information is not that hard. In the digital age, doxing is a particularly blunt tool, one meant to terrorize and threaten people in their most private spaces. Celebrities, private citizens, left-wing activists, and Nazis have all been doxed. The tactic allows anonymous hordes of any persuasion to practice vigilante justice on anyone they deem evil, problematic, or just plain annoying. As the feminist videogame developer and activist Zoe Quinn, who has been doxed and brutally harassed online, has written: “Are you calling for accountability and reform, or are you just trying to punish someone—and do you have any right to punish anyone in the first place?”

Squire has been doxed herself. Pictures of her home, husband, and children have been passed around on racist websites. She has received death threats and terrorizing voicemails, including one that repeated “dirty kike” for 11 seconds. Elon University has fielded calls demanding she be fired. On Halloween, Confederate flags were planted in her yard. Still, though Squire fears for her family’s safety, she

keeps going. “I’m aware of the risks,” she says. “But it seems worth it. That’s what taking a stand is.”

After Charlottesville, Squire considered, in her anger and grief, publicly releasing the entire Whack-a-Mole database. It would have been the largest-ever doxing of the far right. But she worried about the consequences of misidentification. Instead, she worked with her regular partners at the SPLC and activists she trusts. At one point the SPLC contacted a university about a student whom Squire had identified as a potentially violent member of the League of the South. The university did not take action, and she thought about tossing the student’s name to the ever-ravenous social media mobs. But here too, she reasoned that when you have someone’s life at your fingertips, you need rules. If the university wasn’t willing to act, then neither was she. It was, for her, a compromise, an attempt to establish a limit in a national moment pointedly lacking in limits.

Critics might still argue that public shaming of the kind Squire promotes constitutes a watered-down form of doxing, and that this willingness to take matters into their own hands makes Squire and her cohort no better than vigilantes. As David Snyder, executive director of the First Amendment Coalition, says of Squire’s work: “Is it ethical to digitally stalk people? It may not be. Is it legal? Probably, as long as she doesn’t hack into their accounts and she’s collecting information they post publicly on an open platform like Facebook.” But he warns that limiting speech of anyone, even white supremacists, starts down a slippery slope. “Political winds can shift across time. Liberals who might cheer at a university limiting neo-Nazi speech also have to worry about the flip side of that situation when someone like Trump might penalize them in the future.”

As far as Squire is concerned, there’s a clear difference between protected speech and speech that poses an imminent threat to public safety. “Richard Spencer yelling about wanting a white ethno-state after events like Charlottesville—it’s hard to argue that kind of speech doesn’t constitute danger.”

Ultimately, Squire sees her work as a type of “fusion center”—a government term for a data center that integrates intelligence from



different agencies—for groups combating white nationalism. And she admits that she is outsourcing some of the ethical complexities of her work by handing her data off to a variety of actors. “But it’s the same as how Facebook is hypocritical in claiming to be ‘just a platform’ and not taking responsibility for hate. Every time we invent a technology to solve a problem, it introduces a bunch more problems. At least I’m attentive to the problems I’ve caused.” Squire sees herself as having to make difficult choices inside a system where old guidelines have been upended by the seismic powers of the internet. White nationalists can be tracked and followed, and therefore she believes she has a moral obligation to do so. As long as law enforcement keeps “missing” threats like James Alex Fields, she says, “I don’t have any moral quandaries about this. I know I’m following rules and ethics that I can stand up for.”

After Charlottesville, some white supremacist groups did find themselves [pushed off certain](#)

[social media and hosting sites](#) by left-wing activists and tech companies wary of being associated with Nazis. These groups relocated to platforms like the far-right Twitter clone Gab and Russia’s Facebook-lite VK. Squire sees this as a victory, believing that if white nationalists flee to the confines of the alt-right echo chamber, their ability to recruit and organize weakens. “If the knowledge that we’re monitoring them on Facebook drives them to a darker corner of the internet, that’s good,” she asserts.

That doesn’t mean Squire won’t follow them there. She has no plans to stop digitally surveilling far-right extremists, wherever they may be. After Jason Kessler, the organizer of the Unite the Right rally, was unverified on Twitter, he joined VK. His first post read, “Hello VK! I’d rather the Russians have my information than Mark Zuckerberg.” The declaration was quickly scooped up by Squire. She had already built out Whack-a-Mole to track him there too.

Will Iran turn Azerbaijan into another Iraq?

By Huda al-Husseini

Source: <https://english.alarabiya.net/en/views/news/middle-east/2018/01/26/Will-Iran-turn-Azerbaijan-into-another-Iraq-.html>

Jan 26 – Azerbaijan’s government and many intellectual Iraqis feel deeply worried by what they view as Iran’s manipulation of Shiite Muslims.

Security forces in Azerbaijan recently [submitted a report to the government](#) saying that Iran “increased its capabilities” in some areas in the country, and they now think that many people are under Iran’s influence.

The report raised the government’s fears. In 2013, Azerbaijan has eased an unofficial restriction that prevented religious figures affiliated with Iran from preaching in public places. The aim of this “tactical” openness towards the Shiites aimed to stop Azeris from joining ISIS and fighting in Syria and Iraq. It seems this policy had unintentional consequences and led to Iran’s increased control over Shiite practices in Azerbaijan. The Azerbaijani Turan Information Agency reported that according to official data, 22 out of 150 Shiite schools in the country are under Iran’s complete control.

Azerbaijan’s criticism of ties between Iran and Armenia is nothing new but it seems it has reached a serious level.

Many secular and moderate Azeris were disturbed by the increase of Shiite practices. During Ashura ceremonies in September, children participated in rituals which include self-flagellation. MP Zahid Oruj said: “When I saw children who do not fully understand everything attend Ashura ceremonies and little girls wearing hijab, I thought they will become Kamikaze in the future to be sent to Syria.”

Meanwhile, Iraq shares Azeris’ fears. Iraqi author Raghd Abdel Rida al-Jaberi said: “Iraqis were the striking power in the region. This is why Iran filled their lives with grief and put them through a funeral all year round. They’d wrap up commemorating Husayn and then observe his Arbæen (the 40th day after his death). Then they commemorate Al-Zahraa, Al-Abbas, Zainab, Al-Kathem, Shaabanya, Al-Sajjad and Al-Moussawi. They do this all year



round beginning with Muharram under the excuse of Ashura's griefs."

"While the Iraqis spent their time going from Najaf to Karbala and to Samarra, Iran built a

Azerbaijan has not yet voted on the legislation but Iran's Supreme Guide Ayatollah Ali Khamenei criticized this proposal when he received Azerbaijan's President Ilham Aliyev in Tehran in November. He told him: "We must provide Shiites in Azerbaijan with this great opportunity to mourn because it strengthens the identity of the Azeri state."

Azerbaijan remains cautious of Iran. Ties between the two countries have witnessed some tensions ever since Azerbaijan's independence in 1991 as Azerbaijan fears Iranian religious influence. Meanwhile, Tehran is worried of Azerbaijan's possible influence on the Azeri ethnicity in North Iran. This is in addition to the fact that each country has strong ties with the other's worst enemy: Azerbaijan has ties with Israel and Iran has ties with Armenia.

When Hassan Rouhani became president in 2013, Iran had to re-evaluate its relations with Azerbaijan. Official contacts increased between them, and they signed more than 20 cooperation agreements. A source told me: "One of these projects would never have been approved before 2013 as Azerbaijan decided to finance a plan to build a 100-meters railway that extends from Azerbaijani's borders to the city of Rasht. It's part of the transportation corridor between the north and the south. Baku's intention was to obstruct the plan to develop railways between Iran and Armenia." Baku has been wondering: Why does Tehran confirm its solid ties with the fait accompli authorities in Nagorno-Karabakh? Baku fears this will add legitimacy to Karabakh in Iran and help it gain sympathizers.

Baku did not confront Tehran about influencing Ashura's ceremonies but Deputy Chairman of the Azerbaijani State Committee for Work with Religious Organizations Gunduz Ismayilov noted that some Azeri powers seek to bring politicians to Ashura ceremonies. In December, a website affiliated with the government published an article



strong army to manufacture weapons, innovate, create and develop to produce nuclear weapons," Jaberi added.

"Iran through its wit made Shiite clerics in Iraq turn the Iraqis' lives into a shameful reality. They even convinced Shiite Iraqis that washing and rubbing the feet of Iranians who are heading to visit Husayn's tomb brings them closer to heaven no matter what they do afterwards. The Iranians destroyed the Iraqi army which confronted them for eight years. They established an alternative army which consisted of two parts: one that protects Husayn's visitors and another that carries food to those arriving from Iran to visit Husayn's tomb and perform other rituals invented by their ayatollahs," she added.

Providing opportunities

Out of fear that Azerbaijan becomes like Iraq, particularly after the scene of children during Ashura, the State Committee for Family, Women and Children Affairs of Azerbaijan proposed in October a legislation that prohibits allowing children to participate in Ashura ceremonies and similar religious rituals.



accusing Iran of attempting to recruit Azeri pilgrims who visit Karbala. The article added that 30,000 Azeris visited Karbala this year. The number marked a 33% increase compared with last year.

The article also said that Iranian Revolutionary Guards and Shiite Azeri militias affiliated with it recruited Azeris to gather intel and launch anti-government propaganda that's mainly focused on the area of Nardaran, the center of extremist Shiites in Azerbaijan.

In 2015, security forces carried out a series of raids in Nardaran and arrested religious activists who were accused of conspiring to topple the regime. The Azeri government thinks those arrested were under Iran's influence. After these raids, this influence weakened (the same scenario is now happening in Nigeria). Iran criticized Nardaran's raids and viewed them as "a persecution against the Shiites and a violation of their rights."

It seems Baku decided to clearly voice its worry of Iran. President Aliyev's participation in the Jenadriyah festival as a guest of Saudi King Salman bin Abdulaziz may be part of this policy. A report published by the Strategic Studies' Center, a think tank affiliated with the Azeri government, spoke about Baku's fears of Iran and its ties with Armenia. The report looked like a governmental statement and not an analytical piece. It was published in the Azeri language

and not in Russian or English, like the case is with the rest of the center's reports. Observers interpreted this as a message directed to the Iranian government via its embassy in Baku.

The "statement" criticized the increased contacts between Tehran and the authorities of the Nagorno-Karabakh Region which Baku views as an area that separated from Azerbaijan. It also mentioned the conference held on November 15 in Tehran on Nagorno-Karabakh. The report said: "The Iranian International Studies Association – which Foreign Minister Mohammad Javad Zarif is one of its founders – is a platform to have Armenian scholars launch hostile propaganda against Azerbaijan."

Azerbaijan's criticism of ties between Iran and Armenia is nothing new but it seems it has reached a serious level. Baku has been wondering: Why does Tehran confirm its solid ties with the fait accompli authorities in Nagorno-Karabakh? Baku fears this will add legitimacy to Karabakh in Iran and help it gain sympathizers. This threatens Baku's interests and raises questions about Russia's hidden role in these developments, particularly in Iran's rapprochement with Armenia at Azerbaijan's expense. Azerbaijan's priority may be protecting Azerbaijan's Shiites from religious habits and rituals which Iran wants to spread in their country.

Huda al-Husseini is a political writer who focuses on Middle East geopolitics.

Texas smugglers say Trump's border wall wouldn't stop immigrants, drugs from pouring across the border

By Jay Root

Source: <http://www.homelandsecuritynewswire.com/texas-smugglers-say-trumps-border-wall-wouldnt-stop-immigrants-drugs-pouring-across-border>

Jan 25 – Border Patrol Agent Robert Rodriguez is navigating his green and white SUV over a muddy stretch of road in deep South Texas when his two-way radio crackles with fresh intel.

"970 took a hit. Two bodies in an open field," says an agent in the tactical operations center, five miles away in McAllen. Translation: Two suspected migrants who crossed the Rio Grande from Mexico were spotted on a surveillance camera and are now heading toward U.S. 83. It's game on — for the third time in as many hours.

Rodriguez steps on the gas.

Minutes later, after a chase along a canal bank involving all-terrain vehicles, they've caught three men, including 21-year-old Luis Perez, who had left Cuernavaca in late September after an earthquake rocked central Mexico and destroyed his home.



Crouched in the shade of a Border Patrol SUV, a dejected-looking Perez says their young smugglers — teenage “coyotes” — abandoned his group in the dense brambles of Bentsen-Rio Grande Valley State



Park, so they decided to make a run for it. It's his third attempt in 10 days, which means the jig is up. For his \$8,000 smuggling fee, a chunk of which goes to pay a “tax” to the cartel that controls the territory here, Perez gets three tries.

“That’s why I was trying to get away,” Perez says. “If it were free, I wouldn’t care if I got caught.”

Border Patrol Agent Herman Rivera, who was piloting the second ATV, walks toward the SUV with the fourth and final migrant from the group, a 20-something man he pulled from a briar patch closer to the river. The teen smugglers are nowhere to be found.

“It’s been steady the last few weeks,” Rivera says. “As of late, they’ve been coming no matter what.”

Welcome to the latest mecca of migrant smuggling on the U.S.-Mexico border.

After a [steep drop](#) in apprehensions that many attributed to President Donald Trump’s ascension to the White House, the arrests have been trending back upward — and more arrests mean more are believed to be getting through. The Rio Grande Valley has become the Border Patrol’s busiest sector — nearly half of all apprehensions along the border happen here — and the Trump administration has targeted it as a [prime location](#) for a big chunk of that wall the president keeps promising to build.

Whether a wall will happen, whether it would extend across the entire 2,000-mile border and whether it would be a solid wall or more fencing remains the subject of intense, shifting debate in Washington. But if the wall comes, will it help stop people like Perez or the drug smugglers the president says are pouring into the country virtually unfettered?

Manuel Padilla says it will. Padilla, chief of the Border Patrol’s Rio Grande Valley Sector, which stretches for 320 river miles from the Gulf of Mexico to Falcon Lake, says the Valley has become smugglers’ favorite crossing point in part because it still lacks the barriers erected at one-time hot spots like San Diego and El Paso.

“If you look at the technology and infrastructure ... this is the only place where you do not have it at those levels,” he added. “Really, this is the last stand.”

But one of his former foes on the border, Norma Armendariz, says Padilla’s wrong. The Laredo native and sister of [carjacking kingpin](#) Jose Antonio “El Comandante” Armendariz estimates she earned \$15,000 to \$20,000 a week smuggling immigrants before she was busted in 2012. She says if she were still in the business, a wall wouldn’t slow her down much because there’s always a Border Patrol agent or customs official willing to take a bribe and look the other way.



And a lifelong marijuana trafficker from Starr County who said he moved about 50 tons of marijuana a year through border checkpoints in 18-wheelers told the The Texas Tribune in an interview last summer that a wall wouldn't stop him, either.

The government's own reports show that drug smugglers mostly bring their product into the United States through ports of entry — not across the river where the wall would be built — and the smuggler said he had a good system for sneaking it past the checkpoints that straddle the highways leading away from the border.

Agent says existing fence isn't enough

Padilla says he's seen the effectiveness of ramping up border security — including physical barriers — with his own eyes: Twenty-five years ago, sneaking over the border between the ports of entry wasn't much harder than jaywalking in San Diego or El Paso.

Political blowback over the influx of immigrants in the early 1990s, followed by post-9/11 fears of a cross-border terrorist attack, triggered a major crackdown. Fences were erected. Motion sensors, lights and thermal-imaging cameras proliferated. And the Border Patrol has more than quadrupled in size in the last quarter century.



Today in the San Diego Sector — [once described](#) as “nothing short of chaotic” by the U.S. Justice Department — walls and technology upgrades have turned the international boundary into a virtual fortress. Apprehensions have plummeted from more half a million a year a quarter century ago to fewer than 32,000 in 2016, U.S. Customs & Border Protection figures show.

Padilla said similar infrastructure upgrades are needed in the Valley, where the fencing erected a decade ago covers only about 50 miles of the border and still contains wide gaps so farmers can access land trapped between the fence and the river.

“Without that wall in San Diego, there is zero way that San Diego would be in the state that it is,” Padilla said. “Without that fence, El Paso would not be in the situation that it finds itself in now. And without the wall, South Texas will continue to account for 40-plus percent of the apprehensions.”



What walls won't stop

But plans for a massive border wall — if Congress agrees to pay for it — have stirred stiff opposition from environmentalists, landowners and political leaders of both parties. And [an investigation by The Texas Tribune and ProPublica](#) found that the federal government consistently low-balled border residents to seize property for barriers erected in the Valley a decade ago.

None of the blowback has deterred Trump from clinging to one of the central rationales and biggest applause lines of his 2016 campaign. Though [polls show](#) most Americans don't want a border wall, the president misses no opportunity to tout his ongoing support for it, though he keeps changing his tune on how Mexico will pay for it — [the latest](#) being “indirectly” through a renegotiated North American Free Trade Agreement.

“Don't let the fake media tell you that I have changed my position on the wall,” Trump [tweeted](#) in April. “It will get built and help stop drugs, human trafficking, etc.” More recently, Trump has tied wall funding to any deal to give legal status to undocumented immigrants benefitting from a program known as DACA. Still, those who think Trump's “big, beautiful wall” (he [doesn't like](#) to call it a “fence”) would actually stop all or even most of the undocumented immigrants and illegal drugs coming across the border from Mexico might want to think again.

Since 2007, the number of undocumented immigrants who overstayed visas after first entering the country legally — across a bridge or port of entry — far outnumbered those who sneaked in, according to a [2017 report](#) by the Center for Migration Studies. A wall would do nothing to stop them.

Physical barriers are no more useful for stopping most illegal drugs because the majority of them — like the people — are coming across the bridges and ports of entry. This fact is buried in plain sight every year in the first few pages of the Drug Enforcement Agency's yearly National Drug Threat Assessment, which calls Mexican transnational criminal organizations, or TCOs, the “greatest criminal drug threat” to the country.

“The most common method employed by these TCOs involves transporting illicit drugs through U.S. ports of entry (POEs) in passenger vehicles with concealed compartments or commingled with legitimate goods on tractor trailers,” the 2017 report said.

Walls won't stop that — or the dope that's flying aboard [drones](#), flung from [catapults](#), shot out of [cannons](#) or sent in the [mail](#).

In Texas, smugglers typically sneak weed over the Rio Grande, but they tend to hide the expensive stuff like heroin — *chiva* in Mexican slang — in vehicles driven over bridges or ports of entry that are crawling with law enforcement. Mexican heroin has contributed to a [huge spike in opioid deaths](#) in recent years, and they're smuggling *chiva* right under the noses of the cops at the border crossings.

A 'plaga de cucarachas'

Take it from some of the people who have smuggled immigrants and dope for a living: Where agents and politicians see future walls, they see ladders, ropes and the promise of higher profits. When prosecutors see adult smugglers going to jail, they see [hard-to-jail juveniles](#) replacing them. And where politicians see more agents protecting the border, they see potential accomplices [who can be bribed](#) to look the other way.

“We always had a [paid] lookout from the Border Patrol,” said Armendariz, a Laredo native who smuggled migrants in the Rio Grande Valley for years until she got busted in 2012; she served a year and a half in federal prison. “Border Patrol, cops, whatever, they're gonna get that money.”

Armendariz said walls might make it more challenging and time-consuming to cross the border. But smugglers operate vast networks on both sides of the river, she said, and they're not going to stop trafficking as long as there's money in it.

“They're all over. It's like a *plaga de cucarachas*,” — a plague of cockroaches, she said. “I mean, you ain't gonna stop 'em.”

In border dynamics, as in physics, actions initiated by law enforcement tend to provoke a corresponding reaction from smugglers — starting with price hikes. According to a Department of Homeland Security [report](#) issued in September, fees paid to coyotes have



skyrocketed from about \$1,000 to \$3,000 a decade ago to as much as \$8,000 for Mexicans and Central Americans today.

That doesn't include fees and bribes paid for traveling through Mexico to reach the border. And prices are higher for "exotics" — migrants from Asia, the Middle East or other countries far from Latin America.

The coyotes have used their profits to finance increasingly elaborate smuggling schemes, from the construction of tunnels to "cloned" cars and trucks made to look like [federal vehicles](#). As profits grew in the mid-2000s, the cartels that control access to the border also began to exert more control over human smuggling, experts say.

"They realized there was so much money to be made there that they started centralizing their operations and controlling it, similar to what they did in other markets," said Stephanie Leutert, director of the Mexico Security Initiative at the Robert S. Strauss Center at the University of Texas at Austin. "They began controlling migration so anyone moving through the territory they held had to pay a tax."

Cesar Castellanos, 32, a Guatemalan migrant caught by one of Padilla's agents in the Rio Grande Valley Sector in October, said he didn't dare try to cross without paying the cartel for the right.

"I paid the tax," he said. "If you don't pay it, they'll kill you."

The dueling trends of ever-rising smuggling prices and heightened cartel participation in migrant trafficking have conspired to produce another disturbing phenomenon on the border — *la mochila*, or "the backpack," in which migrants agree take a bag full of dope over the border for the cartels rather than pay smuggling fees they can no longer afford.

The September DHS report on smuggling trends noted "an increase in alternative forms of payment in exchange for passage, including migrants being required to participate in smuggling controlled substances or other illicit items across the border."

Leutert, who specializes in Central American migration through Mexico, said a large pool of poor and marginalized migrants from Guatemala, Honduras and El Salvador — those who couldn't afford smugglers to begin with — provides a steady supply of recruits for the cartels.

"I talked to a significant number who were open about, 'I'm going up there because my brother or my cousin or my friend crossed with a *mochila*,'" Leutert said. "Then they load you up with the bag and they give you a couple of gallons of water and food, and it's actually quite safe in that you're going with people who know the way. Of all the ways you could cross, it's not the worst — except if you get caught you're in big trouble."

Unintended consequences

Once dope is safely across the border, traffickers working for Mexican cartels in the United States still have a major hurdle to overcome before reaching lucrative U.S. markets: Border Patrol checkpoints that dot the highways leading away from the border. As with smuggling through the official ports of entry, the trick here is to conceal the drugs in secret compartments or hide them inside seemingly legitimate containers or products to avoid detection by the U.S. Border Patrol.

The Starr County trafficker said he left nothing to chance in an enterprise that moved about 50 tons of pot a year in 18-wheelers before federal authorities caught him in late 2014. Typically, he would hide them in oil containers or in auto parts and deliver them to warehouses he owned — all of it disguised as a bona fide business operation.

"We would take it up north and then bring them back and use it again," said the trafficker, who spoke on the condition of anonymity for fear that his cartel bosses would kill him if they knew he was talking to the news media. "On the way back we bring the money down on the same load."

The drivers he hired had no clue dope was stashed in the loads they were carrying, he said. When he drove loads through the checkpoints himself, he said he stayed calm by taking tranquilizers known as "roach pills" or "los roches," a name derived from their maker, Switzerland-based drug maker F. Hoffmann-La Roche.

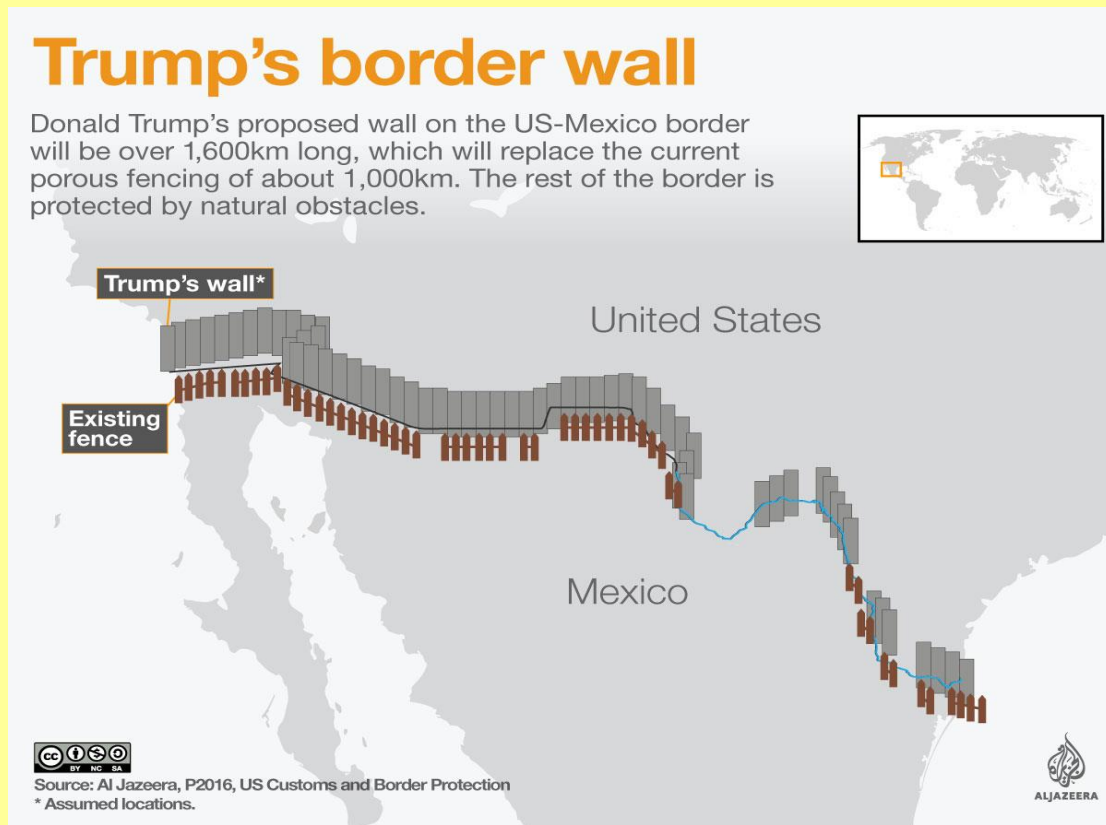
"It's like you're walking on the sky or something," he said. "They can ask you anything and you don't get nervous."

Now that he's been caught twice and is staring at a long federal prison sentence, the Texas-born trafficker said he's out of the business for good. But he predicted that no wall would



stop the flow of drugs from Mexico — even as marijuana legalization in the United States has forced prices downward and cut into cartel profits.

Call it the law of unintended consequences: Liberalized pot policies in the U.S. have actually helped boost the supply of cheap Mexican heroin as the dominant Sinaloa cartel — thriving despite the [extradition](#) of its former leader Joaquin “El Chapo” Guzman — [shifts more of its drug operations to chiva](#). Now more



than 90 percent of the U.S. supply of heroin originates in Mexico, up from less than 20 percent in 2005, according to DEA figures.

Meanwhile, seizures of hard narcotics — particularly meth, heroin and fentanyl — have [increased dramatically](#) along the border in the last few years. And after a long period of decline, “cocaine use and availability is on the rise in the United States for the first time in nearly a decade,” according to a 2017 State Department [report](#).

“If we don’t have marijuana, they’re using cocaine. They’re going to start doing something that they can get high on,” the trafficker said. “As long as the people here in the United States buy the drugs, it’s not going to stop.”

The wrong question

The [eye-popping increase](#) in hard drug seizures and the volatile ebb and flow of migrant apprehensions demonstrate how quickly things can shift on the border.

In the first few months of the Trump administration, [headline](#) after [headline](#) blared that Trump’s tough rhetoric and ramped-up deportation apparatus had sent apprehensions plummeting. At the time, migrant shelters across the border from McAllen were brimming with deported migrants — but not the oft-seen throngs of aspiring crossers from Guatemala, Honduras and El Salvador.

“Right now, I don’t have a single Central American here,” Maria Nidelveia Avila Basulto, director of the Our Lady of Guadalupe Migrant Home in Reynosa, Mexico, said in a May interview.

“They tried to cross in a hurry before [Trump] took power because they thought it would be harder afterwards.”



Border Patrol statistics back up her observation. In the final four months of the Obama administration, total apprehensions (plus those who turned themselves in at the ports of entry) averaged about 58,000 a month; in the first four full months of the Trump administration, it dropped to roughly 19,000.

At the end of the 2017 fiscal year, there were 415,191 total apprehensions and so-called “inadmissibles,” the lowest total in at least five years. Inadmissibles are migrants, such as asylum seekers, who seek entry into the United States at a port of entry but lack authorization.

The numbers have been [trending back upward](#) in recent months, averaging about 32,000 a month since July and topping 40,000 in December, the highest number of apprehensions since Trump took office.

The Rio Grande Valley Sector has seen the lion’s share of the apprehensions in the Trump era — making up some 45 percent of them along the southwestern border in the 2017 fiscal year. And within the sector, Starr County, on the western edge, is the epicenter.

“Starr County is our main priority,” said Padilla, the sector chief. “I call it the most volatile area along the Southwest border, really, because of the type and level of activity that happens there.”

According to 2017 sector data, 85 percent of the apprehensions and 70 percent of the drug seizures occur in the western portion of the sector, where Starr County is located. Padilla says it’s no accident that only



7 percent of the apprehensions occur on the eastern side of the sector, anchored by Cameron County, where long sections of concrete and metal fencing (and surveillance infrastructure) stretch along the border.

Starr County has no federally installed border barriers, according to published maps of the existing fencing.

That soon will change if U.S. Customs and Border Protection gets it way — with the installation of a 32-mile, \$784 million fence in Starr County, or about half of the wall projects the Trump administration is proposing for the Rio Grande Valley, according to [news reports](#).

The \$25 million-per-mile proposal has touched off howls of protest from environmentalists and political leaders while sowing panic among landowners who face government condemnation of their property.

But regardless of the cost, the environmental impacts and the government’s history of rushed and sloppy land seizures in South Texas, would it even work? Is Padilla right that giant physical barriers down here would help tame the hottest hot spot left on the border, at least between the ports of entry?

For some critics, the answer is a qualified yes — but it’s the wrong question.

“Yes, you build the wall, you reduce the numbers,” said Leutert, the UT expert. “It’s not exactly the most efficient use of resources when it could have been invested in immigration reform or drug demand reduction or investing in Central America and Mexican economic and security development.”



David Shirk, a Mexico expert at the University of San Diego, throws in another: Unless the United States truly lowers its demand for cheap foreign labor, forget trying to seal off the border from human traffic. The smugglers will just enter by sea, blow up the wall with explosives or fly over it in light aircraft, he said. There will be some new hot spot to tame.

Shirk is dubious, too, about [promises by the Trump administration](#) to at last turn off the job “magnet” by punishing employers who hire undocumented immigrants and implement electronic employee verification (E-Verify) nationwide, [flashy workplace raids](#) notwithstanding.

“I’ll believe it when I see it,” he said.

“There is a widespread set of interests on both the right and the left to maintain the status quo or find a way to ensure that undocumented people are able to remain and be part of the United States either legally or as they are now,” he said. “Nobody really wants to crack down.”

Jay Root, formerly Austin bureau chief of the Fort Worth Star-Telegram, covers natural disasters and Texas politics for the Texas Tribune.

New Tech to Detect Threats in Crowded Environments

Source: <https://i-hls.com/archives/80987>



Jan 26 – Everyone wants to be safe and secure, but is it realistic to perform in crowded environments such as a metro station security screening like the one at the airport? An imaging technology designed to unobtrusively detect potential threat items in a crowd has been developed by MIT Lincoln Laboratory researchers. The development consists of techniques and algorithms that will work to help security personnel obtain insight from microwave images.

The US Department of Homeland Security’s science and technology directorate collaborated with the laboratory to evaluate the innovation. The developmental test and evaluation of the millimeter wave imager prototype took place at the Massachusetts Bay Transit Authority’s (MBTA) emergency training center in Boston. The facility served as an excellent testing venue by providing a realistic electromagnetic environment to gauge how the system will function in an operational metro station, according to dhs.gov. The researchers recorded the prototype’s capacity to recognize multiple simulated threat items on a rail platform at various distances as people moved within a radar’s field of view. DHS noted the millimeter wave imager consists of antennas that are mounted on flat panels and built to process low-power radio signals.

S&T intends to review data from the test in an effort to enhance the millimeter wave system being developed through the Surface Transportation Explosive Threat Detection program of the directorate’s explosives division. The directorate also seeks to integrate the detector

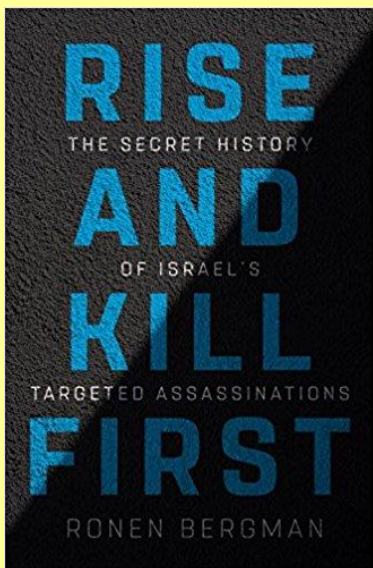


prototype with other technologies for layered tests and application in large crowd environments, according to executivegov.com.

Book reveals Israel has 'most robust assassination machine in history'

Source: <http://www.presstv.com/Detail/2018/01/29/550549/Israel-assassinations-Rise-and-Kill-First-Iranians>

Jan 29 – A new book has hit the shelves, shedding light on Israel's assassination machine since World War II which has taken the lives of many Palestinians, Egyptians, Syrians and recently Iranian scientists. Relying on around 1,000 interviews and thousands of documents, *Rise and Kill First: The Secret History of Israel's Targeted Assassinations* by Israeli investigative journalist Ronen Bergman recounts some 2,700 operations.



The over 600-page book includes assassinations by paramilitary organizations that were operating before the regime proclaimed existence in 1948.

It mostly features Israeli agents taking out Palestinians, but also details their fatal operations against Egyptians, Syrians, Iranians, and others.

The regime has killed many Palestinian leaders, including those with the Gaza Strip-based resistance movement of Hamas.

The book suggests that Israel used radiation poisoning to kill Yasser Arafat, the Palestinian leader who was the founder of the Fatah movement, investigations into whose murder continue up to date.

Iran says the Israeli regime assassinated four of its nuclear scientists between 2010 and 2012.

Last March, Iran's envoy to the UN atomic agency Reza Najafi said Israel had hired hitmen to assassinate nuclear scientists all over the Middle East, and yet, it continued to receive nuclear cooperation from certain countries.

"While nuclear scientists across the entire Middle East have been assassinated by Israeli-hired terrorists, the regime's nuclear experts are allowed access to some

countries' nuclear facilities," he said, without naming those countries.

The book also shows how Tel Aviv murdered German nuclear scientists working for Egypt in the 1950s and early 1960s, and details the operations targeting Iranian scientists.

Bergman calls the Israeli assassination apparatus "the most robust streamlined assassination machine in history." He says many of the Israeli techniques were later adopted by the US.

"The command-and-control systems, the war rooms, the methods of information gathering and the technology of the pilotless aircraft, or drones, that now serve the Americans and their allies were all in large part developed in Israel," he writes.

The Israeli spy agency Mossad, the author says, tried to prevent his progress in authoring the work by approaching his subjects and warning them against giving interviews.

Smuggling of people from Africa to Europe conducted by "independent traders," not Mafia-like monopoly

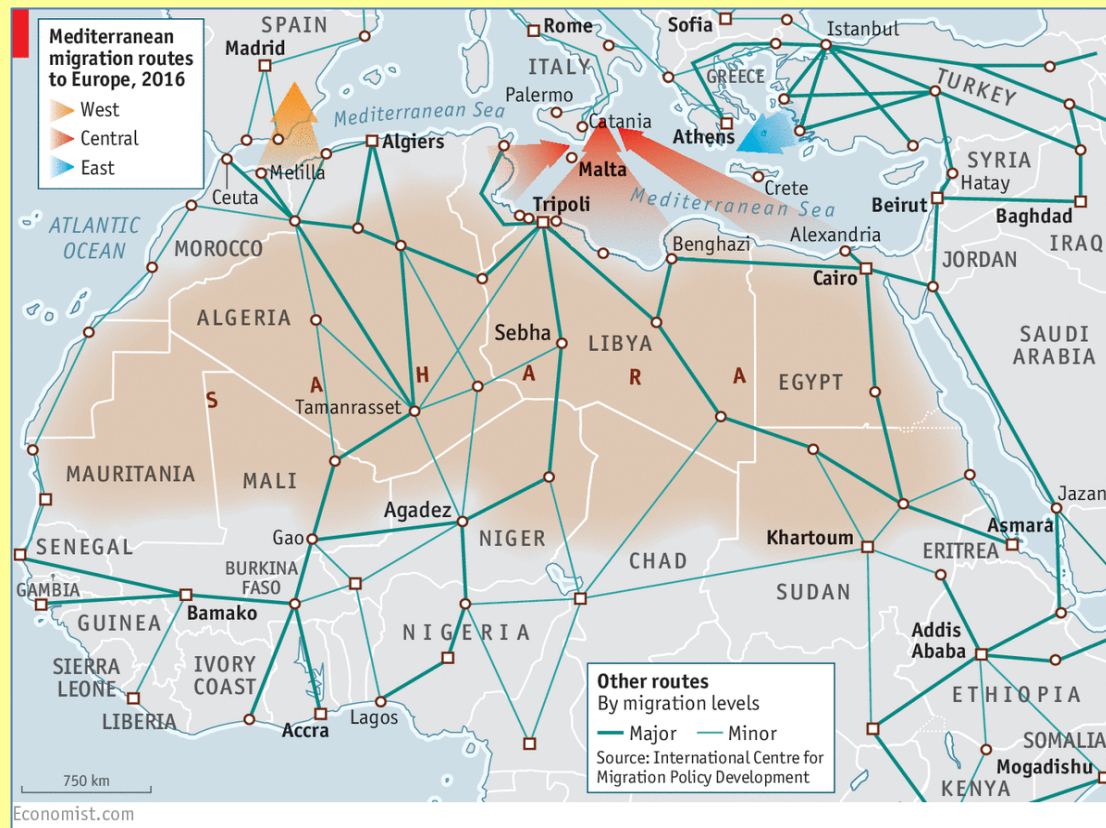
Source: <http://www.homelandsecuritynewswire.com/dr20180129-smuggling-of-people-from-africa-to-europe-conducted-by-independent-traders-not-mafialike-monopoly>

Jan 29 – Latest research shows a lack of overarching coordination or the involvement of any "kingpin"-style monopolies in the criminal operations illegally transporting people from the Horn of Africa into Northern Europe via Libya.



Instead, transnational smuggling routes were found to be highly segmented: each stage a competitive marketplace of “independent and autonomous” smugglers – as well as militias and kidnappers – that must be negotiated by migrants fighting for a life beyond the Mediterranean Sea.

The first “network analysis” of this booming criminal enterprise suggests that successful smugglers need a reputation among migrants – and that removing any individual smuggler will only result in rivals immediately seizing their “market share”.



Dr. Paolo Campana from Cambridge University’s Institute of Criminology conducted the research using evidence from the 18-month investigation by Italian prosecutors that followed the Lampedusa shipwreck, in which 366 people lost their lives.

The work included data from wiretapped telephone conversations between smugglers at all stages, testimonies collected from migrants, interviews with police task force members, and background information on offenders.

“The smuggling ring moving migrants from the Horn of Africa to Northern Europe via Libya does not appear to have the thread of any single organization running through it,” said Campana, whose findings are published today in the *European Journal of Criminology*.

“This is a far cry from how Mafia-like organizations operate, and a major departure from media reports claiming that shadowy kingpins monopolize certain routes.”

In fact, it was the Anti-Mafia unit with the Palermo Prosecutor’s Office initially tasked with investigating smuggling operations on both sides of the Mediterranean in the wake of the Lampedusa disaster in October 2013.

Campana points out that they found no evidence of any involvement from the Sicilian Mafia at the time, even through payment of protection money – despite Sicily being a key stage in the smuggling route.

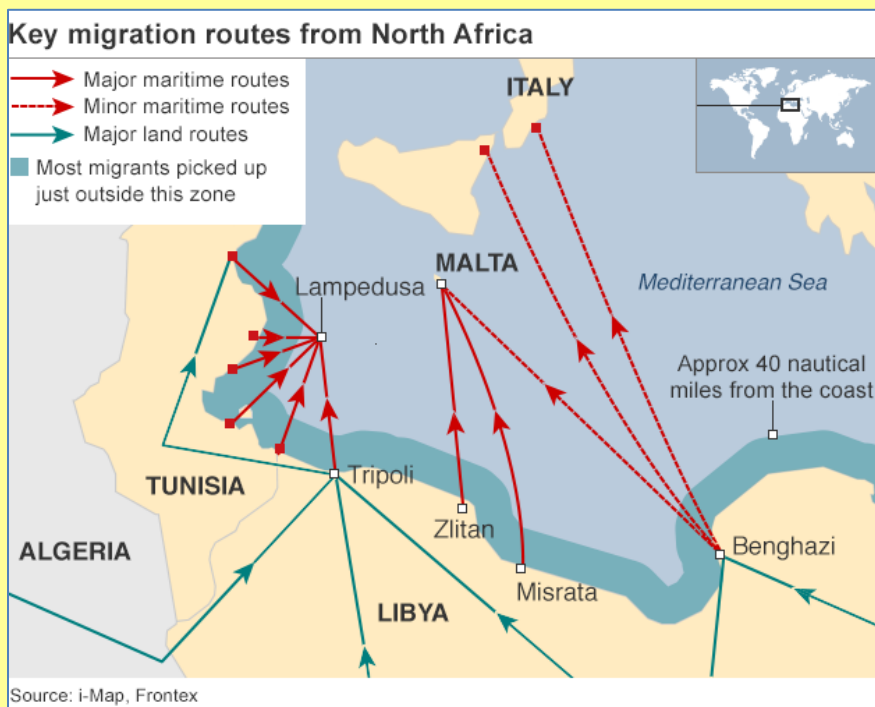
The two indictments prepared by the Palermo unit – totaling some 800 pages – formed a major part of the dataset Campana combed through to code all possible data points: references to times, names, events, exchanges, locations and so on.

Cambridge [notes](#) that overall, 292 actors (not including migrants) were identified as part of the Lampedusa smuggling ring. 95 percent were male smugglers operating along the main



route, from the Horn of Africa to the Nordic nations in northern Europe – where many migrants hoped to find refuge – via Libya and Italy.

However, the network also extended to Dubai, Israel, Canada, Turkey, Germany and the U.K., and



included those who kidnap for ransom in the deserts of Libya, and Tripoli militiamen who take bribes to let migrants out of detention centers.

“People specialize,” said Campana. “There was a clear separation between those providing smuggling services, those kidnapping for ransom, and those, like the militias, ‘governing’ spaces and supplying protection.”

He also detected signs of rudimentary hierarchy among smugglers in some stages of the route, which roughly divide into “organizer” and “aide.”

“Organizers are individuals who give orders but don’t receive them, while aides are highly dependent on organizers for their activities. Organizers make up some 15 percent of the smuggling network and the remaining 85 percent occupy a lower ranking aide position.”

The network models built by Campana show that those who operate in the same stage of the journey are almost seven times more likely to have some link with each other. “Even in a network that traverses the hemispheres, it is the local dimension that is still crucial,” he said.

Moreover, Campana found that those who share the same network position as either organizer or aide are three times less likely to have any tie. “There is little contact between fellow organizers, reinforcing the impression of smugglers as free-trading independents. Business opportunities tear coordination apart,” he said.

Indeed, a focused analysis of a sub-network of 28 smugglers revealed that those based in Italy who tapped directly into the Libyan ‘marketplace’ had very little contact with each other.

Wiretaps and testimonials suggest that migrants have to pay separate vendors for each leg of the journey. Payment was often done in advance through Hawala, an informal money transfer system based on trust. One wiretap reveals a charge of \$3,600 for a couple to cross the Mediterranean. Another wiretapped smuggler charges €150 per person for a car trip from Sicily to Rome.

“Reputation is crucial in a competitive market, and the wiretaps show how much value smugglers place on their reputation,” said Campana.

One smuggler was recorded reproaching another for overcrowding a boat, comparing it to the way a dirty bathroom reflects badly on everyone who shares the house.

In fact, the wiretaps reveal that the loss of life in the Lampedusa disaster led to compensation being paid to families by smugglers scared of losing future business.

“Authorities may wish to deliberately tarnish the reputation of smugglers in order to shut down their business,” said Campana.

“Criminal justice responses require the adoption of coordinated tactics involving all countries along the route to target these localized clusters of offenders simultaneously.

“This is a market driven by exponential demand, and it is that demand which should be targeted. Land-based policies such as refugee resettlement schemes are politically difficult, but might ultimately prove more fruitful in stemming the smuggling tide than naval operations.”



Paolo Campana, "Out of Africa: The organization of migrant smuggling across the Mediterranean," [European Journal of Criminology](#) (21 January 2018).

Artificial intelligence is the weapon of the next Cold War

By Jeremy Straub

Source: <http://www.homelandsecuritynewswire.com/dr20180129-artificial-intelligence-is-the-weapon-of-the-next-cold-war>



Jan 29 – It is easy to confuse the current geopolitical situation with that of the 1980s. The United States and Russia [each accuse the other](#) of interfering in [domestic affairs](#). Russia has [annexed territory](#) over U.S. objections, raising concerns about [military conflict](#).

As during the Cold War [after the Second World War](#), nations are developing and building weapons based on advanced technology. During the Cold War, the weapon of choice was nuclear missiles; today it's software, whether it is used for attacking [computer systems](#) or [targets in the real world](#).

Russian rhetoric about the importance of artificial intelligence is picking up – and with good reason: As artificial intelligence software develops, it will be able to make decisions based on more data, and more quickly, than humans can handle. As someone who researches the use of AI for applications as diverse as [drones](#), [self-driving vehicles](#) and [cybersecurity](#), I worry that the world may be entering – or perhaps

already in – another cold war, fueled by AI. And I'm [not alone](#).

Modern cold war

Just like the Cold War in the 1940s and 1950s, each side has reason to fear its opponent gaining a technological upper hand. In a recent meeting at the Strategic Missile Academy near Moscow, Russian President Vladimir Putin suggested that AI may be the way Russia can [rebalance the power shift](#) created by the U.S. outspending Russia nearly 10-to-1 on defense each year. Russia's state-sponsored [RT media reported](#) AI was "key to Russia beating [the] U.S. in defense."

It sounds remarkably like the rhetoric of the Cold War, where the United States and the Soviets each built up enough nuclear weapons to [kill everyone on Earth many times over](#). This arms race led to the concept of [mutual assured destruction](#): Neither side



could risk engaging in open war without risking its own ruin. Instead, both sides stockpiled weapons and [dueled indirectly](#) via smaller armed conflicts and political disputes.

Now, more than 30 years after the end of the Cold War, the U.S. and Russia have decommissioned [tens of thousands](#) of nuclear weapons. However, tensions are growing. Any modern-day cold war would include cyberattacks and nuclear powers' involvement in allies' conflicts. It's already happening.

Both countries have [expelled the other's diplomats](#). Russia has [annexed](#) part of Crimea. The Turkey-Syria border war has even [been called](#) a "proxy war" between the U.S. and Russia.

Both countries – and [many others too](#) – still have nuclear weapons, but their use by a major power is still unthinkable to most. However, [recent reports](#) show increased public concern that countries might use them.

A world of cyberconflict

Cyberweapons, however, particularly those powered by AI, are still considered [fair game](#) by [both sides](#).

Russia and [Russian-supporting hackers](#) have [spied electronically](#), launched [cyberattacks](#) against [power plants](#), [banks](#), [hospitals](#) and [transportation systems](#) – and [against U.S. elections](#). Russian cyberattackers have targeted the [Ukraine](#) and U.S. allies [Britain](#) and [Germany](#).

The U.S. is [certainly capable](#) of responding and [may have done so](#).

Putin has said he [views artificial intelligence](#) as "the future, not only for Russia, but for all humankind." In September 2017, he told students that the nation that "becomes the leader in this sphere will [become the ruler of the world](#)." Putin isn't saying he'll hand over the nuclear launch codes to a computer, though [science fiction](#) has portrayed [computers launching missiles](#). He is talking about many other uses for AI.

Use of AI for nuclear weapons control

Threats posed by surprise attacks from [ship- and submarine-based](#) nuclear weapons and weapons placed near a country's borders may lead some nations to entrust self-defense tactics – including launching counterattacks – to the

rapid decision-making capabilities of an AI system.

In case of an attack, the AI could act more quickly and without the [potential hesitation](#) or [dissent of a human operator](#).

A fast, automated response capability could help ensure potential adversaries know a nation is ready and willing to launch, the key to [mutual assured destruction](#)'s effectiveness as a deterrent.

AI control of non-nuclear weapons

AI can also be used to control non-nuclear weapons including unmanned vehicles like drones and cyberweapons. Unmanned vehicles must be able to operate while their communications are impaired – which requires onboard AI control. AI control also [prevents a group that's being targeted](#) from stopping or preventing a drone attack by destroying its [control facility](#), because control is distributed, both [physically and electronically](#).

Cyberweapons may, similarly, need to [operate beyond the range of communications](#). And reacting to them may require [such rapid response](#) that the responses would be best launched and controlled by AI systems.

AI-coordinated attacks can launch cyber or real-world weapons almost instantly, making the decision to attack before a human even notices a reason to. AI systems can change targets and techniques faster than humans can comprehend, much less analyze. For instance, an AI system might launch a drone to attack a factory, observe drones responding to defend, and launch a cyberattack on those drones, with no noticeable pause.

The importance of AI development

A country that thinks its adversaries have or will get AI weapons will want to get them too. Wide use of [AI-powered cyberattacks](#) may still be some time away.

Countries might agree to a proposed [Digital Geneva Convention](#) to limit AI conflict. But that won't stop AI attacks by [independent nationalist groups](#), militias, criminal organizations, terrorists and others – and countries can back out of treaties. It's almost certain, therefore, that someone will turn AI into a weapon – and that everyone else will do so too, even



if only out of a desire to be prepared to defend themselves.

With Russia [embracing AI](#), other nations that don't or those that restrict AI development risk becoming [unable to compete](#) – economically or militarily – with countries wielding developed AIs. Advanced AIs can create advantage for a

nation's businesses, not just its military, and those without AI may be severely disadvantaged. Perhaps most importantly, though, having sophisticated AIs in many countries could provide a [deterrent against attacks](#), as happened with nuclear weapons during the Cold War.

Jeremy Straub is Assistant Professor of Computer Science, North Dakota State University.

Alexander the Great was Macedonian

Source: <http://macedoniaonline.eu/content/view/3650/1/>

Video: <https://www.youtube.com/watch?v=Ge4JCti6-9w>

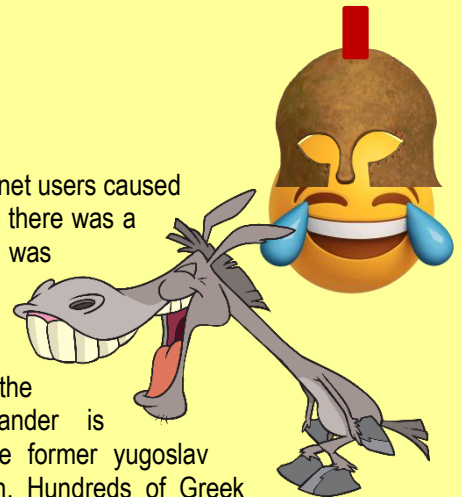
September 2008 – Strong reaction between Greek and Macedonian internet users caused by the British TV Channel "Challenge TV". On a very popular quiz show there was a

question "What nationality was Alexander the Great? The response "Greek" was Incorrect, reports Greek Radio "Skai".

"The correct answer according to the TV producers was that Alexander is "Macedonian" and the flag of the former Yugoslav republic of Macedonia was shown. Hundreds of Greek internet users voiced their disagreement at the Quiz internet site as well as on YouTube where the Macedonians posted the video." concludes Skai Radio.

This is what happens when politics is removed from history and

facts. The British couple lost 23,000 pounds (\$45,000) because of their wrong answer. Although sad, they'll never forget Alexander's nationality



EDITOR'S COMMENT: It was not the ignorance of the person asking the questions. It was a matter of time British policy and of a hidden hostility against anything Greek. I only hope that the couple will sue them for dangerous ignorance and get their money back.

National Action: Banned neo-Nazi terrorist group still active in UK after finding loophole

Source: <http://www.independent.co.uk/news/uk/crime/nazi-group-uk-national-action-banned-still-operating-loop-hole-soldiers-arrested-terrorism-plot-a7937206.html>

September 2017 – **Members of the UK's first ever banned neo-Nazi terrorist group are using a loophole in the law to continue operating despite being outlawed by the Government, it has emerged.**

National Action is evading authorities by taking on new names – allegedly including Scottish Dawn and NS131 – in a technique used prolifically by [Anjem Choudary's](#) Islamist network.

The group was proscribed as a terrorist organisation in December, making being a National Action member a criminal offence punishable by up to 10 years in prison, but a former detective said police are left powerless to arrest neo-Nazis acting under new names.



The warning came after five alleged members of National Action – including four serving soldiers – were [arrested this week on suspicion of preparing acts of terrorism](#).



Members of National Action at the 'White Man March' in Newcastle in March 2015
Photography by Hope Not Hate



Matthew Collins, the head of research at campaign group Hope Not Hate, said known neo-Nazis from National Action were seen meeting at a “terror training camp” in Warrington as recently as last Saturday.

“There were 10 of them in there training,” he told *The Independent*. “They believe they’re untouchable, they laugh at the police.”

The warehouse, which sits next to a children's playground on an industrial estate, has been converted into a gym and office.

Undercover footage has shown neo-Nazis training with wooden knives and baseball bats, learning mixed martial arts and listening to lectures on “white jihad”.

Mr Collins said National Action has focused on Muslims but is fundamentally antisemitic, propagating Jewish conspiracy theories while fostering a “deep obsession with violence”.

“They believe they’re going to be involved in some kind of war,” Mr Collins said.

“This is preparation – they believe it’s necessary because there’s going to be a race war, which will be triggered by Islamist terrorist attacks, and then they will lead legions of white people into war against Jews.”

The group was known for using the phrases “Hitler was right” and “Britain is ours, the rest must go” at marches, and online propaganda included images showing members performing Hitler salutes inside a German concentration camp.

National Action was founded in 2013 but was not banned until it was tied to violent attacks and plots, including the murder of Labour MP Jo Cox.

[“Death to traitors, freedom for Britain”](#) became a slogan for the group after being said in court by Thomas Mair, who was glorified in online propaganda calling for murders.



In February, a 17-year-old National Action member from Bradford was ordered to undergo intensive counselling after making a pipe-bomb.

The boy claimed he had no intention of using the improvised explosive device but told the court he was still a neo-Nazi and supporter of National Action.

"Thomas Mair is a HERO," he had written online. "We need more people like him to butcher the race traitors."

Mr Collins, who was a member of the National Front as a teenager, said there was evidence suggesting that National Action members are planning terror attacks.

"These people are far more dedicated, far more sophisticated and far more dangerous than previous groups," he added.

"They've seen the British National Party try and fail mainstream politics, seen the National Front fail and the EDL degenerate into drugs.

"They're younger, they're smarter, they're savvier and they model themselves on obscure violent groups."

Mr Collins said members have read up on the IRA's cell structure and studied the far-left Baader-Meinhof Group, while ironically appearing to repeat techniques recently used by Islamists to evade authorities.

British security services battled for decades to clamp down on a network of Islamists originally known as al-Muhajiroun, eventually succeeding in [jailing leader Choudary for inviting support for Isis last year](#).

As members were repeatedly arrested and released, the group mutated and took on a series of names that left authorities powerless to detain them.



Members of National Action at a march in Darlington (Hope Not Hate)

Each time the government proscribed al-Muhajiroun's latest incarnation, another would spring up. The current list of banned groups includes 10 different aliases, including Islam4UK, Muslims Against Crusades and The Saved Sect.

The ringleader of the London Bridge attack, [Khuram Butt, was a member of the network](#), as were the men who murdered Fusilier Lee Rigby, [attack plotters](#), suicide bombers and militants who have joined Isis and other terrorist groups around the world.



David Videcette, a former counter-terrorism detective in the Metropolitan Police, said National Action was following a similar path.

"The problem is that as soon as the Government proscribes an organisation, they change the name and there's very little law enforcement can do," he told *The Independent*.

"You have to go through Parliament to get a new organisation proscribed so it's not ideal.

"I think authorities have got to start going after people individually – they know who they are."

Mr Videcette said police had "failed" with Choudary because they attempted to prosecute him for terror offences that could not be proved, rather than criminal offences that may have resulted in conviction.

He added: "These right-wing groups are racial hatred and violence... there are other laws and tactics you can use to arrest them."

National Action are believed to be attempting to disguise themselves with aliases, including Scottish Dawn and NS131.

Mr Collins estimates that up to 60 members are currently active, down from a peak of 150 when a neo-Nazi conference was held in Southport.

"They are still very active – they're still meeting and organising," he warned. "We cautiously welcomed the proscription of them but we were privately concerned that we didn't think the police really understood culturally how difficult the group was and how it was evolving.

"Some of the attempts to curtail or disrupt the group have been clumsy and ill-informed – police seem to think they're still dealing with the BNP or National Front."

Emily Winterbotham, a senior research fellow in national security at the Royal United Services Institute for Defence and Security Studies (RUSI), said National Action was part of a wider resurgence in the far right.

She said attacks classed as hate crime, such as vandalism and verbal abuse directed at Muslims, had risen but were not always linked by authorities to extremist groups.

"I think sometimes there's a tendency to downplay some more extreme right-wing activity as hooliganism," she added.

"But 20 per cent of referrals to the Channel counter-extremism programme are related to the far-right.

"But the fact that there have now been arrests shows that the security services are looking into people with links to far-right groups in all walks of society."

Detectives have been granted extra time to question five suspected members of National Action, including four soldiers, who were detained on suspicion of "being concerned in the commission, preparation and instigation of acts of terrorism".

The fifth suspect, a soldier who was serving with the Royal Anglian Regiment in Cyprus, was formally arrested on Friday after being flown back to the UK from RAF Akrotiri.

The 24-year-old from Northampton remains in custody alongside a 22-year-old man from Birmingham, a 32-year-old man arrested in Powys, a 24-year-old arrested in Ipswich and a 24-year-old arrested in Northampton.

"The arrests were pre-planned and intelligence-led," a spokesperson from West Midlands Police said.

"There was no threat to the public's safety."

Debunking 3 myths behind "chain migration" and "low-skilled" immigrants

By Raquel Aldana

Source: <http://www.homelandsecuritynewswire.com/dr20180202-debunking-3-myths-behind-chain-migration-and-lowskilled-immigrants>

Feb 02 – President Donald Trump has embraced the rhetoric of "chain migration" to spread the message that the United States is legally letting in too many of the wrong kind of immigrant.

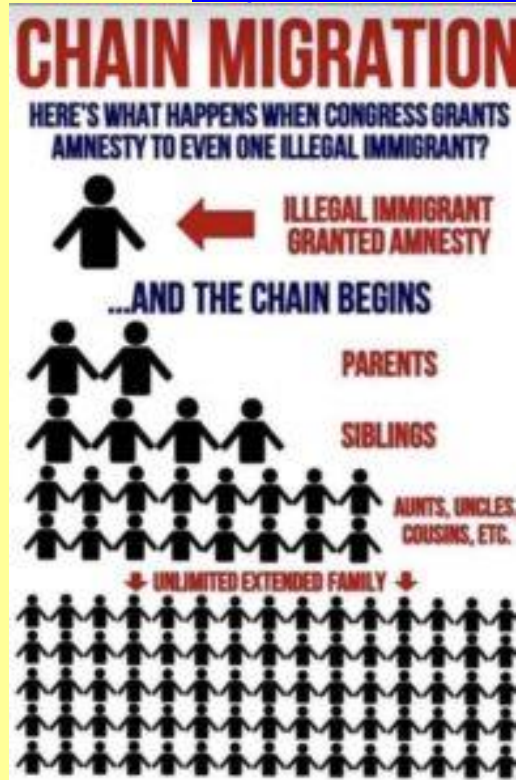
That term, however, distorts the facts.



As a scholar on [U.S. immigration law and policy](#), I'd like to correct and contextualize the numbers on the now maligned "family-based immigration," and uncover the biases that underlie the preference for the "highly-skilled" immigrant. Family immigration is subject to significant limitations and it exists because American values include ideals such as family unification.

Myth #1: Family immigration is unlimited

On Jan. 5, the Trump administration published its framework on [immigration reform and border](#)



[security](#). To fulfill its promise to cut lawful immigration by half, the proposal limits family immigration to spouses and minor children of U.S. citizens and lawful permanent residents. This proposed cut would eliminate the ability of U.S. citizens and permanent residents to sponsor their siblings and adult children. It would also stop U.S. citizens from sponsoring their parents.

To support these cuts, [President Trump alleged](#) in his first State of the Union address that current law creates a chain of migration that allows immigrants to sponsor "unlimited numbers of distant relatives." This claim is untrue.

With few exceptions, all lawful permanent immigration to the United States is subject to annual limits. Moreover, no single nation may send more than 7 percent of the overall total number of immigrants coming to the United States in a given year. Only U.S. citizens can

sponsor immediate relatives – their spouses, minor and unmarried children and parents – without these limits. In recent years, immediate relatives have comprised [nearly half](#) of all family immigration to the United States.

All family immigration categories except immediate relatives are severely backlogged, and in particular for nations with high levels of immigration to the United States. In fact, applicants for family immigration from China, India, Mexico and the Philippines face [wait times](#) of up to 20 years. According to the U.S. [State Department](#), approximately 3.9 million immigrants are waiting in line for an opportunity to immigrate.

Myth #2: Family immigration is overwhelming

The White House website [features a chart](#) on chain migration that presents a series of data points intended to suggest that legal immigrants are overwhelming the nation. For example, the chart states, "Every year the U.S. resettles a population larger than the size of Washington D.C." While [factually correct](#), this data point distorts reality by ignoring context.

It's true that in absolute numbers, immigration to the United States is greater than any other country. However, it is small when considering the overall size of the U.S. population. In fact, according to the libertarian CATO [Institute](#), as a percentage of its population, U.S. immigration flows rank [relatively low](#) as [compared to other](#) major industrialized nations such as Canada and Australia.

Myth #3: 'Low-skilled' immigrants don't benefit the U.S.

The Trump administration has [expressed a preference](#) for highly skilled immigrants. The assumption is that immigration systems that value other factors – such as family unification, diversity or humanitarian goals – allows "low-skilled" immigrants into the U.S. They also assume these immigrants cannot or refuse to assimilate, or may even be



dangerous. The profiles of permanent immigration to the United States today, however, reveal a much more positive reality.

Nearly [34 million](#) legal permanent residents live in the United States, two-thirds of whom arrived based on family sponsorship. As a whole, [demographic data](#) show that lawful permanent residents work in a range of occupations and professions. They show good levels of [social integration](#). Legal permanent residents and immigrants also generally have [lower levels of criminality](#) compared to the population of people born in the U.S.

Most studies on the [fiscal impact of U.S. immigration](#) conclude that immigrant contributions have been positive to the overall U.S. economy. They have little to no adverse impact on native workers.

There are, however, [variations among immigrants](#) across measures such as educational attainment, home ownership and English proficiency. In general, for example, Asian immigrants [outperform](#) immigrants from Latin American and even the native born on some of these measures. But there are [historical and geographic reasons](#) that explain why

immigrants from Mexico and Central America to the United States have tended to be from poorer and more vulnerable communities.

These variations do not mean that some immigrants integrate poorly or fail to contribute to U.S. society. Rather, their contributions are devalued in this new rhetoric of “merit” migration.

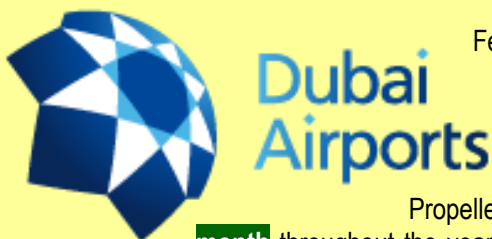
This [new standard of “merit”](#) – measured in terms of high levels training and education, English-language proficiency and high wages – creates a hardly achievable race to the top. It narrows the definition of who should be considered a “deserving” immigrant. Nearly all U.S. citizens would likely be undeserving of U.S. immigration under [these standards](#).

Other important values are lost that I believe should continue to define our identity as a nation. These values include family unification, compassion toward people who are persecuted and being good neighbors. They also mean valuing the contributions of immigrants who do the difficult work of picking our fruit, cleaning our houses, cutting our lawns and caring for our children and elderly.

Raquel Aldana Associate Vice Chancellor for Academic Diversity and Professor of Law, University of California, Davis.

Dubai airport retains position as world's No. 1

Source: <http://gulfnews.com/business/aviation/dubai-airport-retains-position-as-world-s-no-1-1.2168570>



Feb 05 – Dubai International (codename: DXB) has retained its position as the world's No. 1 airport for international passengers for the fourth consecutive year — with annual traffic for **2017 reaching 88.2 million passengers**, according to the annual traffic report issued by operator Dubai Airports on Monday.

Propelled by high traffic volumes averaging **7.35 million passengers per month** throughout the year, including the record months of January, July and August when traffic breached the 8-million passenger mark, DXB's traffic reached 88,242,099 passengers for the full year.

This is up 5.5% compared to 83,654,250 passengers recorded during 2016.

The airport welcomed 7,854,657 passengers in December, up 1.9% compared to 7,706,351 recorded in the same month in 2016.

DXB welcomed six new scheduled passenger airlines during the year, including SalamAir, Badr Airlines, and Air Moldova, while home based carriers Emirates and flydubai added 3 and 10 new passenger destinations and increased frequency/capacity on 31 and 22 routes respectively.

India continued its domination run as the single largest destination country for DXB with 12,060,435 passengers in 2017, up 5.4% compared to 11,440,215 passengers recorded in 2016. The UK claimed the second spot with 6,466,404 passengers (+6.7%), overtaking Saudi Arabia which recorded 6,364,598 passengers (4.6%).



Markets showing the most significant growth during the year included Russia with passenger numbers surging 28% to 1,339,534 and China with 2,212,179 passengers, up 19.4% over 2016. The surge follows



the relaxation of visa regulations by the UAE to offer visa on arrival for both Russian and Chinese visitors. Thailand, bolstered by additional capacity deployed by Emirates through a switch to two-class A380 service, also registered robust growth of 15.2% with passenger numbers reaching 2,445,053 in 2017.

London retained its position as the top destination city with 4,011,598 passengers, followed by Mumbai with 2,477,771 passengers and Jeddah with 2,113,820 passengers.

Top regions in terms of percentage growth in 2017 were South America (36.1%), Eastern Europe (25.3%) and Asia (17.9%) – mainly spurred by network expansion by Emirates, flydubai and other carriers.

The average number of passenger per flight grew 6.9% to 223 during the year compared to 209 for 2016, mainly due to DXB's position as the world's largest hub for wide body aircraft, particularly for the A380.

The number of flight movements during 2017 totalled 409,493, down 2.4% compared to 419,654 recorded in 2016. December's flight numbers totalled 35,132 compared to 36,065 in the corresponding month in 2016, down 2.6%.

DXB witnessed some fluctuation in cargo volumes during the year but thanks to the bumper growth in March (8.4%), August (11.8%*) and September (5.8%), 2017 freight volumes reached a record 2,654,494 tonnes, up 2.4% compared to 2,592,454 recorded during 2016. In December DXB handled 229,019 tonnes of cargo compared to 230,122 tonnes recorded in the same month during 2016, a minor contraction of 0.5%.

Paul Griffiths, CEO of Dubai Airports, said: "It was a very successful year for DXB as we not only achieved robust growth in traffic to solidify our position as the world's number one international airport, but also delighted our customers with a range of new and exciting services and innovative products."

"With passenger traffic expected to reach 90.3 million in 2018, our focus in the new year will be on the DXB Plus programme which aims to expand the airport's annual capacity to 118 million passengers through process improvements and use of new technology," Griffiths added

The Olympic Truce: Giving peace a chance

By Alanna Richards

Source: <https://thebulletin.org/olympic-truce-giving-peace-chance11474>

Jan 31 – When global tension builds, people often think that world peace is an impossible goal. We so easily forget how nations come together, despite conflict, every two years for the Olympic Games. These sporting events allow countries to remember what they stand *for*, rather than what they stand *against*.

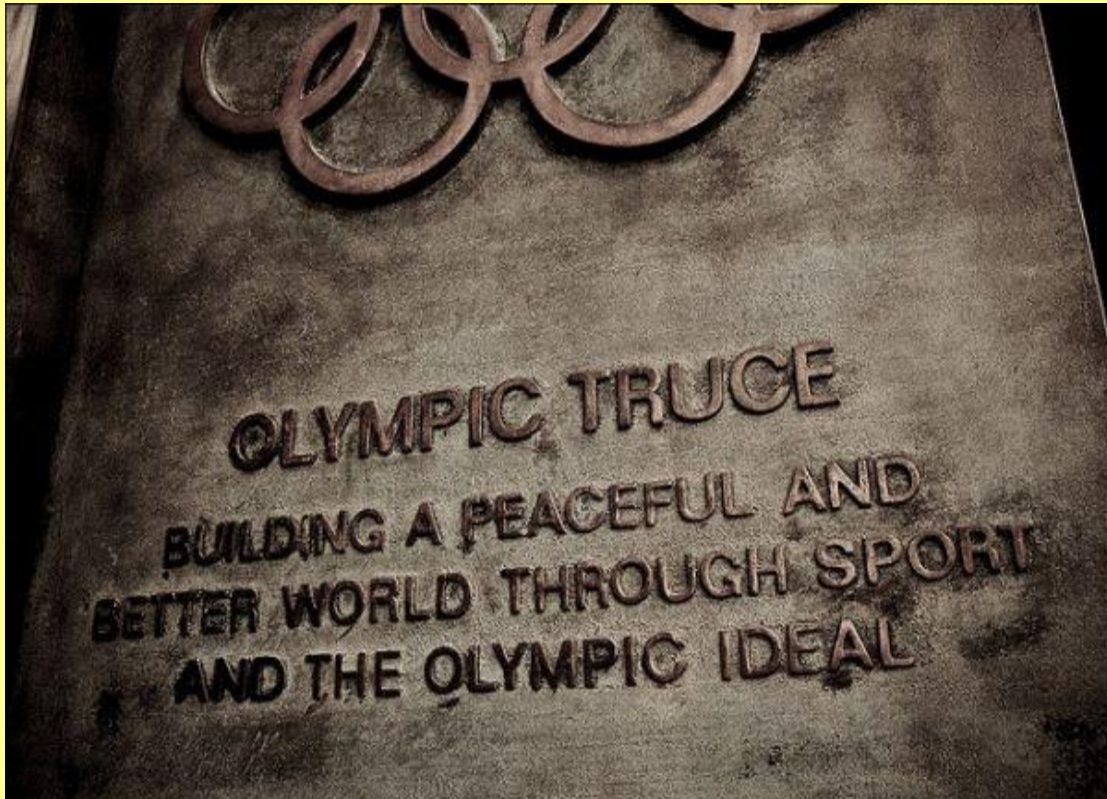
As an extension of the games, the [Olympic Truce](#)—a tradition dating back to ancient Greece—allows for the safe travel of athletes and spectators alike. It demands peace



among participating nations seven days before the games and seven days afterward. The truce allows athletes to represent the hope of global harmony triumphing over conflict and war.

I have experienced the unifying power of sports, as someone who has played soccer through the collegiate level. Soccer competitions enabled me to connect with girls of different backgrounds, ethnicities, and fundamental beliefs.

After traveling to Mexico, Haiti, and Uganda to play soccer, I am struck by the ways that sports have served as a bridge in the global community. This is something that goes far beyond the playing arena, transcending age, language, and boundaries. Whether I am playing with or against someone in soccer, we become united in the competition of the game, and our differences dissipate on the field. That spirit of unity can do much to dispel the cloud of conflict hanging over the Korean peninsula.



A tradition reborn

The [tradition](#) of the Olympic Truce began when King Iphitos of Elis wished to spark regional reconciliation through sports. The Olympics are intertwined with legend, making it difficult to pinpoint the [date](#) of the first games, but most historians believe it was during the 9th century BCE. A treaty signed by Iphitos and two other kings allowed warring nations to come together in a peaceful atmosphere. With the support of other nations, conflict came to a halt during the Olympics out of respect for the truce.

The Olympic games continued for some time, despite the power shift from Greek to Roman authority. However, since the games were conceived as a way to honor Zeus, Rome's Christian emperors ended the athletic competition by the 3rd century CE. The games didn't [restart](#) until 1896.

During the Bosnian War in 1992, the International Olympic Committee reintroduced the concept of the Olympic Truce, and in 1993 the United Nations General Assembly passed a [resolution](#) calling on all nations to observe the truce. The Bosnia and Herzegovina [four-man bobsled team](#) served as an example of the Olympic spirit—with one Croat, two Muslims, and a Serb representing the three ethnic factions that were then fighting for control of Sarajevo. Despite the high levels of tension surrounding the conflict, the team performed with composure. The resolution of "building a peaceful and better world through sport and the Olympic ideal" has been [adopted](#) by the UN General Assembly in advance of every Olympics since then.



A teachable moment

Every host nation comes up with specific ways to [implement](#) the Olympic Truce within their country. During the 2008 Beijing Olympics, for example, children from 210 Chinese schools contacted more than 300 Olympic and Paralympic committees in other countries, which allowed them to connect with schools in those parts of the world. China also established exchange programs to allow kids to learn more about sports and other cultures.

Four years later, the United Kingdom implemented an educational program called “Get Set for the Olympic Truce” for the 2012 London Games. Some 24,000 schools taught children about the truce. One key aspect included discussions and creative projects that fostered conflict resolution in local communities.

More than anything else, the Olympic Village transforms boundaries and hostilities into a global community built on what binds people together. The Olympic Truce teaches athletes, spectators, children, and global leaders what it means to put aside their differences.

A step toward peace

During the past year, fear of nuclear destruction has crept back into the minds of people around the world, especially Americans and Koreans. This anxiety is fueled by the impulsive rhetoric of US President Donald Trump and North Korean leader Kim Jong-un. In his New Year’s Day speech, Jong-un announced that his country had acquired significant nuclear capability and would use it if threatened by the United States. Trump responded with a tweet claiming that he had bigger, more effective nuclear weapons.

Now more than ever, it is valuable for North Korea, South Korea, and the United States to participate in the upcoming Olympic Games—which means adhering to the Olympic Truce. The truce does not solve the conflicts raised by North Korea’s development of nuclear weapons, nor does it promise any long-term safety, but it does provide an opportunity to exercise empathy and compromise among nations.

North Korea boycotted the 1988 Summer Olympics in Seoul and has not participated in any Winter Olympics since 2010. Recently, however, North and South Korea [announced](#) that their athletes will march under a unified Korea flag at the opening ceremony of the 2018 Winter Olympic Games—which will be held next month in Pyeongchang, South Korea. North and South Korea will also field a [joint](#) women’s ice hockey team, a first in Olympic history (in other events, the two Koreas will compete separately). Simply by participating in the games, North Korea is extending the hope of reconciliation to many.

Even though the two Koreas and other nations will vie against one another at the games, they will do so in a spirit of mutual respect and friendship. This same spirit could do much to advance political negotiations.

While the prospect of a temporary truce has raised hopes on the Korean peninsula, high tensions remain. North and South Korea were supposed to come together before the games to participate in a joint cultural event hosted by North Korea—with K-pop bands, other musicians, and art troupes—but North Korea [backed out](#) on January 29. Even more worrisome are the polls: Young South Koreans are skeptical about whether the Olympics will have a long-term impact on reconciliation between them and their northern counterparts.

However, Olympic participation is not a given. The choice to march and compete together will allow athletes to inform their leaders about how international relations could look. By pushing the world to see past Kim Jong-un and to look instead at athletes from his country, who are more similar to Americans than we might think, we can glimpse the humanity of North Korea and ourselves.

Clearly, the problems on the Korean Peninsula are complex. The Olympic Truce will not solve the conflict permanently, but it can ease hostility enough to allow for healthy conversation. This is an important step in the right direction: toward peace.

Alanna Richards is a senior at Westmont College in Montecito, California, where she was a captain of the women’s soccer team. She is a philosophy and communications double major, and currently is interning at the Nuclear Age Peace Foundation.

EDITOR’S COMMENT: When was the last time that Olympic Truce was really applied?



Will Arabs and Muslims Never Accept Israel as the Jewish State?

by Daniel Pipes

Source: <http://www.meforum.org/7201/will-arabs-and-muslims-ever-accept-israel-as-jewish-state>

Feb 02 – Mordechai Kedar, a distinguished specialist of the Middle East, recently [published an article](#) arguing that Israel can never win its neighbors' acceptance. This conclusion flies directly in the face of the [Israel Victory Project](#) I have proposed, which is about gaining precisely that acceptance. So, Kedar's analysis calls for a reply. **He makes two arguments, religious and nationalist, to support his conclusion.** "The religious reason is rooted in Islam's conception of itself as a faith whose mission is to bring both Judaism and Christianity to an end and inherit all that was once Jewish or Christian: land, places of worship, and people. ... That] Jews now attempt to pray on the Temple Mount, suggest[s] that Judaism has returned to being an active, living, and even dynamic religion. This brings the very *raison d'être* of Islam into question. ... Muslims loyal to their religion and aware of this danger cannot possibly accept the existence of a Jewish state, not even a tiny one on the Tel Aviv coast."



The nationalist motive concerns the Palestinian national movement being "wholly based on the negation of the Jewish people's right to its land and state." Therefore, it seeks "an Arab state on Israel's ruins, not alongside it."

Combining these two motivations, he concludes that "Arabs and Muslims are incapable of accepting Israel as the Jewish State."

In response – and this is the key point – Kedar says Israel should "tell them in no uncertain terms that Jerusalem belongs to the Jews and they are going to have to learn to live with it." Extrapolated out, he is advising Israel should assert itself as the Jewish state to Arabs and Muslims.

Looked at closely, Kedar's analysis and policy recommendation contradict each other: If Arabs and Muslims will never accept Israel as a Jewish state, why does he call on Israel to assert this fact and force

them "to learn to live with it"? If they will never accept this reality, how can they possibly be forced "to learn to live with it"?

Despite himself, Kedar believes in Israel Victory, not Scarsdale

In other words, Kedar does not believe his own negative prediction. If he did, he'd not be confronting



Arab and Muslim rejectionism but finding ways to work around it. For example, someone truly convinced of eternal Arab/Muslim opposition to the Jewish state might give up Jerusalem to salvage the rest of the country. Or he would give up on the entire Zionist enterprise and urge Jewish Israelis to move to Scarsdale.

That Kedar does not adopt such defeatism implies that, deep down, he hopes to convince Israel's enemies that the Jewish state is too tough, competent, and strong to be beaten, so they should give up the hopeless campaign against it. His real message is not the defeatist "Arabs and Muslims will never accept Israel as the Jewish State" but the optimistic one of



"Israel will never accept Arab and Muslim rejectionism." Despite himself, Kedar believes in Israel Victory. Welcome to our ranks, Mordechai.

Daniel Pipes is president of the Middle East Forum.

Why Iranian Women Are Taking Off Their Head Scarves

By Nahid Siamdoust

Source: <https://www.nytimes.com/2018/02/03/opinion/sunday/iran-hijab-women-scarves.html>



Feb 03 – **On Dec. 27, Vida Movahed stood bareheaded on a utility box on one of Tehran's busiest thoroughfares, waving her white head scarf on a stick.** Within days, images of the 31-year-old, who was detained and then released a few weeks later, had become an iconic symbol.

In the weeks since Ms. Movahed's peaceful protest of the compulsory hijab, long one of the most visible symbols of the Islamic Republic, dozens of women, and even some men, throughout Iran have followed her lead. So far, **at least 29 women in cities throughout the country have been arrested.**

These bold acts of defiance against the hijab are unprecedented in the nearly 40-year history of the Islamic Republic, but a movement that may have helped inspire them has been going on for years. It began on the social media account of a Brooklyn-based Iranian journalist named Masih Alinejad. In 2014, Ms. Alinejad started a Facebook page called "[My Stealthy Freedom](#)," urging women to post images of themselves without the hijab in public places. Last year, she launched "White Wednesdays," inviting women to wear white scarves on Wednesdays in protest of the compulsory hijab law. (Ms. Movahed carried out her protest on a Wednesday and held a white scarf, though her actual allegiance to Ms. Alinejad's campaign is unknown).

Ms. Alinejad, who worked as a journalist in Iran before emigrating to England in 2009, says her campaign came about by chance. She posted a photo of herself driving her car in Iran without hijab and invited others to share "hidden photos" of themselves on her Facebook page. The overwhelming response — the page now has more than a million followers — prompted her to focus more on the issue. "I was a political reporter, but the women in Iran forced me to care about the issue of personal freedoms," she told me.

For Ms. Alinejad and the protesters, the struggle against the compulsory hijab is about regaining a woman's control over her own body, not a matter of questioning the validity of the hijab itself. Now that bareheaded women are joined in these acts by women who proudly wear the full-body chador, it is clear that the movement on the ground is also about a



woman's right to choose how to dress — something that, over the past century, various Iranian leaders have tried to deny.

The founder of the Pahlavi dynasty, Reza Shah, banned the hijab, in a gesture of modernization, in 1936, which effectively put some women under house arrest for years since they could not bear to be uncovered in public. The leader of the Islamic Republic, Ayatollah Ruhollah Khomeini, made the hijab compulsory in 1979.



Mass protests by women were unsuccessful in overturning the edict. Pro-hijab campaigners invented the slogan **“Ya rusari ya tusari,”** which means “Either a cover on the head or a beating,” and supervisory “committees” — often composed of women in full chadors — roamed the streets and punished women they deemed poorly covered. Those who opposed the strict measure called these enforcer women “Fati commando,” a derogatory term that combines Islam — in the nickname Fati for Fatemeh, the prophet's daughter — and vigilantism.

While the requirements have remained firmly in place, Iranian women have been pushing the boundaries of acceptable hijab for years. Coats have gotten shorter and more fitted and some head scarves are as small as bandannas. This has not gone without notice or punishment: Hijab-related arrests are common and numerous. In 2014, Iranian police announced that “bad hijab” had led to 3.6 million cases of police intervention.

But for years, many women's rights activists have written off the hijab as secondary to other matters such as political or gender equality rights. In 2006, the One Million Signatures for the Repeal of Discriminatory Laws campaign, one of the most concerted efforts undertaken by Iranian feminists to gain greater rights for women, barely mentions the hijab. Iranian feminists have also been determined to distance themselves from the Western obsession with the hijab, almost overcompensating by minimizing its significance. Western feminists who have visited Iran and willingly worn the hijab have also played a hand in normalizing it.

But fighting discriminatory policies has not resulted in any real change, as the crushed One Million Signatures campaign proved. So now Ms. Alinejad and a younger generation of Iranian women are turning back the focus on the most visible symbol of discrimination, which, they argue, is also the most fundamental. “We are not fighting against a piece of cloth,” Ms. Alinejad told me. **“We are fighting for our dignity. If you can't choose what to put on your head, they won't let you be in charge of what is in your head, either.”** In contrast, Islamic Republic officials argue that the hijab bestows dignity on women.

The government has had a mixed response to the protests. On the day that Vida Movahed climbed on the utility box to protest the hijab, Tehran's police chief announced that going



forward, women would no longer be detained for bad hijab, but would be “educated.” In early January, in response to recent weeks of unrest throughout the country, President Hassan Rouhani went so far as to say, [“One cannot force one’s lifestyle on the future generations.”](#) In the past week, faced with a growing wave of civil disobedience, Iran’s general prosecutor called the actions of the women “childish” and the Tehran police said that those who were arrested were “deceived by the ‘no-hijab’ campaign.”

But these young women appear undeterred. Their generation is empowered by a new media ecosystem, one that not only unites protesters but also helps to spread potent images of defiance. Ms. Alinejad believes that the movement has already, in a sense, succeeded. “Women are showing that they are no longer afraid,” she said. **“We used to fear the government, now it’s the government that fears women.”**

Nahid Siamdoust is a postdoctoral associate of Iranian studies at Yale University and the author of “Soundtrack of the Revolution: The Politics of Music in Iran.”



Stronger Than Steel, Able to Stop a Speeding Bullet—It’s **Super Wood!**

By Sid Perkins

Source: <https://www.scientificamerican.com/article/stronger-than-steel-able-to-stop-a-speeding-bullet-mdash-it-rsquo-s-super-wood/>

Feb 07 – **New techniques for “densifying” wood can turn the ubiquitous substance into a super-material suitable for constructing buildings and body armor.**

Some varieties of wood, such as **oak and maple**, are renowned for their strength. But scientists say a simple and inexpensive new process can transform any type of wood into a material stronger than steel, and even some high-tech titanium alloys. Besides taking a star turn in buildings and vehicles, the substance could even be used to make bullet-resistant armor plates.

Wood is abundant and relatively low-cost—it literally grows on trees. And although it has been used for millennia to build everything from furniture to homes and larger structures, untreated wood is rarely as strong as metals used in construction. Researchers have long tried to enhance its strength, especially by



compressing and “densifying” it, says Liangbing Hu, a materials scientist at the University of Maryland, College Park. But densified wood tends to weaken and spring back toward its original size and shape, especially in humid conditions.

Now, Hu and his colleagues say they have come up with a better way to densify wood, which they **report** in the February 7 *Nature*. Their simple, **two-step process** starts with boiling wood in a solution of sodium hydroxide (NaOH) and sodium sulfite (Na₂SO₃), a chemical treatment

similar to the first step in creating the wood pulp used to make paper. This partially removes lignin and hemicellulose (natural polymers that help stiffen a plant’s cell walls)—but it largely leaves the wood’s cellulose (another natural polymer) intact, Hu says.

The second step is almost as simple as the first: Compressing the treated wood until its cell walls collapse, then maintaining that compression as it is gently heated. The pressure and heat encourage the formation of chemical bonds between large numbers of hydrogen atoms and neighboring atoms in adjacent nanofibers of cellulose, greatly strengthening the material.

The results are impressive. The team’s compressed wood is three times as dense as the untreated substance, Hu says, adding that its resistance to being ripped apart is increased



more than 10-fold. It also can become about 50 times more resistant to compression and almost 20 times as stiff. The densified wood is also substantially harder, more scratch-resistant and more impact-resistant. It can be molded into almost any shape. Perhaps most importantly, the **densified wood is also moisture-resistant**: In lab tests, compressed samples exposed to extreme humidity for more than five days swelled less than 10 percent—and in subsequent tests, Hu says, a simple coat of paint eliminated that swelling entirely.

A five-layer, plywoodlike sandwich of densified wood stopped simulated bullets fired into the material—a result Hu and his colleagues suggest could lead to low-cost armor. The material does not protect quite as well as a Kevlar sheet of the same thickness—but it only costs about 5 percent as much, he notes.

The team's results "appear to open the door to a new class of lightweight materials," says Ping Liu, a materials chemist at the University of California, San Diego, unaffiliated with the *Nature* study. Vehicle manufacturers have often tried to save weight by switching from regular steel to high-strength steel, aluminum alloys or carbon-fiber composites—but those materials are costly, and consumers "rarely make that money back in fuel savings," Liu says. And densified wood has another leg up on carbon-fiber composites: It does not require expensive adhesives that also can make components difficult, if not impossible, to recycle.

Densified wood provides new design possibilities and uses for which natural wood is too weak, says Peter Fratzl, a materials scientist at the Max Planck Institute of Colloids and Interfaces in Germany who did not take part in the study. "Instead of creating a design for the material at hand, researchers can create a material to suit the design they want," he says, alluding to a familiar process among aerospace engineers who have a long history of developing ever-stronger alloys to meet their needs.

One possible obstacle to the widespread use of densified wood will be engineers' ability to scale up and accelerate the process, Liu notes. Hu and his team spent several hours making each coffee-table book-size slab of densified wood used for testing. But there are no practical reasons the process could not be sped up or used to make larger components, Hu contends.

Although Hu and his team have sought to enhance wood's strength, other researchers have pursued more unusual goals—such as making it transparent. One team, led by materials scientist Lars Berglund at the KTH Royal Institute of Technology in Stockholm, has come up with a way to make windowpanes of wood. The first step in that process (as in Hu's) is to remove lignin, a substance that not only stiffens wood but also creates its brownish color. The researchers infuse the lignin-free wood with a polymer called methyl methacrylate (MMA), a material better known by trade names such as Plexiglas and Lucite.

Because MMA's index of refraction (a measure of how much it bends light) matches that of the lignin-free wood, rays of light pass right through the MMA-infused composite instead of getting bounced around inside empty cells. This renders the material remarkably clear. Berglund and his team described their feat two years ago in *Biomacromolecules*. Coincidentally, at the same time Hu and his colleagues were also developing a method for rendering wood transparent.

Research like Hu's and Berglund's can only add to the wild prospects for the future of materials science. Someday soon it might be possible to live in a home made almost completely from one of Earth's most abundant and versatile building materials—from floors to rafters, walls to windows. In the garage there may be a car whose chassis and bumpers could be composed of densified wood rather than steel and plastic—knock on wood.

Spain introduces 'female only' night buses

 Hilde Van Raemdonck POSTED ON FEBRUARY 7, 2018

 0

Source: <https://newmobility.news/2018/02/07/spain-introduces-female-night-buses/>



These countries tried women-only transport. Here's what happened

Source: <http://www.telegraph.co.uk/women/womens-life/11824962/Women-only-trains-and-transport-How-they-work-around-the-world.html>



Female passengers waiting to leave Tokyo's Shinjuku Station in a "Women Only" carriage Photo: EPA

August 2015 – Jeremy Corbyn has suggested a consultation on [women-only train carriages](#) at night to reduce sex attacks in the UK.

The Labour leadership front-runner said a number of women had suggested the proposal to him, and he would be keen to hear from more women to see if they'd welcome women-only train carriages.

It's extremely controversial and divisive - fellow Labour leader candidate Yvette Cooper has already criticised it.

But this is really nothing new. A number of countries around the world already have women-only transport. Here's everything you need to know about how segregated travel is going for them:

Brazil

In 2006, Rio de Janeiro introduced women-only carriages on commuter and metro trains. But on the first day, national newspaper [O Globo](#) published an article saying men didn't respect the women-only carriages and were entering them. In [2013](#), they found the same was still happening.

Stations are meant to have guards, but locals say only a few stations do, meaning that the carriage rules often aren't enforced.

They have [also created problems](#) – one woman tried to tell a man to leave the carriage but he became aggressive and had to be restrained. Another woman was reportedly mugged at knife-point in one of the cars in 2009.



Japan



A security man holds a sign that reads "Women Only" in front of a carriage for female passengers only at a metro station in Tokyo

Female-only carriages were [first introduced in Japan in 2000](#), before new year's celebrations, as a way to stop sexual harassment. Eight private train operations and Tokyo's two underground companies launched the carriages, identified by pink "Women Only" stickers printed in Japanese and English.



Any man trying to enter is ushered away by station officials.

The move was widely welcomed, as incidents of groping had trebled in the past eight years, and there was thought to be a severe lack of women reporting sexual harassment. The carriages were also welcomed by men who feared being falsely accused.

Now the carriages are available in Japan's biggest cities – Tokyo and Osaka – and they've become part of

the culture. They are women-only between typical rush hour of 7am and 9am, although apparently this changes depending on the line, and young boys are allowed to use them too.

Mexico

Mexico City introduced metro carriages for women and children [in 2000](#) to a generally positive reception. All trains now reserve the first few cars for women, while the rest of the trains are mixed.

This move later sparked '[pink taxis](#)' – cabs for women complete with a woman driver, alarm button and make-up kit.



Indonesia



Indonesian women on a women-only commuter train in Jakarta

Jakarta introduced [female-only train carriages in 2012](#). The orange and pink-seated carriages were at the front and rear of trains, provided by the state-owned railway operator PT Kereta Api Indonesia (KAI).

But the scheme only lasted for around [seven months before they were scrapped](#).

The problem was that while rush-hour mixed trains were packed, the female-only carriages were largely empty. It meant the company had little choice but to convert them back into mixed spaces to accommodate passengers, in spite of protests.

A spokesperson said they were planning to increase their passenger capacity with more trains, and if they could, they would re-introduce women-only carriages in the future.

Egypt



The [Cairo metro system](#) has carriages on trains for women only, which were introduced in 2007 when Egypt saw the first signs of its sexual harassment problem.

Since then women have had their own carriages, but there are frequent complaints about packed carriages with no room for them to sit down, and men flouting the rules. Vendors love them though – they use them in their attempts to sell women products, such as tissues and hair accessories.



India



A group of male commuters travelling in a women-only carriage on New Delhi's metro system were ordered to do sit-ups on the platform by the furious female passengers. Photo: ALAMY

India has introduced a [number of women-only trains](#) in Delhi, Bombay, Calcutta and Chennai. The brightly-coloured coaches were widely seen as a big hit. When the trains stop, male inspectors guide men away from the carriage doors. If any don't comply, they're forced to pay a fine and can be taken to a police station.

In 2010, a group of angry women took matters into their own hands and forced men using the carriages to [do sit-ups](#) as punishment.

It has even sparked a women-only cab service in Delhi, and inspired the city to hire its [first ever female bus driver](#) in a bid to boost women's safety. It's an issue at the forefront of gender relations in India, following the [gang rape and death of a student on a bus, in New Delhi in 2012](#).

Thailand

Since 2014, the State Railway of Thailand said it would have [women-only carriages for three of Thailand's most important train routes](#).

The women-only carriages are lilac with dark pink curtains, as opposed to the usual light blue, and are there to help women during the day or night. For sleeper cars, they can be particularly useful. They were launched after a [13-year-old girl was raped](#) and murdered on an overnight train last year.

Iran

The Tehran metro subway reserves the last few carriages for women and has done for years. It has become an accepted part of the culture and is spreading to other forms of transport.

In 2006, Iran [launched](#) a gender-segregated bus service in Tehran where women could have their own buses driven by women.

UK

It turns out Corbyn's not the only one to think of women-only transport working in the UK. 'Ladies Only' compartments were first introduced in 1874 by the Metropolitan Railway, though the uptake for these compartments was quite low – the practice soon became to reserve a compartment on request, rather than all the time.



The women-only compartments were officially abolished on BR trains in 1977 - though they may soon be making a comeback. Watch this space.

Can Israel help solve Cape Town's water crisis?

By Rebecca Stadlen Amir

Source: <http://www.homelandsecuritynewswire.com/dr20180208-can-israel-help-solve-cape-town-s-water-crisis>

Feb 08 – Within three months, South Africa's capital city and biggest tourist destination may become the first major city in the world to run out of water.

The four million residents of Cape Town will have their water supplies cut off unless the city manages to reduce daily consumption by 20 percent. The "Day Zero" shutdown is expected for mid-May 2018 and is recalculated every week based on current reservoir capacity and daily consumption.

The crisis is mostly attributed to three years of unprecedented drought that has dried up the city's six-dam reservoir system. If the dams fall below 13.5 percent capacity before the start of the rainy season in June, taps will be turned off and residents will have to line up at municipal points to collect their **allotted 25 liters per day**. This amount is about a quarter of the water used by the average American daily.

As "Day Zero" approaches, it seems the whole world is watching to see what Cape Town does.

In Israel, a country with its own history of water struggles and triumphs, experts are weighing in on how Israeli innovation and mindset may be able to help Cape Town and other water-scarce locations avoid future disasters.

"We
with

are known around the world for being experts in water and having developed the most advanced technologies to cope with water scarcity," says Prof. [Eilon Adar](#), director of Israel's

Zuckerberg Institute for Water Research at Ben Gurion University.

"But it's not necessarily so that these technologies can be adapted as is and save the rest of the world. Every society has its own constraints – social, physical, natural – and the most we can do is to try and adapt the Israeli concept to see which technologies or innovations can be tailored for the local needs."

The road to disaster isn't set in stone

According to Seth Siegel, author of [Let There be Water: Israel's Solution for a Water-Starved World](#), water problems like the one in Cape Town are almost always avoidable.

"These problems tend to come at you pretty slowly; therefore you have lots of lead time to fix the problem or prepare your population," said the New York-based author, activist and businessman. In order to arrive at the point of humanitarian crisis, he says, "you have to have a willful ignoring of your problems."

His book cites factors like population growth, rising affluence, climate change, pollution of water sources, and leaky infrastructure as drivers of the world's imminent water crisis. "The water crisis isn't a 'developing world' problem reserved for international aid organizations operating in faraway locales," he writes.

While many places, like São Paulo, California and Cape Town, have reached crisis points in recent years, Israel serves as a model to show that dwindling supplies of natural water sources and declining rainfall do not always determine a country's destiny.

A desert nation keeps its head above water

From its inception, Israel has had to build its nation without abundant water or energy. Despite its arid climate, fast-growing population, and history of droughts, Israel today experiences a water surplus.

"If there was no other dry place in the world that had mastered this problem, I would say that we're all kind of in a tough situation," says Siegel. "Israel is so successful in its water management that it has enough



water for everybody, it's self-sufficient in fruits and vegetables, which takes a lot of water, and it has so much extra water that it can export water to its neighbors."

Israel's national water grid, established in 1964, gave the country the ability to bring water from a relatively wet place (the north) to a relatively dry place (the south), something that many countries today still do not do. The grid now integrates surface water, groundwater and desalinated water into the same pipeline, which Adar says is unique to Israel. This infrastructure has helped Israel withstand drought and expand into desert areas once thought uninhabitable.

Yossi Yaacoby, director of WaTech innovation center for [Mekorot](#), Israel's national water-management consortium, agrees that Israel's dynamic planning capabilities have helped to secure Israel's water future.

There is not one single solution for the water problem, he explained, but rather multiple layers of solutions and policies that work together. "If you rely on natural water sources without any storage capability, without investing, and without understanding that water has a price, you will not achieve any target of water supply. And this is the main problem," he said.

An "all in" approach

Israel's use of innovative irrigation, desalination, wastewater recycling and reuse, and leak-detection technology has been credited with helping the country become a water superpower. It is the extent to which these innovations have been implemented that sets Israel apart, rather than the technology itself.

For example, drip irrigation is the norm in Israel, where the landscape consists of 60 percent desert. First developed in 1959 by Israeli inventor Simcha Blass, the method has been proven to save water, enhance yields and reduce energy consumption. Today it supplies 75 percent of irrigated agricultural fields in Israel with water. In comparison, only 5 percent of the irrigated fields around the world utilize drip-irrigation technologies. Many countries, including the United States, still rely on wasteful flood-irrigation methods.

When it comes to wastewater treatment, Israel's recycled wastewater ratio is four times higher than in any other country in the world, with 85 percent of the treated water available for

agricultural uses. Currently the United States recycles about 9 percent of its wastewater. Yaacoby says that a target average of even 20 percent reclaimed wastewater in the US would be a real revolution.

Israel has also invested heavily in desalination plants on the Mediterranean shore. There are currently six plants, two of which are the largest in the world, producing nearly 500 million gallons of freshwater from salt water every day. Desalination has allowed Israel to get ahead of droughts and provide a substantial supplement to the water supply, creating more water for agriculture, replenishing its natural water sources, and supplying water to its Palestinian and Jordanian neighbors.

"The global water crisis is unlikely to be solved without widespread use of desalinated water," writes Siegel. "Even water-rich locations like New York City may decide to build a desalination plant as a backup for security or environmental reasons."

Two desalination plants are being built in Cape Town, each expected to provide 7 million liters of water per day. However, experts say it is unlikely that residents will see water from these plants before "Day Zero."

"Cape Town started designing or planning for this two and a half years ago, and now they are still in the middle of construction. It's too slow and too late," said Adar, who traveled to South Africa in 2016 to take part in a series of water-focused events organized by the Israeli embassy.

Although seawater desalination comes with a relatively high price tag, Adar reminds that paying more for water is better than having no water at all.

"For countries considering investing in the infrastructure, it has to be assessed with reference to a critical value of water," he says. "This is the cost to produce alternative water when you don't have enough. And it's a matter of willingness to pay."

Changing attitudes toward water

Technology aside, one of the most unique aspects of Israel's approach to water is its understanding of water as a commodity.





Unlike in the US, where water is a personal property right, a series of laws passed in the mid-1950s made water ownership in Israel public. This gave the government the power to manage, regulate, price and allocate water in accordance with the best needs of the country.

"Around the world, the price of water is nearly universally subsidized," explains Siegel. "What we know from basic economics is that when people get things for free or at a discounted price, they don't value it the same way."

By charging the real price of water, Israel has gained a nationwide interest in saving water and a culture that values every drop.

"Somehow, although it is a natural resource, we have all agreed to put a price tag on oil and gas, which means that we refer to it as a commodity," says Adar. "However almost no one in the world but Israel treats water as a commodity as well."

Adar places equal importance on education.

"Without any doubt, education is the key," he says. "If you take an eight-year-old boy or girl and begin to educate them on conservation, in five or six years' time they are teenagers and in ten years they are adults." Cultural attitudes towards water can change, but it may take at least a generation.

Creating a global impact

Currently more than 150 countries actively use Israeli solutions – whether technology, training,

or technical assistance – to help address their water problems. Despite offers of assistance years ago and more recently by Israeli Ambassador to South Africa Lior Keinan, there has been no formal engagement between Israel and South Africa regarding the looming water crisis.

However, the South Africa-based Legacy Water Solutions management consulting company is actively considering various Israeli companies with which to partner.

"We attended WATEC in September 2017, where we had an opportunity to attend the sessions and visit the expos. We also had a delegation to Israel in March 2017 where we visited Ben-Gurion University in the Negev, where Prof Adar hosted us. He exposed us to many Israeli products and technologies," Michelle Harding, Legacy Water Solutions managing director, tells *ISRAEL21c*.

As Siegel notes, not everything Israel has done in terms of water conservation and management will be relevant everywhere or to everyone. There will always be differences in topography, rain patterns, natural water resources, government priorities and spending, but every country has something to learn from some part of what Israel has done.

"If nothing else, Israel's focus on water and its priority in the national consciousness can be an



inspiration to leaders and engaged citizens everywhere regardless of geography or affluence," he writes.

Though numerous seasons of above-average rainfall will be necessary for Cape Town's water supply to return to normal levels, South Africa and other countries can take steps now to get ahead of future disasters.

"Every country should think about how all of their plans and infrastructure can be resilient in extreme conditions," says Yaacoby. "It's very important that we share ideas between countries in order to be ready for any disaster." Yaacoby hopes that soon Israel will be able to offer the world even more water, particularly in times of natural disaster.

"Whenever there is a crisis in the world, we are sending an airplane from the Israeli army with all of the equipment in order to save lives," he says.

"We are now thinking that another airplane should arrive with water solutions in order to help the people in those places to get fresh water and sanitation. It should be part of our mission."

While it would have been great if everyone had started planning for a water-scarce future ahead of time, Siegel says it's not too late to begin now.

"There's a vicious cycle for those countries that fail to develop their water supply, but there's also a virtuous circle for those who do," he says.

"People who focus on good water will have far better outcomes."

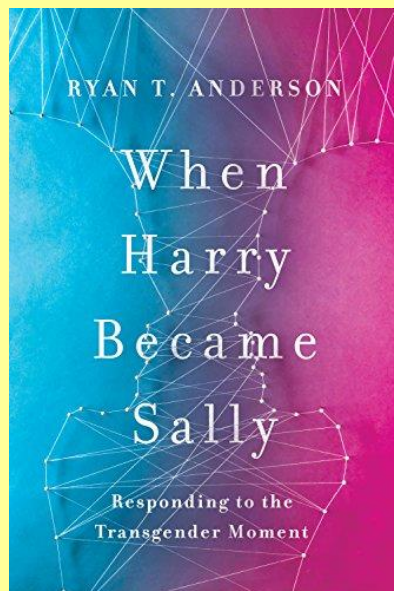
Rebecca Stadlen Amir is writer at Israel21c.

The Book Against Transgender Extremism

By L. Brent Bozell III and Tim Graham

Source: <https://townhall.com/columnists/brentbozell/2018/02/09/the-book-against-transgender-extremism-n2446463>

Feb 06 – When secular leftists express frustration at how practicing Catholics (their humble servants) and evangelicals could have ever voted for Donald Trump, the first thing they refuse to concede is the horror of the alternative.



They refuse to admit that Hillary Clinton clearly, forthrightly stood for abortion on demand, at any time, for any reason and even supported having it funded by pro-life taxpayers. It's what she and her husband called "safe, legal and rare." Clinton and her crew even dismissed the videotaped discussion of Planned Parenthood's dead-baby-organ-selling grotesqueries as somehow fictional. And they refuse to admit that Clinton represented the creeping extremism of the LGBT movement, with its emphasis on redesigning all the nation's bathrooms, not to mention human nature.

Dr. Ryan Anderson of The Heritage Foundation has a new book called **"When Harry Became Sally: Responding to the Transgender Moment."** He explains that you can see the swift descent into the denial of reality by reviewing tracts of the Human Rights Campaign. In 2005, it declared that transgender people "identify" as something that "does not match their physical sex." And with that the bottom fell open.

By now, the HRC (not to be confused with Hillary Rodham Clinton, though HRC is HRC's best spokesperson) expresses an intolerance for the idea that we should speak of "real" or "biological" men and women. Its website says: "Contrasting transgender people with 'real' or 'biological' men and women is a false comparison. They are real men and women, and doing so contributes to the inaccurate perception that transgender people are being deceptive when, in fact, they are being authentic and courageous."

There is so much Orwell packed into that last sentence. Hiding your penis or your breasts is not "deceptive" -- it's "authentic"? Christians see all this as pretzeled logic. You simply cannot



deny the reality of the Creator's design without going into tortured explanations like that. There's an easier out, of course. Just deny His existence -- and it all falls into place. So they become their own God and redefine humanity according to their own whims. Those whims then become "authentic."

The denial of gender reality frightens people -- yes, even many liberals -- and it should. Anderson said in a Weekly Standard interview that his liberal friends are suggesting the transgender activists are walking into a backlash because their deconstructionist agenda is just ... that.

One friend pointed out a viral video "in which someone who describes herself as a an 'intersectional feminist,' a 'queer girl,' etc., declared that having 'genital preferences' is transphobic, and that 'preferences for women with vaginas over women with penises might be partially informed by the influence of a cissexist society.'"

We don't really know what that means. Anderson added, "this was not satire."

His liberal friend objected to being called transphobic because he only dates biological women. The folks who fought for "sexual freedom" now say you can't have "genital preferences"? You can't just *tolerate* transgender individuals; you must *date* them? Lecturing lesbians and saying they're bigots if they don't want "women with penises" doesn't exactly bode well for keeping the LGBT together.

Anderson's book is dismissed as "hate speech," and let's not kid ourselves: The LGBT folks would like to ban a book like this, especially when he discusses that which they wish were silenced. **He writes that 41 percent of people who identify as transgender attempt suicide. Death by suicide is 19 times more likely to happen for people who have had the "joy" of transition surgery.** They have gender dysphoria, and Christians should respond with compassion.

But the LGBT crowd sees it otherwise. It defines compassion as meeting all of its demands, including requiring every insurer to pay for gender-confirmation surgery and every Catholic hospital to perform it. Worse yet, it demands its ideology be taught to children, confusing and scaring millions of them about the simplest undeniable facts about who they are.

That's a strong reason for the churchgoing conservatives to look past Trump's "Access Hollywood" braggadocio and affairs from before he became a politician and vote against the extremism -- the evil extremism -- that Hillary Clinton endorsed.

L. Brent Bozell III is the president of the Media Research Center.

Tim Graham is director of media analysis at the Media Research Center and executive editor of the blog NewsBusters.org.

What challenges does Sweden face after a rise in immigration?

Source: weartv.com/news/local/inside-your-world

Feb 12 – In February 2017 at a rally in Melbourne, Fla., President Donald Trump singled out Sweden a place with problems. "You look at what's happening in Germany, you look at what's happening last night in Sweden. Sweden, who would believe this?" he asked. The President later clarified his comments, pointing to a report he had seen about some of the issues facing the country of 10 million people after an influx of asylum applications into the country.

The problems Trump referenced originated in Syria and Iraq with the war against ISIS.

Extremists were the primary target, but millions were caught in the middle and forced to flee their country.

According to the UN refugee agency, more than 5 million people sought refuge outside Syria.

Many spread across Europe.

Three-thousand miles away - more than a quarter million over a two-year period applied for asylum in Sweden.

The past few years also saw an uptick in violence, according to statistics provided by the Swedish government.

Murders, assaults, and rapes increased.

In Malmö, police were actively investigating four reported gang rapes since November 2017.

Glen Sjögren, who has patrolled the streets of Malmö for 41 years said he's seen things change dramatically, particularly among the youth.



"Drugs, weapons, gangs... that's the main problem," he said.

While the Swedish government provides housing, healthcare, schooling, and welfare to people, some argue that's not enough, because immigrants are finding it difficult to assimilate to the Swedish culture.

"We have to integrate them into our society in a better way than we do right now," Sjögren explained.

He feels that Sweden's laws aren't up to date to handle the influx of people who came into the country.

Niklas Orrenius, a journalist who has written five books - one of which focuses on Islamic extremism - says he doesn't believe in the narrative that the refugees fleeing Syria and other countries are contributing to the rise in violence.

"I wouldn't say that most of them bring the same conflict with them because most of them just want to be living in peace with their families, that's why they came," he said.

"I just know some of them are still harboring extremist views."

Orrenius said radical Islamists are a real problem in his country, as some see it as a place to hide in plain sight.

"Sweden has had 300 young men and women go to Iraq and Syria to join terrorist organizations, that is a very high number."

Journalists here, he said, didn't keep up.

"For many years my colleagues, journalists didn't do their job, and also politicians.

They didn't really see that this was a really big problem in Sweden. With terrorist supporters and some mosques being breeding grounds for them."

But some Swedes who spoke to In Your World said the increase of refugees and crime simultaneously is not a problem - but instead a story that is getting blown out of proportion by the media, and Trump.

Here's a look at some of the violence that took place while we were in Stockholm: Just before arriving, a man was killed after picking up an explosive device left outside a train station on a Sunday afternoon in Stockholm. Hours after visiting a suburb, Rinkeby, a young man died after he was shot in the head at a pizza shop Monday evening.



Islamist invaded conservatory in Crete Island

Source: Greek blogs

Feb 17 – An unprecedented and worrying incident took place in Crete and more specifically in Rethymno when an Islamist entered the Conservatory of Rethymno, crying out: "Here is a mosque - Let the unbelieving Greek children go!"

The officer called the police, but before he came in, the Muslim himself went back to the Conservatory Hall with a second man reiterating that the site is for Muslim prayers.





Shortly afterwards, the Police arrived and took them out of the area, ending the episode for this time. But the students who were witnesses to the incident were alarmed and so did their parents.

The Square of Asia Minor where the conservatory is located has been deserted by locals and during the day is full of groups of Muslims who either shout or play ball or use it as an alibi to be into direct contact with the Conservatory building.

EDITOR'S COMMENT: The problem is not the two islamists that stormed the conservatory. The problem is that police just escorted them outside the building. The problem is that no charges will be applied. The problem is that these two instead of being deported are still living amongsts us!

Brazil: Army takes control of Rio security in bid to squash gang violence

Source: <http://www.dw.com/en/brazil-army-takes-control-of-rio-security-in-bid-to-squash-gang-violence/a-42622360?maca=en-rss-en-world-4025-xml-atom>



Feb 17 – Brazil's military has taken full control of security in Rio de Janeiro and the surrounding state in an effort to fight gang violence. The move comes after the Defense Ministry said security in the city was "broken."



President Michel Temer has signed a decree giving the military control of security in Rio de Janeiro in response to [spiraling drug gang violence](#).

The military already supports police in favelas, large slums overrun by drug gangs. It had previously helped provide security during the 2014 World Cup and 2016 Summer Olympics.

But the decree, which went into effect immediately, hands the military power over all police operations in Rio state. It must be approved by both chambers of Congress within 10 days.

"Organized crime nearly took over in the state of Rio de Janeiro. This is a metastasis that is spreading in our country and it threatens our people. That's why we decided on the intervention," Temer said at the presidential palace in Brasilia on Friday. "Our administration will give a tough, firm answer."

The military mission will last until the end of the year.

Broken security

The dramatic decision in a country that was ruled by a military dictatorship from 1964-1985, comes after Defense Minister Raul Jungmann said last month that "the security system is broken."

Military units already support police in patrols in Rio slums



On Friday, he said the decree will put in place "a more robust, better

coordinated security system, with a better intelligence service." It would not impact the country's democracy, he said.

Highlighting the dire state of security in Rio, [Carnival in recent years was marked by violence and muggings](#).

"The total confusion and lack of coordination of the security forces during the Carnival" prompted Temer's decree, David Fleischer, professor of political science at the University of Brasilia, told the Agence France-Presse.

Arthur Trindade, a university professor and former security secretary for Brasilia, told AFP the decree is also aimed at cleaning up a corrupt police force.

Other motives

Former National Security Secretary Jose Vicente da Silva told The Associated Press that the military invention would help, but not totally end systemic drug gang violence.

"Rio state can't solve this any time soon and the military could be effective in keeping some smaller groups that have operated lately off of the streets," da Silva said.

Analysts say the move is also an attempt to distract from Temer's single-digit poll numbers and failure to advance pension reform ahead of a general election scheduled for October.

The military intervention also raises questions over accountability. If soldiers commit crimes during patrols, they will not be tried by civilian courts. It is the first time the military has taken control of a state's security since the return to democracy in 1985.



EDITOR'S COMMENT: Just two years after the Olympic Games. It seems that the well advertised safety and security was just a bubble! And then one wonders: what are the criteria for assigning the Olympic Games to a given country? Apart from money and profit of course.

Why the U.S.-Israel Honeymoon May Not Last Much Longer

by Daniel Pipes

Source: <http://www.meforum.org/7203/>

Feb 05 – President [Trump](#) has taken two unprecedented steps highly favorable to [Israel](#): recognizing [Jerusalem](#) as its capital and cutting funds to the United Nations Relief and Works Agency (UNRWA), an organization ultimately devoted to eliminating the Jewish state. These long-overdue actions break antique logjams dating back nearly 70 years and offer fresh opportunities to resolve the Palestinian-Israeli conflict. Bravo to [Mr. Trump](#) for enduring the slings and arrows of conventional thinking to take and then stick with these courageous steps.

However, there's a problem. Both moves were undertaken for what appear to be the wrong reasons. This is not an abstract worry but implies that today's celebration could turn into tomorrow's fiasco.

First problem for [Israel](#):

[Mr. Trump](#) says he recognized [Jerusalem](#) as [Israel](#)'s capital to settle the [Jerusalem](#) issue. Listen to him ruminate on this: "The hardest subject [Israeli and Palestinian negotiators] had to talk about was [Jerusalem](#). We took [Jerusalem](#) off the table, so we don't have to talk about it anymore. They never got past [Jerusalem](#)."

This suggests [Mr. Trump](#) thinks recognition solved the knotty [Jerusalem](#) issue, as though this were a New York real-estate transaction and he made a side-deal about zoning regulations or union representation. But it's not. Far from being "off the table," [Mr. Trump](#)'s action made Jerusalem an unprecedented center of attention and contention.

For example, members of the Organization of Islamic Cooperation overwhelmingly condemned his step, as did members of both the U.N. Security Council and the General Assembly. In addition, recognition caused Palestinian violence against Israelis to triple.

Thus, [Mr. Trump](#) made [Jerusalem](#) a more disputed issue than it had been previously. How will [Trump](#) react when he eventually realizes that [Jerusalem](#) remains very much "on the table" and that his grand gesture had the opposite effect from what he intended? My prediction: with a frustration and fury that could sour him on the [Jerusalem](#) recognition and on [Israel](#); it could even prompt this temperamental and spontaneous figure to rescind the recognition.

Second problem: [Mr. Trump](#) intends to exact an unspecified price from [Israel](#) for the

recognition, stating "[Israel](#) will pay for that" and it "would have had to pay more." For the moment, with the Palestinian Authority (PA) boycotting American mediation and personally insulting [Mr. Trump](#), that price is in abeyance. But the American door is

permanently open to Palestinians and when they wise up, some fabulous gift awaits them in the White House. (This dynamic of extracting quid pro quos from [Israel](#) explains why I generally prefer low-simmering tensions between Washington and Jerusalem.) Third problem: [Mr. Trump](#) did not withhold \$65 million from UNRWA out of a scheduled \$125 million tranche to punish an execrable organization for its record since 1949 of inciting Palestinians against [Israel](#), encouraging violence against Jews, engaging in corruption, and expanding (rather than reducing) the refugee population. Rather, he withheld the money to pressure the PA to restart negotiations with [Israel](#). As [Mr. Trump](#) tweeted: "with the Palestinians no longer willing to talk peace, why should we make any of these massive future payments to them?"

So, once PA leader Mahmoud Abbas gets over his extended snit



about [Jerusalem](#) and agrees to "talk peace," he has a bevy of benefits awaiting him: the possible reversal of [Jerusalem](#) recognition, some fabulous reward, and the resumption of full, maybe even expanded, U.S. funding. At that point, the pope, the chancellor, the crown prince, and The New York Times will congratulate a glowing [Trump](#); and [Israel](#) will find itself coldly thrust out of favor.

Mr. Abbas has already slightly edged back from his histrionics, which are anyway for domestic consumption, showing a radicalized Palestinian body politic that he is just as tough, nasty and delusional as his Hamas rivals. Of course, he well knows that the United States of America is

the one and only power that can pressure [Israel](#) to make concessions. So, after a decent interval, Mr. Abbas inexorably will mumble apologies, lavish praise on [Mr. Trump](#), fire up the Palestinians' horde of proxies, "talk peace" with [Israel](#), and worm his way into the administration's good graces.

When that happens, the current U.S.-[Israel](#) honeymoon will likely crash and burn, replaced by the usual bickering, where Americans want Israelis to "take chances for peace" and "make painful concessions," and they resist those pressures.

I've been wrong many times about [Mr. Trump](#) in the past. I hope I am wrong this time too.

Daniel Pipes is president of the Middle East Forum.

Turkey Threatens to Invade Greece

By Uzay Bulut

Source: <https://www.gatestoneinstitute.org/11907/turkey-greece-invasion>

Feb 19 – Turkey's ruling party, and even much of the opposition, seem intent on, if not obsessed with, invading and conquering these Greek islands, on the grounds that they are actually Turkish territory.

- "The things we have done so far [pale in comparison to the] even greater attempts and attacks [we are planning for] the coming days, *inshallah* [Allah willing]." – Turkish President Recep Tayyip Erdoğan, February 12, 2018.
- The head of the state-funded Directorate of Religious Affairs, the *Diyanet*, has openly described Turkey's recent military invasion of Afrin as "jihad." This designation makes sense when one considers that Muslim Turks owe their demographic majority in Asia Minor to centuries of Turkish persecution and discrimination against the Christian, Yazidi and Jewish inhabitants of the area.

In an incident that took place less than two weeks after the Greek Defense Ministry [announced](#) that Turkey had violated Greek airspace 138 times in a single day, a Turkish coast guard patrol boat on February 13 [rammed a Greek coast guard vessel](#) off the shore of Imia, one of many Greek islands over which Turkey claims sovereignty.

Most of the areas within modern Greece's current borders were under the [occupation of the Ottoman Empire](#) from the mid-15th century until the Greek War of Independence in 1821 and the establishment of the modern Greek state in 1832. The islands, however, like the rest of Greece, are legally and historically Greek, as their names indicate.

Turkey's ruling Justice and Development Party (AKP), however, and even much of the opposition seem intent on, if not obsessed with, invading and conquering these Greek islands, on the grounds that they are actually Turkish territory.

In December, for instance, Kemal Kılıçdaroğlu, the leader of the main Turkish opposition CHP party, [stated](#) that when he wins the election in 2019, he will "invade and take over 18 Greek islands in the Aegean Sea, just as former Turkish PM Bulent Ecevit invaded Cyprus in 1974." He said that there is "no document" proving that those islands belong to Greece.

Meral Akşener, the head of the newly established opposition "Good Party," has also called for an invasion and conquest of the islands. "What is required must be done," [she tweeted](#) on January 13.

The most garish muscle-flexing has come from Turkish President Recep Tayyip Erdoğan, of course, who seems emboldened by his [military invasion of the Afrin region](#) in northern Syria having gone virtually unchallenged.



"We warn those who have crossed the line in the Aegean and Cyprus," [Erdoğan declared](#), continuing: "Their courage persists only until they see our army, our ships and our planes... Whatever Afrin is to us, our rights in the Aegean and Cyprus are the same. Do not ever think that the natural gas exploration in the waters of Cyprus and the opportunistic attempts in the Aegean Sea drop off our radar.

"Just as we disrupt the plots [in the region] through Operation Euphrates Shield and Operation Olive Branch [on Syria], and soon in Manbij and other regions, we can and we will disrupt the plots of those who engage in miscalculations on our southern border... Our warships and air forces are keeping an eye on the area closely to intervene in every way when required."

Referring to the days of the Ottoman Empire, [Erdoğan went on](#):

"Those who think that we have erased from our hearts the lands from which we withdrew in tears a hundred years ago are wrong.



"We say at every opportunity we have that Syria, Iraq and other places in the geography [map] in our hearts are no different from our own homeland. We are struggling so that a foreign flag will not be waved anywhere where adhan [Islamic call to prayer in mosques] is recited.

"The things we have done so far [pale in comparison to the] even greater attempts and attacks [we are planning for] the coming days, inshallah [Allah willing]."

The [Ottoman dynasty](#) and empire was established by a nomadic Turkmen chief sometime around the year 1300. During the more than 600 years of the Ottoman period, the Ottoman Turks, who also represented the Islamic Caliphate, regularly launched wars of jihad, invading and occupying lands across three continents.

[Neo-Ottomanists](#) in Turkey still proudly embrace the concept of jihad (Islamic holy war) against the kafirs (infidels). The head of the state-funded Directorate of Religious Affairs, the *Diyanet*, has openly [described](#) Turkey's recent military invasion of Afrin as "jihad."

This designation makes sense when one considers that Muslim Turks owe their [demographic majority in Asia Minor](#) to centuries of Turkish Muslim persecution and discrimination against the Christian, Yazidi and Jewish inhabitants of the area. In the 11th century, Turkic jihadists from Central Asia invaded and conquered the Greek-speaking, Christian Byzantine Empire, paving the way for the gradual Turkification and Islamization of the region through methods such as murder, kidnapping, rape and forced conversions. The greatest 20th century Turkish assault against Christians took place in the [1914-1923 genocide](#) of Greeks, Armenians and Assyrians (Syriacs/Chaldeans) in Ottoman Turkey. This did not prevent Turkey, which continues to deny the genocide, from becoming a member of NATO in 1952. The assault also did not stop Turkey, three years after joining NATO, from committing [a savage anti-Greek pogrom](#) in Istanbul or from [forcibly expelling](#) the remaining Greeks from Turkey in 1964.

It is precisely because the Turks have never been held accountable for their criminal actions and aggression that they continue to threaten the security and sovereignty of their neighbors. It is high time for the [West wake up](#) and take Ankara to task.

Uzay Bulut is a Turkish journalist born and raised in Turkey. She is presently based in Washington D.C.

EDITOR'S COMMENT: We belong to the West! (Ha!) We belong to NATO! (Ha!) We belong to the European Union! (Ha!) In fact we were always alone (bad politicians), but in difficult times we know how to respond like a fist and die for the country, our religion, and our families. Although was is bad, it



might be a good opportunity for Greece and Greeks to turn a page and start over again with a new vision. A slap in the face might be an acceptable alternative if we still concern about the future of the generations to come.

Meet the new “renewable superpowers”: nations that boss the materials used for wind and solar

By Andrew Barron

Source: <http://www.homelandsecuritynewswire.com/dr20180220-meet-the-new-renewable-super-powers-nations-that-boss-the-materials-used-for-wind-and-solar>



Feb 20 – Imagine a world where every country has not only complied with the Paris climate agreement but has moved away from fossil fuels entirely. How would such a change affect global politics?

The twentieth century was dominated by coal, oil and natural gas, but a shift to zero-emission energy generation and transport means a new set of elements will become key. Solar energy, for instance, still primarily uses silicon technology, for which the major raw material is the rock quartzite. Lithium represents the key limiting resource for most batteries – while [rare earth metals](#), in particular “lanthanides” such as neodymium, are required for the magnets in wind turbine generators. Copper is the conductor of choice for wind power, being used in the generator windings, power cables, transformers and inverters.

In considering this future it is necessary to understand who wins and loses by a switch from carbon to silicon, copper, lithium, and rare earth metals.

Fossil fuels: largest reserves by country

The countries which dominate the production of fossil fuels will mostly be familiar:

Oil (billion barrels)

- Venezuela – 301
- Saudi Arabia – 267
- Canada – 172
- Iran – 158
- Iraq — 153

Coal (billion tons)

- U.S.– 252
- China – 244
- Russia – 160
- Australia – 145
- India — 95



Gas (trillion cubic meters)

- Iran – 34
- Russia – 32
- Qatar – 24
- Turkmenistan – 18
- U.S. – 9

Source: [BP Statistical Review of World Energy](#),
June 2017

The list of countries that would become the new “renewables superpowers” contains some familiar names, but also a few wild cards. The largest reserves of quartzite (for silicon production) are found in China, the United States, and Russia – but also [Brazil and Norway](#). The United States and China are also major [sources of copper](#), although their reserves are decreasing, which has pushed Chile, Peru, Congo and Indonesia to the fore.

Chile also has, by far, the [largest reserves of lithium](#), ahead of China, Argentina and Australia. Factoring in lower-grade “resources” – which can’t yet be extracted – bumps Bolivia and the United States onto the list. Finally, [rare earth resources](#) are greatest in China, Russia, Brazil – and Vietnam.



Of all the fossil fuel producing countries, it is the United States, China, Russia and Canada that could most easily transition to green energy resources. In fact it is ironic that the United States, perhaps the country most politically resistant to change, might be the least affected as far as raw materials are concerned. But it is important to note that a completely new set of countries will also find their natural resources are in high demand.

An OPEC for renewables?

The Organization of the Petroleum Exporting Countries (OPEC) is a group of 14 nations that together contain almost half the world’s oil production and most of its reserves. It is possible that a related group could be created for the major producers of renewable energy raw materials, shifting power away from the Middle East and towards central Africa and, especially, South America.

This is unlikely to happen peacefully. Control of oilfields was a driver behind many 20th-century conflicts and, going back further, European colonization was driven by a desire for new sources of food, raw materials, minerals and – later – oil. The switch to renewable energy may cause something similar. As a new group of elements become valuable for turbines, solar panels or batteries, rich countries may ensure they have secure supplies through a new era of colonization.

China has already started what may be termed “[economic colonization](#)”, setting up major trade agreements to ensure raw material supply. In the past decade it has made a massive investment in [African mining](#), while more recent agreements with countries such as [Peru](#) and [Chile](#) have spread Beijing’s economic influence in South America.

Or a new era of colonization?

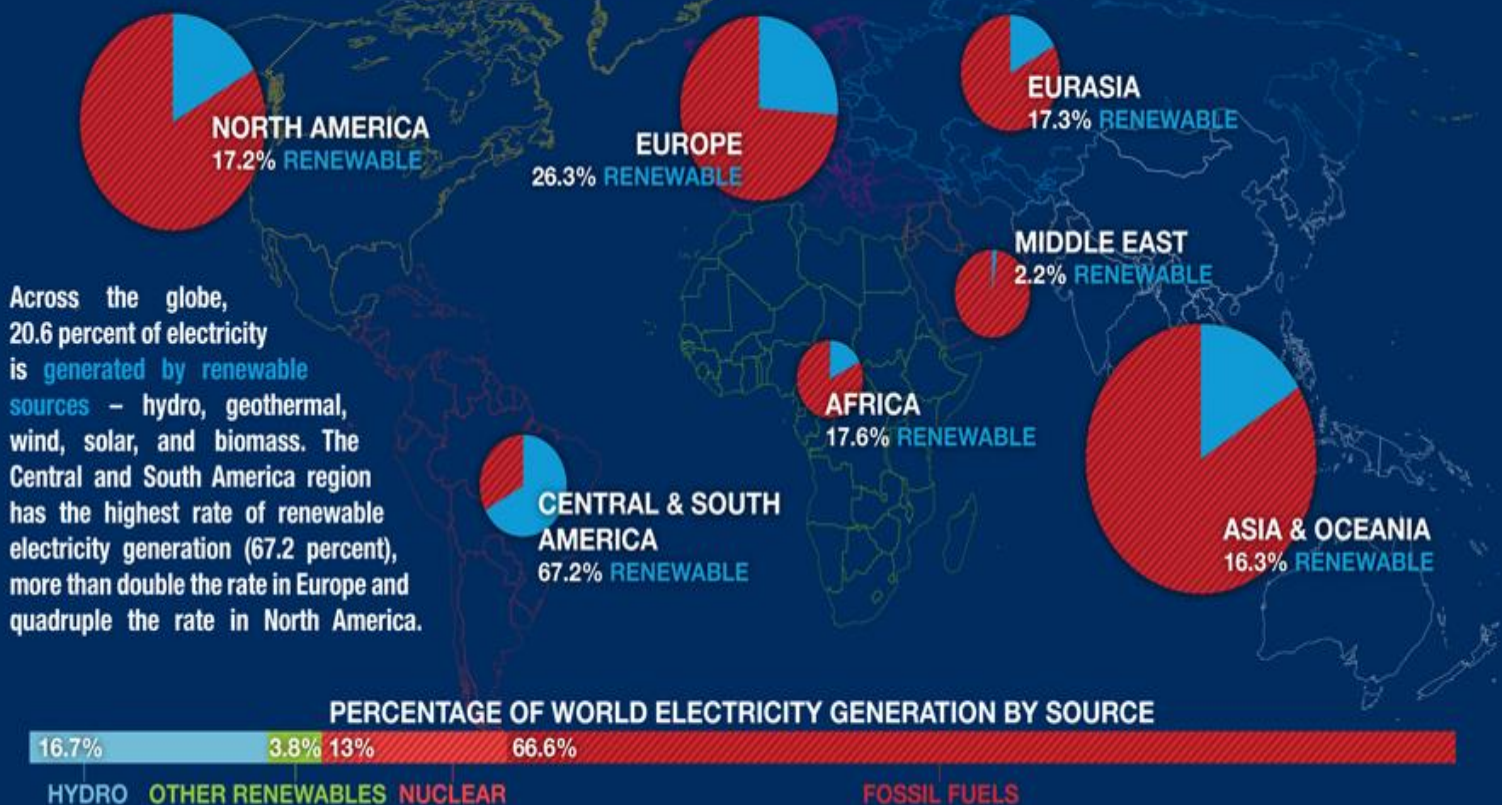
Given this background, two versions of the future can be envisaged. The first possibility is the evolution of a new OPEC-style organization with the power to control vital resources including silicon, copper, lithium, and lanthanides. The second possibility involves twenty-first-century colonization of developing countries, creating super-economies. In both futures



there is the possibility that rival nations could cut off access to vital renewable energy resources, just as major [oil](#) and [gas](#) producers have done in the past.

On the positive side there is a significant difference between fossil fuels and the chemical elements needed for green energy. Oil and gas are consumable commodities. Once a natural gas power station is built, it must have a continuous supply of gas or it stops generating. Similarly, petrol-powered cars require

RENEWABLE ENERGY AROUND THE WORLD



a continued supply of crude oil to keep running.

In contrast, once a wind farm is built, electricity generation is only dependent on the wind (which won't stop blowing any time soon) and there is no continuous need for neodymium for the magnets or copper for the generator windings. In other words solar, wind, and wave power require a one-off purchase in order to ensure long-term secure energy generation.

The shorter lifetime of cars and electronic devices means that there is an ongoing demand for lithium. Improved recycling processes would potentially overcome this continued need. Thus, once the infrastructure is in place access to coal, oil or gas can be denied, but you can't shut off the sun or wind. It is on this basis that the U.S. Department of Defense sees green energy as [key to national security](#).

A country that creates green energy infrastructure, before political and economic control shifts to a new group of "world powers," will ensure it is less susceptible to future influence or to being held hostage by a lithium or copper giant. But late adopters will find their strategy comes at a high price. Finally, it will be important for countries with resources not to sell themselves cheaply to the first bidder in the hope of making quick money – because, as the major oil producers will find out over the next decades, nothing lasts forever.

Andrew Barron is Sér Cymru Chair of Low Carbon Energy and Environment, Swansea University.



4 Toxic Leadership Phrases You Probably Say Daily

Source: <https://www.inc.com/heather-r-huhman/4-toxic-leadership-phrases-you-probably-say-daily.html>

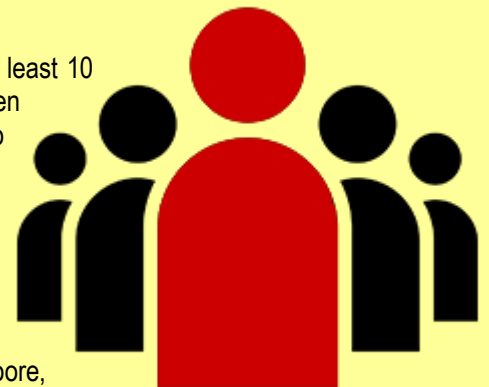
As leaders, our [language](#) defines us. Literally.

In a new [report](#), the behavioral analytics platform Mattersight analyzed at least 10 minutes of [public speaking engagements](#) from well-known leaders. They then used the linguistic-based Process Communication Model -- or PCM -- to determine the personalities of these [successful leaders](#).

While PCM identifies six different personalities, the most popular is the connector. According to the report, 30 percent of people, including former Yahoo CEO Marissa Mayer, naturally focus on relationships between people.

"Connectors are hardwired to view the world through a lens of feelings, emotional states, and people," chief people officer of Mattersight, Melissa Moore, said.

Some of the most common words and phrases these leaders use are 'the best,' 'feeling,' and 'very kind.' They're focused on the human side of the workforce -- a trend that's becoming more popular in leadership. In communication, however, what we don't say can be just as important as what we do say. For leaders trying to be more people-focused, there are some words and phrases to avoid:



1. 'I'

'I need that report.' 'I expected more.' 'I think this is our best option.'

When a leader constantly uses 'I,' they direct the focus and need on them. As Stacey Hanke, the author of [Influence Redefined](#), points out, this creates the sense that the leader is having a conversation with him or herself, not the team.

People-focused leaders are inclusive. Use words like 'we' and 'the team' to show everyone that they're an important part of the organization. Instead of feeling like they're working to make you happy, they'll see they're contributing to the company and its goals.

2. 'Try'

As Yoda once said, "Do or do not. There is no try." The word is noncommittal and implies doubt. When a leader says, 'Try to get me that report by Friday,' they are showing a lack of confidence in the employee's abilities. This can make people feel unappreciated.

As Art Barter, the CEO of training resource center Servant Leadership Institute, explained, the word is just as bad when a leader uses it to refer to their own actions.

"Try is a word that provides an excuse for leaders not to do what they said they would do," he said.

When a leader says, 'I'll try to fit you into my schedule,' they're already signaling that it won't happen. While this can assuage a leader's guilt, it shows employees that they aren't valued.

A better option is 'let's.' Employees at my company, Come Recommended, work remotely. Especially in this type of environment, it's crucial I communicate with my team in absolutes to show them they're valued. For example, when an employee asks to speak with me, I let them know where I'm at in my day and acknowledge their time by saying, "Let's find a time this afternoon."

This creates a sense of collaboration. No matter what happens, even if we can't chat until the next day, both my employee and I were part of the process.

3. 'You always' or 'You never'

Speaking in absolutes pigeonholes employees. It ignores their complexity as humans. And often, it puts people on the defensive.

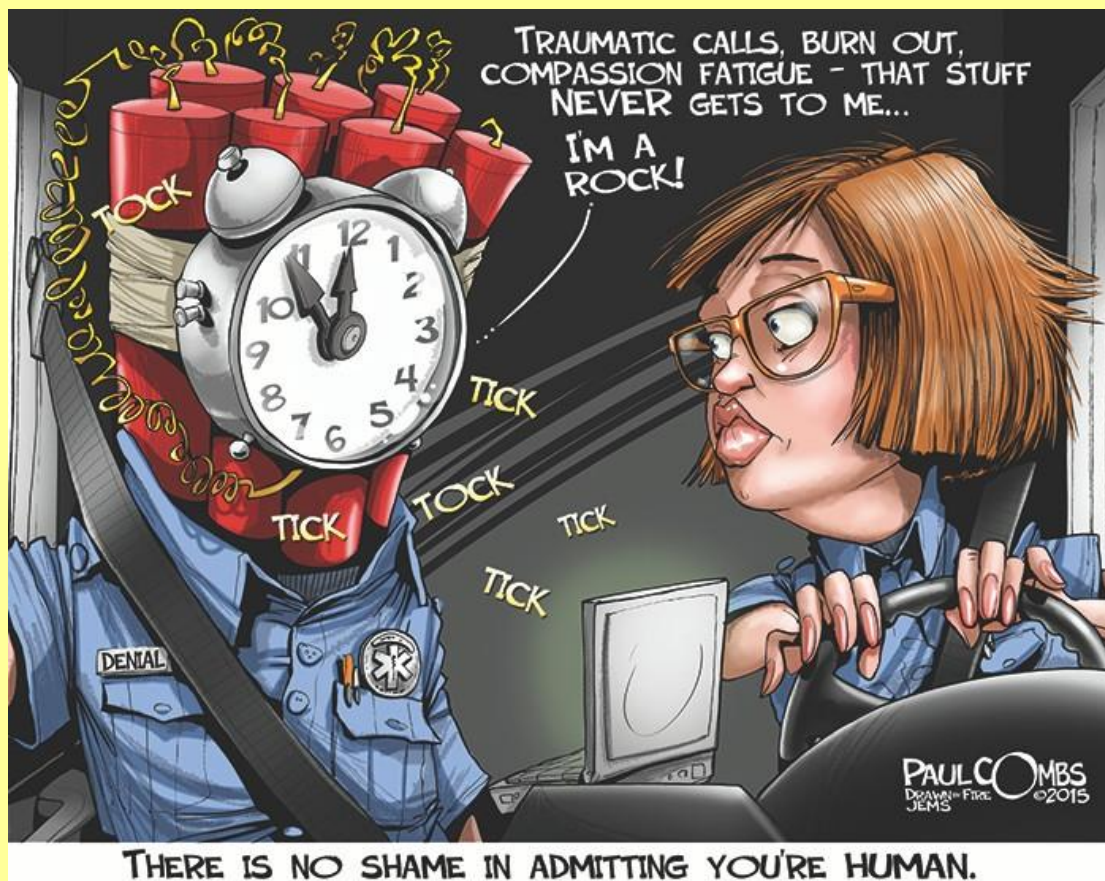
"Even though people sometimes repeat a behavior I would prefer to avoid, I absolutely know that language will not help," said Mike Wagner, the CEO of the small freight shipping company Target Freight Management.

When used positively, these phrases are still damaging. 'You always do great work' might seem like a compliment, but it puts unnecessary pressure on employees. They become worried that if they make a mistake, they'll no longer be seen as valuable.



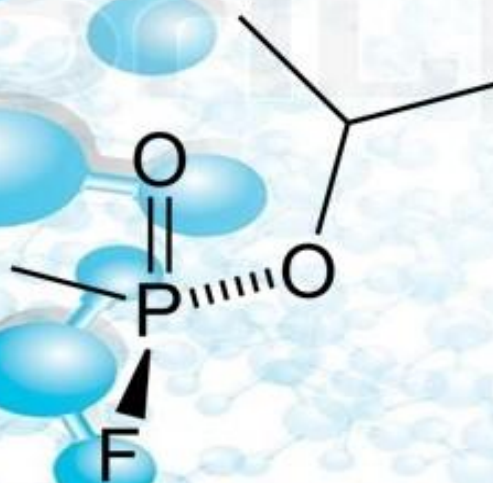
4. 'Everything is perfect.'

I trust that my team is not only strong enough to handle tough situations, but also can work alongside me to problem-solve and find solutions.





Chem News



Army animal docs train for chemical first response

Source: http://www.forthoodsentinel.com/news/army-animal-docs-train-for-chemical-first-response/article_97cf07e2-1d0e-11e6-8a55-03d027767042.html

May 2016 – Veterinarians and animal care specialists from Fort Hood spent a week working to establish how the Army assists first responders to national disasters through a training partnership with Texas A&M University May 9-Saturday.

According to Lt. Col. Carl Shaia, commander for the 43rd Veterinarian Detachment, the Army currently does not have set procedures on how to provide decontamination efforts for animals, especially search and rescue and military dogs.

“The concept has been discussed at echelons above us,” Shaia explained. “It is the mechanics that have



not been well established.”

Detachment members trained alongside experts from TAMU’s Veterinary Emergency Team both on and off the installation learning how best to provide chemical, biological and radiological decontamination for animals working the response as well as family pets caught in the crisis.

“We’re trying to work out the wrinkles,” Staff Sgt. Paul Cota said. “Disaster response usually focuses on people, but there is not a lot of emphasis on animals.”

This June, the 43rd Vet. Det. will assume a first responder mission should a chemical, biological, radiological or nuclear accident happen anywhere in the United States. As part of a larger decontamination task force, the Army is counting on the detachment’s Soldiers and veterinarians to be the technical experts when it comes to providing animal medical care.

“It is very important to me to know what right looks like before assuming the (chemical response) mission,” Shaia said. “My concern was how to become experts. We’re very fortunate that TAMU is the tip of the spear with response effort.”





Formed in 2009, at the request of Texas state officials after Hurricane Ike, the Veterinary Emergency Team is made up TAMU veterinary school staff members and volunteer veterinarians from around the state, said Dr. Deb Zoran, the team's medical operations officer. As the largest and most sophisticated



veterinary medical disaster response team in the country, the experts from College Station have most recently worked the wildfires in Bastrop as well as search and rescue efforts across the Lone Star state.

Broken up into three phases, the training started on Fort Hood with classroom and small scale decon training with the help of military working dogs from 89th Military Police Brigade.



While the training might have looked like giving a dog a bath, Staff Sgt. Cota and his Soldiers had to work through all of the critical details of working safely in a chemical environment. “There’s a real technique to deconning a dog,” Cota said.

Issues of patient flow from a “hot” contaminated area to a “cold” clean one, coupled with keeping working dogs and handlers together, allowed Cota and his team to fine-tune their procedures on post before conveying to College Station for a full-scale, two-day exercise at TAMU’s Disaster City.

Located near the TAMU campus, the 52-acre training facility features full-scale, collapsible structures designed to simulate various levels of disaster and wreckage. In addition to providing access to the rest of the Vet Emergency Team staff, the university’s veterinary school also provided 15 dogs to stand in as “victims” of a chemical plant explosion scenario for the unit to train with.

Detachment Soldiers set up triage, decontamination and treatment stations, including a veterinary field hospital complete with laboratory, x-ray and surgical capabilities for the exercise.

By using TAMU staff to evaluate their methods, the unit was able to practice and refine their plans during the two-day mission.

“This training will help tremendously,” Cota said. “There’s always going to be disasters. This is something we have to figure out now. We’re working against the clock; it’s not a question of if, but when.”

CBRNe and HazMat training news roundup 2017

Source: <http://www.argonelectronics.com/blog/cbrne-and-hazmat-training-news-roundup-2017>



Jan 03 – Ensuring the operational readiness of the military and first response teams to handle any potential Hazardous Materials (HazMat) or Chemical, Biological, Radiological, Nuclear, Explosive (CBRNe) event continues to be a complex and exciting challenge for HazMat and CBRNe trainers. In this final blog for 2017 we provide a roundup of news, innovations and developments in the world of CBRNe and HazMat training over the past year.

April 2017

The latest version of a [mobile app for first responders](#) that provides accurate and timely data about rail cars carrying hazardous materials was announced in the US in April 2017.

AskRail 3.3 combines response planning and emergency training and is designed to supplement the flow of information between railroads and first responders throughout the 140,000 mile US freight-rail network.

The app is available (in both English and French) to any certified and qualified first responder in the US, Canada and Mexico. It is downloadable in a simple three-step process from Apple’s App Store and Google Play.



May 2017

Researchers at [Pacific Northwest National Laboratory](#) (PNNL) completed an evaluation of nearly three dozen biodetection products in May this year, performing more than 5000 tests to assess biothreat agents such as anthrax and ricin.

The PNNL findings are anticipated to be pivotal in guiding first responder organisations in their procurement of field biodetection equipment and in improving their understanding of the potential limitations of any product.

David Ladd, Director (Retired) of HazMat response for Massachusetts commented: “Independent testing of field biological detection and analysis equipment has been a major hole in our national bioterrorism response capability and strategy.

“Validated performance capabilities of this equipment allow us to move forward in building a capability by purchasing and deploying devices that gain acceptance by other stakeholders in the bioterrorism response community,” he said

July 2017

Argon Electronics announced its accreditation this July to the latest International Standards Organisation ([ISO](#)) [2015 standards](#) - ISO 14001:2015 and ISO 9001:2015.

The ISO defines parameters for compliance, with the highest standards of quality, environmental responsibility, and other characteristics of world-class organisations’ operations across their materials, products, processes, and services.

“Argon’s quality team spent the last nine months guiding the organisation to achieve all of ISO’s certification requirements,” said Steven Pike, Managing Director of Argon.

Changes to the ISO standards include an increased focus on continuous improvement based upon risk assessment and mitigation, which helps ensure a more integrated focus on improving the end-user customer experience.

Leadership and management commitment are also areas of increased focus in the new ISO standards, which emphasise value for both the company and its customers.

October 2017

A US\$708,000 grant from the US Department of Transportation (DOT) was announced in October 2017, which will make [Hazardous Materials Instructor Training](#) available at no cost in a dozen states across the US.

The training will be conducted by the Texas A&M Engineering Extension Service (TEEX) to help reduce incidents involving undeclared hazardous materials being transported by highway, rail, water and air.

TEEX plans to offer 48 classes over the next 12 months, with a focus on cities that are adjacent to major interstate shipping highways and trucking hubs. Trainees will be provided with information to help them develop a systematic training program and to ensure their employees are familiar with the general provisions of the hazardous materials regulations.

November 2017

The capability for chemical hazard training simulators to be able to support multiple languages came under the spotlight in November 2017, with the announcement of a [ground-breaking collaboration](#) between Argon Electronics and Smiths Detection.

Smiths Detection sought Argon’s assistance in helping them to adapt their LCD series detector family to function in the Arabic language - a not insignificant challenge given the complex engineering cycles involved in the development of the operational equipment.

Argon were able to implement the Arabic language support within just a few weeks, as Argon’s Managing Director, Steven Pike, explains: “This was a very interesting project which the Argon engineering team particularly enjoyed. There is significant scope for simulators to be used for the ergonomic and human factors evaluation of detector use.”



He added, “customers are able to exercise all aspects of the product enabling both the detector manufacturer and the users to fully experience how the equipment may be operated and refine the human interface to optimise the end product”.

December 2017

Cyber security specialist FireEye identified the malware TRITON as the means used to launch a [cyber attack](#) on Schneider Electric's Triconex Safety Instrumented System (SIS) controllers.

TRITON is one of a small group of publicly identified software families that have been designed to target critical infrastructure such as the industrial control systems used in oil and gas facilities.

The, as yet unidentified, attacker gained access to an SIS workstation and deployed the malware to reprogramme the SIS controllers, resulting in automatic shutdown of the industrial process.

Schneider Electric confirmed that it was investigating the incident: “We are working closely with our customer, independent cybersecurity organizations and ICS-CERT to investigate and mitigate the risks of this type of attack,” a company spokesperson said.

The spokesperson added: “It is important to note that in this instance the Triconex system responded appropriately, safely shutting down plant operations (and that) no harm was incurred.”

Weapons of Mass Destruction

Source: <https://ctc.usma.edu/topics/weapons-of-mass-destruction/>



The following research products explore the links between terrorism, weapons of mass destruction, and efforts to mitigate these grave threats – [read more at source's URL](#).



Only Matter of Time Before Daesh Launches Chemical Attacks in West - DHS Chief

Source: <https://sputniknews.com/us/201801291061168327-daesh-chemical-attacks-dhs-us/>

Jan 29 – The Daesh terrorist group (banned in Russia) has already used chemical weapons in both Syria and Iraq and are planning to use them in future attacks in the West, US Department of Homeland Security (DHS) Secretary Kirstjen Nielsen said in a speech at the Woodrow Wilson Center on Monday.

"ISIS [Daesh] has used chemical weapons on the battlefield in Syria and Iraq... are seeking to develop [chemical weapons](#) as well," Nielsen said. **"It is only a matter of time before they try to organize these methods into Western attacks."**



America First

Nielsen underlined that the Trump administration was going to intensify the vetting of all refugees admitted to the United States from countries with serious terrorist problems.

"I am announcing security upgrades to the... refugees program," she said. "We will be rolling out new security measures for applicants from high risk countries. These changes will help us better assess legitimate refugees."

The official explained that the US government had to do more to keep dangerous individuals out of the United States in the first place.

Accusations Against Russia, Syria and Paris Meeting

Despite the US accusations against Russia of alleged covering up chemical weapons use in [Syria](#), Nielsen's stance repeats the concerns voiced by the Russian Foreign Minister Sergei Lavrov on January 18, during a UN Security Council meeting on non-proliferation of nuclear weapons.

Lavrov pointed to a growing threat of 'chemical' terrorism in the Middle East, referring to Iraq and Syria and blaming some countries for turning a blind eye to the growing threat.

Nielsen's statement comes in wake of January 23 Paris meeting of the so-called International Partnership Against Impunity for the Use of Chemical Weapons. Russia and China did not take participate among 24 countries, as they weren't invited. The attendees of the meeting accused Damascus of being responsible for chemical attacks in Syria and Moscow of trying to cover up the alleged crimes of Syrian government troops. Russia has repeatedly refuted the allegations, saying that such accusations are aimed at discrediting the Syrian government.

Supporting this position, the Russian Defense Ministry specified that Washington had ignored the fact that terrorists have been using chemical warfare agents against Syrian government forces and civilians.



VW condemned for testing diesel fumes on humans and monkeys

Source: <https://www.theguardian.com/business/2018/jan/29/vw-condemned-for-testing-diesel-fumes-on-humans-and-monkeys>

Jan 28 – Volkswagen, the world's biggest carmaker, is under fire globally from politicians and environmentalists following revelations it helped to fund experiments in which monkeys and humans breathed in car fumes for hours at a time.

[Angela Merkel](#), the German chancellor, said there was an urgent need for the company to reveal the true extent of the experiments, which were commissioned by the European Research Group of Environment and Health in the Transport Sector (EUGT), a body funded by Volkswagen, Daimler and BMW.

"These tests on monkeys or even on humans are not ethically justifiable in any shape or form," her spokesman, Steffen Seibert, said on Monday. "The indignation of many people is absolutely understandable."

VW is already under heavy scrutiny over its role in the "[dieselgate](#)" scandal, in which the carmaker manipulated tests on about 11m cars worldwide to make it appear they met air emissions tests, when in reality they exceeded them many times over when used on the road.



The company said on Monday a small internal group had mistakenly pushed for the tests to be carried out and that they did not reflect VW's ethos. But industry observers said VW's excuses held little water, as the experiments had been well-documented and the results presented to managers at BMW, Daimler and VW, all of whom belonged to the EUGT, a car lobby group, which has since been disbanded.

VW's supervisory board representative and chief controller, Hans Dieter Pötsch, said on Monday he was struggling to understand how the tests had been allowed to be carried out, calling them "in no way understandable".

Daimler and BMW tried to distance themselves from the tests, stressing that none of their cars had been used in the experiments.

[Initially reported in the New York Times](#), the tests, carried out in May 2015 by the New Mexico-based Lovelace Respiratory Research Institute (LRRI), involved locking 10 Java monkeys in small airtight chambers for four hours at a time. The animals were left to watch cartoons as they breathed in diesel fumes from a VW Beetle. The ultimate aim of the tests was to prove that the pollutant load of nitrogen oxide car emissions from diesel motors had measurably decreased, thanks to modern cleaning technology.



In a second round of tests, the animals were forced to breathe in the fumes of a Ford F-250 used for the purposes of comparison, because the car was an older model with apparently less sophisticated filter technology.

According to some reports in the *Süddeutsche Zeitung* and the broadcaster NDR, the monkeys were subsequently anaesthetised and intubated, so their blood could be examined for inflammatory markers. Their lungs were then washed out and their bronchial tubes examined.

According to the LRRI, the Java monkey species was chosen by the EUGT itself.

The *Süddeutsche Zeitung* reported the experiments were also carried out on 25 young and healthy human beings.

According to the *Stuttgarter Zeitung*, the experiments were carried out at an institute of the University Clinic Aachen and involved the group having to breathe in varying different concentrations of nitric oxide after which they were physically examined for any side-effects.

Revelations about the tests have only served to deepen suspicions that the industry is looking to increase the acceptance of diesel as a clean source of energy even as increasing numbers of [scientific studies](#) show the opposite to be the case.

LRRI said it decided to withdraw from the EUGT-commissioned study in the autumn of 2015 following the emergence of the dieselgate scandal. "After we learned about this fraud, we



decided that the study was flawed,” the LRRI’s president Robert Rubin told a German newspaper. Barbara Hendricks, the German environment minister, said what was known about the tests so far was “vile”.

“That a whole branch of industry has apparently tried to discard scientific facts with such brazen and dubious methods makes the entire thing even more horrific,” she said. Those responsible, she added “have not understood what is on the agenda here – to finally accept full responsibility in the diesel scandal”. She said she was “appalled” that scientists had “made themselves available as willing supporters of such despicable experiments”.

Tests link Syrian government stockpile to largest sarin attack - sources

Source: <https://www.reuters.com/article/us-syria-crisis-chemicalweapons-exclusiv/exclusive-tests-link-syrian-government-stockpile-to-largest-sarin-attack-sources-idUSKBN1FJ0MG>



Jan 30 – The Syrian government’s chemical weapons stockpile has been linked for the first time by laboratory tests to the largest sarin nerve agent attack of the civil war, diplomats and scientists told Reuters, supporting Western claims that government forces under President Bashar al-Assad were behind the atrocity.

Laboratories working for the Organisation for the Prohibition of Chemical Weapons compared samples taken by a U.N. mission in the Damascus suburb of Ghouta after the Aug. 21, 2013 attack, when hundreds of civilians died of sarin gas poisoning, to chemicals handed over by Damascus for destruction in 2014. The tests found “markers” in samples taken at Ghouta and at the sites of two other nerve agent attacks, in the towns of Khan Sheikhoun in Idlib governorate on April 4, 2017 and Khan al-Assal, Aleppo, in March 2013, two people involved in the process said.

“We compared Khan Sheikhoun, Khan al-Assal, Ghouta,” said one source who asked not to be named because of the sensitivity of the findings. “There were signatures in all three of them that matched.”

The same test results were the basis for a report by the OPCW-United Nations Joint Investigative Mechanism in October which said the Syrian government was responsible for the Khan Sheikhoun attack, which killed dozens.

The findings on Ghouta, whose details were confirmed to Reuters by two separate diplomatic sources, were not released in the October report to the U.N. Security Council because they were not part of the team’s mandate.



They will nonetheless bolster claims by the United States, Britain and other Western powers that Assad's government still possesses and uses banned munitions in violation of several Security Council resolutions and the Chemical Weapons Convention.

The OPCW declined to comment. Syria has repeatedly denied using chemical weapons in the conflict now in its seventh year and has blamed the chemical attacks in the rebel-held territory of Ghouta on the insurgents themselves.

Russia has also denied that Syrian government forces have carried out chemical attacks and has questioned the reliability of the OPCW inquiries. Officials in Moscow have said the rebels staged the attacks to discredit the Assad government and whip up international condemnation.

Under a U.S.-Russian deal after the Ghouta attack in 2013, Damascus joined the OPCW and agreed to permanently eliminate its chemical weapons program, including destroying a 1,300-tonne stockpile of industrial precursors that has now been linked to the Ghouta attack.

But inspectors have found proof of an ongoing chemical weapons program in Syria, including the systematic use of chlorine barrel bombs and sarin, which they say was ordered at the highest levels of government.

The sarin attack on Khan Sheikhoun in April last year prompted U.S. President Donald Trump to order a missile strike against the Shayrat air base, from which the Syrian operation is said to have been launched. Diplomatic and scientific sources said efforts by Syria and Russia to discredit the U.N.-OPCW tests establishing a connection to Ghouta have so far come up with nothing.



Russia's blocking of resolutions at the Security Council seeking accountability for war crimes in Syria gained new relevance when Russia stationed its aircraft at Shayrat in 2015.

FILE PHOTO: A U.N. chemical weapons expert, wearing a gas mask, holds a plastic bag containing samples from one of the sites of an alleged chemical weapons attack in the Ain Tarma neighbourhood of Damascus, Syria August 29, 2013. REUTERS/Mohamed Abdullah/File Photo

Washington fired missiles at Shayrat in April 2017, saying the Syrian air force used it to stage the Khan Sheikhoun sarin attack on April 4 a few days earlier, killing more than 80 people.

No Russian military assets are believed to have been hit, but Moscow warned at the time it could have serious consequences.

In June, the Pentagon said it had seen what appeared to be preparations for another chemical attack at the same airfield, prompting Russia to say it would respond proportionately if Washington took pre-emptive measures against Syrian forces there.

“Serious lab work”

The chemical tests were carried out at the request of the U.N.-OPCW inquiry, which was searching for potential links between the stockpile and samples from Khan Sheikhoun. The analysis results raised the possibility that they would provide a link to other sarin attacks, the source said.

Two compounds in the Ghouta sample matched those also found in Khan Sheikhoun, one formed from sarin and the stabilizer hexamine and another specific fluorophosphate that appears during sarin production, the tests showed.

“Like in all science, it should be repeated a couple of times, but it was serious matching and serious laboratory work,” the source said.



Independent experts, however, said the findings are the strongest scientific evidence to date that the Syrian government was behind Ghouta, the deadliest chemical weapons attack since the Halabja massacres of 1988 during the Iran-Iraq war.

"A match of samples from the 2013 Ghouta attacks to tests of chemicals in the Syrian stockpile is the equivalent of DNA evidence: definitive proof," said Amy Smithson, a U.S. nonproliferation expert.

The hexamine finding "is a particularly significant match," Smithson said, because it is a chemical identified as a unique hallmark of the Syrian military's process to make sarin.

"This match adds to the mountain of physical evidence that points conclusively, without a shadow of doubt, to the Syrian government," she said.

No chance rebels behind Ghouta

Smithson and other sources familiar with the matter said it would have been virtually impossible for the rebels to carry out a coordinated, large-scale strike with poisonous munitions, even if they had been able to steal the chemicals from the government's stockpile.

"I don't think there is a cat in hell's chance that rebels or Islamic State were responsible for the Aug. 21 Ghouta attack," said Hamish de Bretton-Gordon, an independent specialist in biological and chemical weapons.

The U.N.-OPCW inquiry, which was disbanded in November after being blocked by Syria's ally Russia at the U.N. Security Council, also found that Islamic State had used the less toxic blistering agent sulfur mustard gas on a small scale in Syria.

The Ghouta attack, by comparison, was textbook chemical warfare, Smithson and de Bretton-Gordon said, perfectly executed by forces trained to handle sarin, a toxin which is more difficult to use because it must be mixed just before delivery.

Surface-to-surface rockets delivered hundreds of liters of sarin in perfect weather conditions that made them as lethal as possible: low temperatures and wind in the early hours of the morning, when the gas would remain concentrated and kill sleeping victims, many of them children.

Pre-attack air raids with conventional bombs shattered windows and doors and drove people into shelters where the heavy poison seeped down into underground hiding places. Aerial bombing afterwards sought to destroy the evidence.

The large quantity of chemicals used, along with radar images of rocket traces showing they originated from Syrian Brigade positions, are further proof that the rebels could not have carried out the Ghouta attack, the experts said.

12 Firefighters hurt battling R.I. chemical fire released from hospital

Source: <https://www.bostonglobe.com/metro/2018/01/30/firefighters-hurt-battling-chemical-fire-were-released-from-hospital/nwUsDmtCOM5IPxSbxRHsJ/story.html>

Jan 30 – Twelve firefighters hospitalized after battling a Cranston, R.I. chemical fire on Monday were released shortly after midnight Tuesday and are expected to be okay, the fire chief said.

Some firefighters were evaluated for cyanide poisoning after they had trouble breathing and developed a metal taste in their mouth, said Fire Deputy Chief Paul Valletta, but all the tests came back negative. None of them suffered serious injuries, said Fire Chief Bill McKenna.

The three-alarm fire at 1420 Elmwood Ave. started around 5 p.m. Tuesday inside Prosys Finishing Technologies, a business that specializes in metal finishing and cleaning products, authorities said. The building, which is expected to be restored to full condition, is also home to a jewelry company called Gem-Craft, Inc., McKenna said.

Valletta said firefighters were not aware of the chemical hazard when they arrived at the scene. Firefighters inside the building began to feel a burning sensation in their gloves and boots and noticed that water from the sprinklers was very slippery.

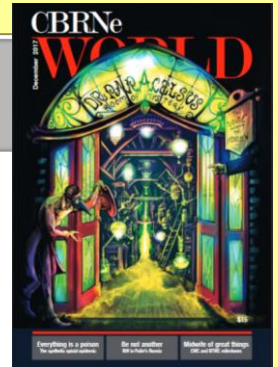
Because it was a [hazardous materials] incident, the fire was extinguished quickly and controlled in about 30 minutes," McKenna said.



Valletta said about 25 chemicals were discovered inside the building, including cyanide and sulfuric acid. “We’re currently waiting for a cleanup company to get in the building, and then we’ll determine the cause of the fire,” McKenna said.

Dr Christina Baxter, ceo of Emergency Response TIPS, US, and Dr Michael Logan, of the research and scientific branch, Queensland Fire and Emergency Services, Australia, on Synthetic Opioids in Operational Environments – Part I: Detection

Looking for my china girl



Source: http://www.cbrneworld.com/uploads/download_magazines/CBRNe_December_2017_v_Web.pdf

In the most recent issue of CBRNE World magazine, Dr. Christina Baxter, CEO of Emergency Response Tips, LLC and former Program Manager for the Chemical, Biological, Radiological, Nuclear and Explosives (CBRNE) subgroup at the Technical Support Working Group (TSWG), has published a tech comparison of commercially available products for trace detection of synthetic opioids. See the full article here its on **page 25**.

The “Red Zone” In France Is So Dangerous that 100 Years After WWI It Is Still A No-Go Area

Source: <http://www.warhistoryonline.com/ancient-history/resolute-defense-constantinople-626-ad-x.html>

October 2016 – The Zone Rouge (Red Zone) is a region near Verdun, France spanning some 460 square miles of mostly virgin forest – at least on the surface. It’s teeming with history, making it a major tourist attraction and a source of income for locals – yet no one lives there and nothing is built there.

Despite its draw, access is restricted because not everyone who goes in comes out alive. If they do, there’s no guarantee that they’ll do so with all of their limbs intact. Of those who do come out (whole or otherwise), death sometimes takes a while to catch up.

This is because of events that took place during World War I. The Germans and the French faced off on the hills north of Verdun-sur-Meuse in north-eastern France two years later in February 1916.

On the offensive was the German 5th Army, who were trying to dislodge the Région Fortifiée de Verdun (RFV) and the Second Army garrisons who dug themselves along the right bank of the Muse River.

Verdun has long held sentimental value to the French because the area around it held 20 large forts and 40 smaller ones which had protected France’s eastern border for centuries. The Germans were convinced that if they took the area, the French would go berserk and commit everything they had to secure it. In so doing, they’d bleed themselves dry.

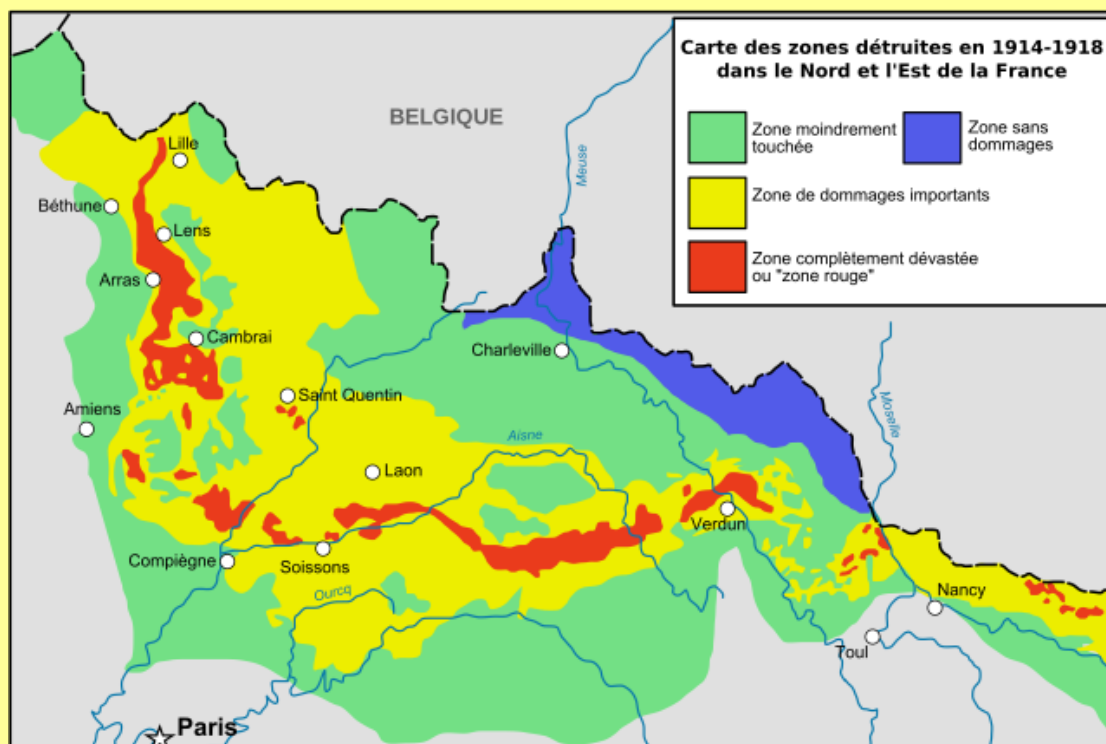
While it worked, it didn’t go entirely the way the Germans had hoped. The result was one of the longest and bloodiest conflicts – not just within World War I, but in recorded history, as well.

Lasting 303 days, the Battle of Verdun cost 377,231 French soldiers their lives and 337,000 German ones – about 70,000 casualties a month. Recent figures suggest, however, that that figure may actually be far higher – some 976,000 deaths and about 1,250,000 seriously injured, if you include civilians.





Rusted shells and munitons in a farmyard near the Bapaume-Albert main road, just after the turning towards Thiepval, France. It is still common, in this area that was part of the Somme battlefields, more than 90 years after World War I, for artillery shells to resurface each year during the harvesting and tilling of the soil. Carcharoth (Commons) – CC BY-SA 3.0



A map of the Red Zone. Tinodela – CC BY-SA 2.5

While the French relied mostly on 75 mm field guns at the outset of the battle for Verdun, the Germans used new inventions notably stormtroopers with flamethrowers. Grenades, machine guns, and poison gas were also introduced, but the favorite used by both sides was



high explosive artillery shells designed to obliterate trenches and stone forts. Millions of shells were used, forever changing the landscape.

When WWI ended in 1918, the French realized that it would take several centuries to completely sweep the area clear – some experts suggest it could take between 300 to 700 years, maybe more. Small farming villages used to dot the area, but they've all been moved because the government found it cheaper and more practical to do so. Today, all that's left of these villages are forlorn signs as a bleak reminder of what once was.

There are guided "Battle of Verdun" tours, a recreated village complete with trenches, memorial sites, and



even restaurants within the Red Zone – but don't let that fool you. It's still a dangerous place. The government has set up a Département du Déminage (Department of Mine Clearance), but so far, they've only scratched the surface.

[Sign indicating the site of the destroyed village of Fleury-devant-Douaumont.](#)

While some bits look like pristine forest, they hide millions of explosives – both

the ones that have gone off, as well as those just waiting for someone or something to set them off. Weapons, helmets, and even skeletal fragments are still being found, something that's likely to go on for centuries to come and ensure employment for those brave enough to work for the Département du Déminage.



The forest at Mort-Homme, deep in the Red Zone. You are not allowed to stray off the paths because the area is littered with unexploded ordnance. – © War History Online



But explosives, even those already spent, are made out of dangerous chemicals. And remember how they used poison gas? Millions of tons of that gunk compacted together in such a confined area has had an impact on the soil and ground water of the region, resulting in patches where little grows and where animals die.

And it's getting worse. Up until 2004, foresters and hunters were allowed in with special permits till



scientists made an awful discovery. Soil analysis in some parts of the Red Zone found arsenic levels of up to 17%. That's several thousand times higher than in previous decades, meaning those chemicals are acting up, not down.

[A very common warning sign on the battlefields of France. © War History Online](#)

The water in the area has also been impacted. Besides an increase in arsenic levels of up to 300 times what

scientists consider to be "tolerable" levels, they've also found an increase in the non-biodegradable lead from shrapnel. But it's not just in the water. They've also discovered non-biodegradable lead in some



animals, especially wild boars, so that turned the hunters off and with good reason.

According to scientists, it can only get worse, not better, because they've also confirmed high levels of mercury and zinc. And how long can those substances contaminate water and soil? Up to 10,000 years.

While the French government and the EU officially monitor crops harvested in the region and its outskirts, there are many who question the efficacy of their efforts. Some have even suggested that the authorities aren't doing anything because they're afraid of the impact to the local economy. There's also political survival since the French have never been shy about mass protests.





A live shell in a forest near Verdun. © Mark Barnes / War History Online

Even on the outskirts of the Zone Rouge, however, farmers aren't safe. Not a year passes without someone driving a tractor over an unexploded shell that goes off. Fortunately, there haven't been any casualties in several decades... except for ruined tractors and badly shaken farmers.

The real danger, however, comes not from explosive shells. They come from the gas shells – the number one killer of those who work in munitions removal. Despite regular checkups,





the build-up of toxins can take a while to detect in the human body. And by the time doctors find it, it can be too late.

This is the business end of a French mortar bomb, one of many that can still be found in the woods around Verdun. © Mark Barnes / War History Online

Another danger lies in the eagerness to reclaim the Red Zone. After the war, cleanup efforts were superficial because the French economy was devastated. Some communities were allowed to rebuild in the Red Zone prematurely, resulting in casualties due to explosives and poisonous chemicals. To exploit war tourism, many restaurants and shops were opened in so-called “safe” areas which were later found to be otherwise. The Battle of Verdun ended a century ago, but it’s still devastating the land and still impacting human lives.

Auto-injector LISA

Source: <http://cphem.com/en/product/auto-injector-lisa>



LISA™ is a fully automated and highly customizable reusable auto-injector that delivers everything a patient needs at the push of a button.

Smart, reusable and with user-adjustable injection speeds, LISA represents a major leap forward in auto injector technology. In addition to needle-free removal of used syringes, LISA comes with an array of highly customizable features including Bluetooth LE connectivity and pre-injection drug warming.

SERPACWA

Source: <https://www.rxlist.com/skin-exposure-paste-side-effects-drug-center.htm>

Skin Exposure Reduction Paste Against Chemical Warfare Agents (SERPACWA) contains a mixture of a perfluoroalkylpolyether (PFPE) and a polytetrafluoroethylene (PTFE) that acts as a physical barrier used only in conjunction with MOPP gear to reduce or delay the absorption of chemical warfare agents through the skin when SERPACWA is applied prior to exposure. The brand name Skin Exposure Reduction Paste Against Chemical Warfare Agents (SERPACWA) is discontinued, but generic versions may be available. Side effects of Skin Exposure



Reduction Paste Against Chemical Warfare Agents (SERPACWA) are uncommon; consult your doctor. Before its application, a dry towel should be used to remove perspiration, insect repellents, camouflage paint, or dirt from skin. Animal studies have demonstrated decreased toxicity of sulfur mustard, VX, soman, T-2 mycotoxins, and CS (a lacrimator) (35, 36). Serpacwa's duration of action has not been evaluated for _6 hrs. Its major side effect is an occasional, mild flu-like syndrome. There is no systemic absorption through intact skin, but it has not been studied in pediatric patients. Standard decontamination techniques should still be followed after a nerve agent or other chemical agent exposure.

Apply the SERPACWA by hand onto the skin until there is a barely noticeable white film layer. Apply the entire contents of the 84-gram package of SERPACWA evenly to the areas of the skin (as outlined in Instructions for Use for Military Personnel) prior to donning MOPP gear. SERPACWA may interact with DEET products. Tell your doctor all medications and supplements you use. During pregnancy, SERPACWA should be used only if prescribed. Consult your doctor before breastfeeding.

►► Read also: <https://www.ncbi.nlm.nih.gov/pubmed/20942572>

U.S. says Syria may be developing new types of chemical weapons

Source: <https://www.unian.info/world/2378647-us-says-syria-may-be-developing-new-types-of-chemical-weapons-media.html>

Feb 02 - The Syrian government may be developing new types of chemical weapons, and U.S. President Donald Trump is prepared to consider further military action if necessary to deter chemical attacks, senior U.S. officials said on Thursday. President Bashar al-Assad is believed to have secretly kept part of Syria's chemical weapons stockpile despite a U.S.-Russian deal under which Damascus was supposed to have handed over all such weapons for destruction in 2014, the officials said, Reuters wrote. Assad's forces have instead "evolved" their chemical weapons and made continued occasional use of them in smaller amounts since a deadly attack last April that drew a U.S. missile strike on a Syrian air base, the officials told reporters in a briefing.

Characteristics of some of those recent attacks suggest that Syria may be developing new weapons and methods for delivering poison chemicals, possibly to make it harder to trace their origin, the officials said, speaking on condition of anonymity, but they declined to provide specifics. A deadly sarin attack on a rebel-held area in April prompted Trump to order a missile strike last year on the Shayrat air base, from which the Syrian operation is said to have been launched. "We reserve the right to use military force to prevent or deter the use of chemical weapons," one official said while declining to specify how serious a chemical attack would have to be to draw a fresh U.S. military response.

A second official said, however, that the Trump administration hopes that stepped-up international sanctions and diplomatic pressure will help rein in Assad's chemical weapons program. If the international community does not act quickly to tighten the screws on Assad, Syria's chemical weapons could spread beyond its borders and possibly even "to U.S. shores," the second official said. "It will spread if we don't do something," the official warned.

The officials echoed U.S. Secretary of State Rex Tillerson's recent accusation that Russia, Assad's ally in Syria's multi-sided civil war, bears some responsibility for failing to enforce the chemical weapons ban. Russia has denied any complicity, and the Syrian government has said it has not carried out any of the attacks. The U.S. officials suggested that if left unchecked there would be more smaller chemical attacks as an "instrument of terror" to compensate for Assad's lack of adequate manpower to retake some opposition-held areas. "They think they can get away with it if they keep it under a certain level," an official said.





Emerging technologies: implications for CBRN terrorism

By Mauro Lubrano

Source: <https://globalriskinsights.com/2018/02/emerging-technologies-implications-cbrn-terrorism/>



Emergent technologies are likely to have major implications with regards to chemical, biological, radiological, and nuclear (CBRN) terrorism. While the CBRN overall threat level is still low, developments in technology could leverage its impact in the future.

Feb 04 – Concerns about CBRN terrorism are not a novelty, and starting from the 90s the potential of this threat appears to have become more concrete. The reason is twofold: the emergence of the so-called ‘new terrorism’ – characterized by religious and apocalyptic extremist ideologies and the collapse of the Soviet Union, which gave rise to subsequent insecurity of Moscow’s CBRN stockpiles. So far, the CBRN threat has not fully materialised. However, emergent technologies might soon represent a game changer in such regard, facilitating violent non-state actors’ resort to CBRN terrorism. Among the developments in the technology sector that might enhance the CBRN threat, microreactors, advancements in bioengineering, 3D printing, cyber attacks, and drone technology represent some of the most worrisome additions.

3D Printing as a CBRN enabler

As [discussed](#) in a recent Global Risk Insights article, 3D printing – or additive manufacturing – represents an enabling technology for terrorist organizations. As such, it could bring about radical innovation in the production processes of many of those resources for which terrorists have currently to rely on external connections or other expedients. Similarly, additive manufacturing [could potentially facilitate](#) terrorist organizations’ endeavors in the CBRN realm. Indeed, as 3D printers can virtually produce any kind of goods, this technology could theoretically be employed to [produce](#) the detonators for explosives of a Radiological Dispersal Device (RDD) – more commonly known as ‘dirty bomb’. Likewise, 3D printers could increase terrorists’ chances of obtaining nanotechnologies, such as Micro Electro-Mechanical Systems



(MEMS) or Nano Electro-Mechanical Systems (NEMS).

Advancements in nanotechnologies and bio-engineering are likely to increase the threats in chemical and biological weapons development

Among MEMS, microreactors could facilitate terrorists' acquisition of dangerous chemical materials and weapons. The most striking characteristic of microreactors is that it allows chemical reactions that were previously difficult or even impossible. Thanks to the confined space – ranging from the size of a coin to that of a notebook – microreactors [allow](#) for more control over pressure, temperature, and flow rate, while also reducing the potential of exothermic or explosive reactions. As A.E. Smithson explained in [“Unconventional Weapons and International Terrorism: Challenges and New Approaches”](#), the implications for terrorists are a means for concern. Avoiding export controls, terrorist organizations may produce precursors of chemical weapon easily, and undetected.

In biological technology, the development of the gene editing technique CRISPR has raised several concerns over the ability of terrorists to create engineered versions of bacteria and viruses, unleashing disease and epidemic of extraordinary destructive potential. However, such claims are likely overstated. Indeed, CRISPR technologies [do not appear](#) to be among terrorists' options in terms of capabilities – at least for the time being. Understanding that these enhanced bio-threats are premature at the moment, it must be stressed that a widespread availability of knowledge in the field of synthetic biology and bio-engineering, will likely pose grave security concern.

Cyber terrorism as a means to disrupt CBRN facilities

Terrorist organizations might not have to acquire CBRN weapons in order to carry out CBRN attacks. As some experts have warned, cyber attacks [could be used](#) to disrupt CBRN facilities, such as chemical plants or nuclear power plants. Since such facilities are run by computers connected to a larger network, hacking those devices would allow the culprit to sabotage the control mechanisms. By doing so,

a potential perpetrator would be able to regulate the flows and the equipment so that it would operate at unsafe levels, turning – in a worst-case scenario – the facility itself into a weapon of mass destruction.

Commercial drones as viable means of delivery

A further topic addressed by [Global Risk Insights](#) surrounds the possibility of commercial Unmanned Aerial Vehicles (UAV) as a [mechanism](#) for carrying out acts of CBRN terrorism. As the Iraqi intelligence [thwarted](#) an Al Qaeda plot in 2013 that involved the use of remotely controlled aircrafts to disperse diverse chemical agents – to include sarin gas and mustard agent -this is an avenue that terrorists have already considered. The advantage of using UAVs hails from the consideration that these devices could easily bypass traditional security mechanisms.

UAVs would represent an excellent means of attack, once the material and/or weapons are already available. In such regard, keeping terrorists' hands off such materials would suffice to prevent UAVs attack with CBRN. However, terrorists could resort to UAVs in order to carry out attacks on chemical and nuclear facilities. In this case, procuring the required materials to manufacture CBRN weapon would not be necessary. Such threats [have been acknowledged](#) and are being dealt with: the US Department of Defense, for example, has recently received authorization to test and field countermeasures against UAVs, including CBRN ones.

Who might be interested in CBRN terrorism?

Traditionally, religious extremist movements – above all Al Qaeda and the Islamic State – have been considered among those groups that could have an interest in launching CBRN attacks. However, the pool of potential candidates is not limited to extremists. As Peter Bergen [reported](#), 11 US-based groups from both the far-left and the far-right have managed to acquire CBRN materials and were planning to use them against both the public and the government.

As a matter of fact, multiple cases of CBRN terrorism carried out by secular groups can be cited. For



example, the Tamil Tigers [attacked](#) a chemical facility in Sri Lanka in 1990.

There is one important thing that must be understood when it comes to CBRN terrorism. Among the many violent non-state actors that populate the umbrella of terrorism, only a small percentage are actually willing – for a variety of reasons – to resort to CBRN terrorism. Within this smaller subset of willing groups, an even smaller percentage has the capability to engage in CBRN activities. The difficulties inherent to such an endeavor are well summarized in the experience of the Japanese apocalyptic cult Aum Shinrikyo, which – despite its vast resources, expertise, and immunity from government interference – fell short of expectation, as the group's sarin gas assault in the Tokyo subway was not able to achieve the level of destruction desired. Identifying those groups that possess both the motivation and

utility is a first step in thwarting the CBRN threat. However, as success within terrorist organizations can be determined by more subjective factors, such as for example problem-solving, or idiosyncratic leadership, establishing with incontestable certainty which group is going to be the next deploying CBRN weapons is a demanding task.

Overall, the likelihood of a major, successful CBRN attack is still a remote one. However, the landscape is changing rapidly, as emerging technologies disclose new opportunities for CBRN terrorism. Consequently, those measures that have contributed to thwarting CBRN terrorism so far might not be equally effective in the future. Just as terrorist organizations will adapt to the changing landscape, so must counter-terrorism measures if the CBRN threat is to be kept at a minimum.

Mauro Lubrano is an Analyst at Global Risk Insights, where he focuses mainly on emerging technologies, terrorism and Jihadism. Previously, he worked for the Center for Global Security Research (CGSR) at Lawrence Livermore National Laboratory and for the National Consortium for the Study of Terrorism and Responses to Terrorism. He holds a Master in Nonproliferation and Terrorism Studies at the Middlebury Institute of International Studies at Monterey, a M.A. in Peace and Conflict Research from the University of Frankfurt am Main (Germany) and a B.A. in International Relations from the University of Perugia (Italy). He is fluent in German and a native speaker of Italian.

Germany sold technology to Iran for use in Syrian chemical attacks

Source: <http://www.jpost.com/International/Germany-sold-technology-to-Iran-for-use-in-Syrian-chemical-attacks-540760>

Feb 05 – Germany's Federal Office for Economic Affairs and Export Control approved a license for a company to sell military applicable technology to Iranian companies that subsequently was used in Syrian regime chemical weapons attacks, reported the German publication Bild on Monday.

The **German company Krempel**, located near the southern city of Stuttgart, sold electronic press boards to Iranian companies that were used in the production of rockets.

The Jerusalem Post reported in 2017 that multiple German intelligence reports revealed that Iran sought chemical and biological weapon technology in the federal republic.

The research of the human rights group, Syrians for Truth and Justice, Bild and the online investigative journalist website Bellingcat, showed photographs of the rocket remains with the company logo of Krempel and the product signature: "Made in Germany."

The rocket debris was found after two poisonous gas attacks were conducted by Syrian President Bashar Assad's regime. Krempel confirmed the delivery of the electronic technology "Pressspan PSP-3040," an insulating material with a cellulose base used for insulation. The chemical attacks took place on January 22 and February 1. The gas attack in January resulted in 21 injuries, including many children.



Bild quoted Eliot Higgins from Bellingcat, who said that both gas attacks showed that “the rockets were produced in 2016 and delivered from Iran.”

The Krempel Group describes itself on its website as “an independent manufacturer of high quality semi-finished products and a leading global system supplier of modern materials. Our electrical insulations, composites, solar and electronic materials, as well as special laminates, enjoy an excellent reputation worldwide and we are global market leaders in many of these sectors.”

The company has facilities and distribution companies in the UK, Poland, China, the UK, US and Austria. It is unclear if the Krempel delivery of the advanced technology is a violation of UN regulations and US sanctions.

A spokesman for Krempel told Bild that the company was “shocked... that its Pressspan PSP-3040 apparently was used in motors that were applied to weapons of war.”

Bild wrote that the delivery of dual-use technology to Iran, which can be used for both military and civilian purposes, raises questions whether Germany’s export control policy is feeble.

Germany is Iran’s largest and most important EU trade partner. German exports to Iran increased in 2017 by 19%, amounting to just under €2.4 billion in export volume. The country’s Iran regime-friendly foreign minister Sigmar Gabriel has traveled with two business delegations to Iran to boost trade.

The British publication, Jane’s Defence Weekly, reported in 2005 that the Islamic Republic would work with Syria to build an “innovative chemical warfare program.” Iran’s role was to build equipment to produce “hundreds of tons of precursors for VX, sarin and mustard [gases].”

A June intelligence report from the southwestern state of Baden-Württemberg, where Krempel is located, stated: “Regardless of the number of national and international sanctions and embargoes, countries like Iran, Pakistan and North Korea are making efforts to optimize corresponding technology.”

According to the report, Iran sought “products and scientific knowhow for the field of developing weapons of mass destruction as well missile technology.” The 181-page document cites Iran’s cyberwarfare, espionage, terrorism and weapons of mass destruction procurement activities 49 times.

A Chinese import-export company contacted a company in the German state that sells “complex metal producing machines,” the intelligence agency wrote. The technology would aid Iran’s development of ballistic missiles, it said.

Iran made nearly 40 attempts to obtain illicit nuclear and missile goods from Germany during 2016.

According to a WikiLeaks dispatch on Tehran’s role in chemical warfare: “New Zealand assesses that the cooperation is mainly driven by Iran’s desire for increased strategic importance in the region. New Zealand also assesses that Iran’s biotechnology sector is far more advanced than Syria’s, and Iran does not mind sharing its knowledge with Syria.”

Assad first used sarin nerve gas to attack the Damascus suburb of Ghouta in 2013, killing nearly 1,500 civilians, including 426 children.

DARPA launches programme to instantly detect exposure to dangerous materials

Source: <http://www.army-technology.com/news/darpa-launches-programme-instantly-detect-exposure-dangerous-materials/>

Feb 06 – **DARPA has launched a programme to build a portable device that can quickly establish exposure to deadly materials by reading someone’s epigenome, the body’s biological ‘record keeper’.**

The **Epigenetic Characterisation and Observation (ECHO) programme** aims to use the technology to identify signatures that indicate exposure to materials associated with weapons of mass destruction (WMD).

DNA, which makes up the human genome, does not change over a single lifetime. The epigenome, however, is a multitude of chemical compounds that can tell the genome what to do. When these compounds attach and modify DNA’s function, they are said to have ‘marked’ the genome.



It is this epigenomic marking that the ECHO programme aims to read. Though these modifications register within seconds to minutes, they imprint the epigenome for decades, leaving a time-stamped biography of an individual's exposures that is difficult to deliberately alter and remains for decades.

Whereas current forensic technologies can only detect the immediate presence of contaminants, the



envisioned ECHO technology would read someone's epigenome, via a finger prick or nasal swab, to reveal exposure even when other physical evidence has been destroyed.

Researchers also aim to create a portable device to read the epigenome within 30 minutes whilst in the field, as opposed to traditional forensic techniques that can take days to return from the lab.

"We hope that with the capabilities developed within ECHO, someone in the field will immediately know if a

suspected adversary has handled or been exposed to threat agents," said Eric Van Gieson, the ECHO program manager.

"The same technology could also serve as a diagnostic tool for our own troops, to diagnose infectious disease or reveal exposure to threat agents, so that medical countermeasures can be applied in time to make a difference."

ECHO researchers have two primary challenges in the four-year programme: to identify and discriminate epigenetic signatures created by exposure to threat agents, and to create technology that performs highly specific forensic and diagnostic analyses to reveal the exact type and time of exposure.

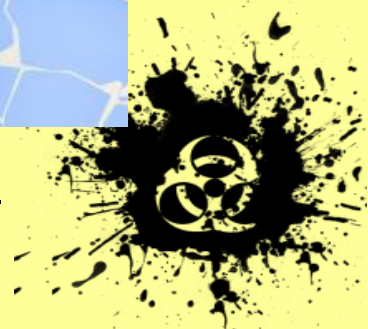
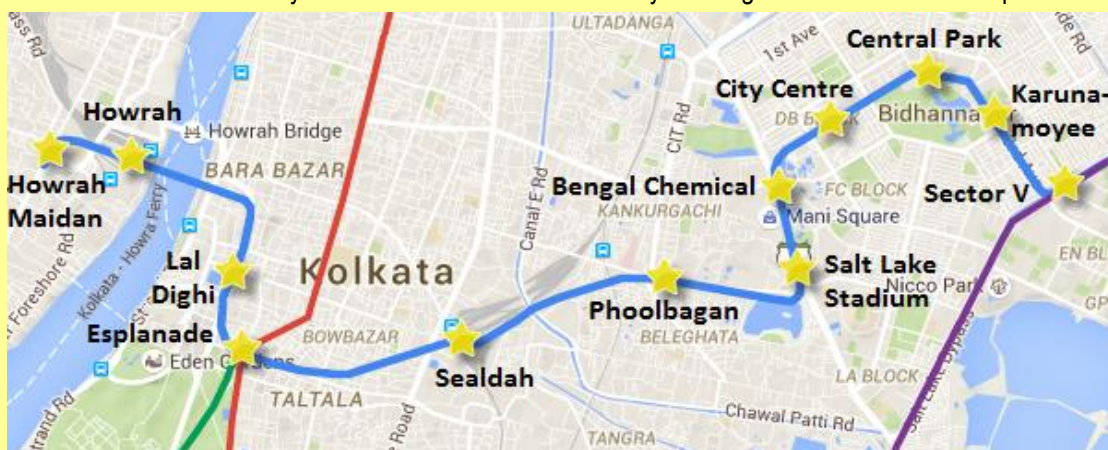
While ECHO's focus is specifically on diminishing the threat posed by WMD and improving diagnostics for troops who may have been exposed, the intrusive nature of the technology raises privacy concerns.

To address this, DARPA claims they intend to 'proactively engage with several independent ethical and legal experts to help inform the Agency's research plans, think through potential issues, and foster broader dialogue in the scientific community on social implications.'

50 fall ill following Chlorine gas leak near Howrah Kolkata

Source: <http://www.millenniumpost.in/kolkata/50-fall-ill-following-chlorine-gas-leak-near-howrah-283516>

Feb 05 – At least 50 people including kids have fallen ill after inhaling poisonous chlorine gas which leaked from a drum inside a factory in Howrah's Ghushuri on Monday morning. The incident that took place near



Jagannath ghat in Belur sparked panic among locals. People felt a burning sensation in their eyes following the leakage. Some of the nearby schools were shut down due to the incident. After being informed, fire brigade personnel rushed to the spot and threw the packed container into River Hooghly. The river water turned yellow due to chemical reaction, posing a serious threat to the plants and animals underwater.



Those who were injured were immediately taken to T L Jaiswal Hospital in Howrah. Most of the victims had complained about a burning sensation in their eyes and respiratory distress. While most of the patients are now stated to be in stable condition, some were vomiting. Some of the locals around Jagannath ghat became agitated and prevented the fire brigade to bury the container near the bank. Having found no option, the fire brigade personnel finally threw the container into the river polluting the water.

When the factory officials found the drum to be leaking they immediately informed the matter to the fire brigade and police who rushed to the spot to bring the situation under control. Police helped the fire brigade personnel to take the drum to Jagannath ghat for defusing the gas. They used microphones to alert locals living around Jagannath ghat to go away from the river bank as the container was thrown into the river. Locals, however, alleged that fire personnel reached the spot late. According to police, the leakage took place at around 9 am on Monday. The fire brigade officials initially tried to identify the leakage. After identifying the leakage, they started repairing it. Soaps were applied to repair the leakage. Locals were asked by the fire officials not to light matches to avert any major tragedy.

Chlorine gas is a respiratory irritant, but in high enough concentrations pulmonary edema may develop. Chlorine gas may also cause headaches, nausea, vomiting.

Exposure to low levels of chlorine gas for extended periods (chronic exposure) may produce pulmonary problems such as a chronic cough, phlegm production, wheezing, and possibly asthma or asthma like conditions, and eye irritation.

Humans can usually detect chlorine gas or smells at levels below 1 part per million (ppm). Mucus membrane irritation occurs above 1 ppm, but increases in intensity up to about 15 ppm. Chest pain and shortness of breath usually occur at 30 ppm but at 40-60 ppm are levels where pulmonary edema may develop.

There is no specific treatment for those who are ill but to flush the eyes and maybe the nose, and provide clean air. Treatment is symptomatic. Washing the body and all affected areas of the body will help eliminate the chlorine on the skin and reduce the pain.



Chlorine gas in high levels is painful to the eyes and the respiratory system, and people exposed to very high levels can die.

Chlorine gas is usually a yellow-greenish and is heavier than air, so it remains near the ground. Furthermore, the color described when the barrel was placed in the water is consistent with the color of chlorine.

Large amounts of chlorine in the water may produce chlorine salts and other chemicals when combined with substances in the water. Based upon the description this may be a significant environmental contamination.

Ouvry acquires SIM KIT patent

Source: <https://www.ouvry.com/en/ouvry-acquires-sim-kit-patent-from-dutch-hotzone-solutions-group/>



November 2017 – Ouvry, a French company specialising in CBRN and personal protective systems, has acquired the Sim Kit patent from the Dutch Hotzone Solutions Group. The chemical simulant kit, comprising three realistic chemical warfare agent simulants, is intended for use in CBRN training and courses. Sim Kit was launched and patented in 2012 by practitioners, former instructors from the Organisation for the Prohibition of Chemical Weapons (OPCW), and is used in over 20 countries. Ouvry already had an exclusive distribution agreement for the French market. Hotzone Solutions Group now

wants to focus on its core activities: instruction, consulting services and supply of integrated systems (mobile laboratories, CBRN risk assessment and categorisation kits).

CBRNe World Magazine

December 2017 issue (pp.51-53)

Doctors Christina Baxter, Michael Logan, Sharyn Gaskin and Dino Pisaniello take an evidence-based approach to the mass decontamination paradigm



Paradigm shift

Can we find a way to objectively reduce mass decontamination of exposed persons without comprising their health?



This article considers this question and applies recent research into the nature of the interaction of gases/vapours with the skin during mass decontamination operations.

Central Pharmacy of French Armed Forces – CBRN

By Florence Jarzuel (Pharmacien Principal)

Threats of terrorism: Responses of the Central Pharmacy of the French Armed Forces

International Review of the Armed Forces Medical Services. Vol 90/4 [ecember 2017]; pp.62-67

CPA manufactures **Ineurope**, a self-injector against nerve agents that is indicated in case of intoxication from the first signs. It contains two compartments, the first one with a solvent (water for injection), the second one with three active products: 2mg of atropine (anticholinergic fr binding to muscarinic receptors), 350mg of pralidoxin (reactivator of cholinesterase inhibited by neurotoxic compounds) and 2mg of avizafone (an active diazepam product used as anticonvulsant). Each fighter carries two Ineurope if a chemical attack is suspected. It is administered via intramuscular route and the needle is strong and long enough to perforate technical suits.



Where's the Evidence Assad Used Sarin Gas On His People?

By Ian Wilkie

Source: <http://www.newsweek.com/wheres-evidence-assad-used-sarin-gas-his-people-810123>

Feb 17 – The best way to analyze chemical weapons events in Syria is to try to discern who is providing evidence, why they are presenting evidence, and what that evidence comprises.

Since the United States' false Weapons of Mass Destruction (WMD) presentation in the U.N. Security Council led to an illegal, unjustified war in Iraq, it is only prudent to question the motivations of people accusing others of WMD war crimes and demanding regime change based on these allegations.

Secretary of Defense James Mattis made it very clear recently that "aid groups and others" had provided the U.S. with evidence that was insufficient to conclude that President Bashar Assad had recently used the chemical weapon Sarin against Syrian civilians. In other words, the Pentagon does not believe what has been presented to it as evidence, chiefly because of the dubious provenance of the providers.

The importance of the evidence source is critical in Syria because the jihadis arrayed against Assad ascribe to a doctrine of deception called taqiyya. Taqiyya fully supports and condones behavior such as chemical weapons "false flags" to gain advantage against infidel enemies on the ground.

My experience with chemical weapons goes back decades to when I was trained to fight in Mission Oriented Protective Posture (MOPP) chemical gear under the threat of Tabun and VX, deadly organophosphate poisons that kill unprotected personnel within minutes. These substances are even more lethal than Sarin and the infantry took very seriously their presence in the enemy's quiver.

Since then, as a counter-terrorism practitioner and cleared contractor, I have become even more well versed in their technical characteristics to the point that the former Central Intelligence Agency Counter-WMD chief has interviewed me on the record about chemical and other WMD.

MilSpec Sarin is clear, odorless and invisible. The "Sarin events" in Ghouta and Khan Sheikhoun did not employ military-grade Sarin munitions. They produced dirty yellow,



chlorine-smelling clouds, which suggest either: (a) manufacture by other than scientists of the Syrian Scientific Research Council or (b) an “accidental” bomb drop that hit stored chemicals on the ground, but not (c) delivery of military grade munitions against rebel military targets.



A Syrian man wears an oxygen mask at a makeshift hospital after a reported gas attack on the rebel-held besieged town of Douma in the eastern Ghouta region on the outskirts of the capital Damascus on January 22, 2018. At least 21 cases of suffocation, including children, were reported in Syria in a town in eastern Ghouta, a beleaguered rebel enclave east of Damascus, an NGO accusing the regime of carrying out a new chemical attack said. Since the beginning of the war in Syria in 2011, the government of Bashar al-Assad has been repeatedly accused by UN investigators of using chlorine gas or sarin gas in sometimes lethal chemical attacks. HASAN MOHAMED/AFP/Getty

Note that I am not trying to make a case for any given scenario; I am merely suggesting that the Assad regime's culpability is vastly under-proven by the public evidence.

Many videos of the White Helmets show them engaged in dubious staging of events, including one from Khan Sheikhoun which shows Uzbek (White Helmet) jihadis engaged in questionable evidence collection. To rely on anything that the White Helmets provide is to share, as we lawyers would call it, the fruit of the poisoned tree, or precisely what Secretary Mattis is alluding to.

Chemical weapons (CW) are ghastly, immoral and a red line since even before that term was made popular. The impetus to use chemical weapons is not a strong one since the world will not sit idly by when people anywhere are killed like poisoned rats. President Assad knows this.

He is under the gun, as it were, and under the glare of thousands of cameras. His motivation not to use CW is immense.

If America did, for example as it alleges in an official White House report, have evidence it calls "our information" regarding the Shayrat airbase "Sarin attack" being prepared, then why not show this?

The intelligence community was more than willing to show Khrushchev's missiles, but they have no ability to share evidence with the public about Assad today? This defies credulity and calls the "evidence" provided in the White House memorandum into question.

Russia and Syria offered the U.S. and U.N. investigators access to the Shayrat airbase, but inspectors refused to go and take samples. Likewise, Khan Sheikhoun was deemed too



dangerous to inspect, even though American and English “experts” were in regular contact with the White Helmets on the ground, one of whom, Dr. Shajul Islam, is an accused kidnapper of Westerners.

Such evidence as has been provided to the world is not National Security Agency intercepts, satellite photos or the testimony of named intelligence community officials, but the quasi-paid promotional material of regime change boosters such as the White Helmets (a UK government-backed, soldier-founded “medical charity”), the Syrian Observatory for Human Rights (a one-man propaganda shop whose founder is in contact with multiple Islamic State commanders) and tiny bellingcat who made an obvious call on MH17 and used that investigative “coup” to push for yet more interference in the affairs of nations deemed overly pro-Russian or pro-Iran.

Never once have these propagandists analyzed evidence objectively, preferring to shoot the messengers such as myself by making ridiculous comparisons to tragedies like the Sandy Hook school shooting in America and misguided theories surrounding them.

The best analysis is apolitical analysis, and these groups have shown they have a policy outcome to push, i.e. regime change, not the truth. One need not admire Putin or Assad to exculpate them, if that is where the evidence leads. The war in Syria is a meat grinder. People are dying of disease and starvation as well as high explosives, missiles and, occasionally, chemicals.

The use of a banned weapon, even if proven, should not obscure the fact that a majority of deaths and injuries in Syria do not come from unconventional weapons, but more traditional means of killing, bombs and bullets, many provided by America via the “good offices” of the CIA.

America wrote the book on WMD and chemicals. We used nuclear weapons against Japan twice and cancer-causing chemical defoliants against Vietnam. There are even credible allegations that U.S. assistance was given to Saddam Hussein in connection with Sarin attacks on Iranian forces.

To focus on the Ghouta and Khan Sheikhoun tragedies to paint Assad as an even more diabolical war criminal than he already is rings facile and hollow. Nobody puts down a rebellion, especially a terrorist-enabled one, by following the laws of war.

Even Abraham Lincoln couldn't do it and look at where that got him.

Ian Wilkie is an international lawyer and terrorism expert and a veteran of the U.S. Army (Infantry). He is working on a book about the potential uses of WMD by terrorists entitled "Checkmate: Jihad's Endgame."

‘Never Been More Difficult’ to Keep Terror Groups from Getting WMD

By Bridget Johnson

Source:

Feb 13 – Terrorist groups are as interested as ever in acquiring weapons of mass destruction in a global landscape where chemical, biological, radiological and nuclear agents have grown more difficult to track, senators heard from Defense officials last week.

Assistant Defense Secretary for Homeland Defense and Global Security Kenneth Rapuano told the Senate Armed Services Subcommittee on Emerging Threats and Capabilities that “rapid technological advancements and increased access to dual use technologies, expertise, and materials that can be used for both peaceful and military

purposes heighten the risk that adversaries can more easily seek or acquire WMD.”

“It has never been more difficult to prevent adversaries from acquiring the materials or expertise necessary to develop WMD or use CBRN materials in intentional attacks,” he said. “Additionally, the speed, volume, and coverage of international travel means that naturally occurring pathogens of security concern can spread worldwide in days, potentially having the same catastrophic consequences of a deliberate biological attack.”

The Intelligence Community, State Department, Department of Homeland Security, Department of



Energy and Justice Department “all play critical roles in detecting threats, preventing attacks on the homeland, and working with foreign partners to stop and respond to incidents,” he added.

Rapuano noted that best efforts at prevention only go so far, thus the agency coalition “must be prepared to contain and reduce CBRN threats once they have developed.”

“DoD is postured to isolate, identify, neutralize, and dispose of CBRN threats before they can reach our borders,” he said. That includes concern about reports of ongoing use of chemical agents by the regime of Bashar al-Assad in Syria, where “the U.S. and our coalition partners continue to exploit opportunities on the ground to better understand and disrupt their CW networks.”

“We must anticipate that our adversaries will continue to evolve and develop increasingly sophisticated methods to pursue, develop, or deploy CBRN weapons,” Rapuano stressed.

Marine Corps Lt. Gen. Joseph Osterman, deputy commander of United States Special Operations Command, emphasized the importance of increased integration of intelligence, planning and assessments in a counter-WMD fusion center “dedicated to coordinating information flow and planning, fusing intelligence and operations, and providing the WMD community of action a single point of contact for DOD operational capability.”

Chairwoman Joni Ernst (R-Iowa) asked Rapuano which WMD threat concerned him most at this point.

Rapuano picked biotechnology, due to the “rapid advances and ubiquitous availability” today.

“Things that you can buy on the web now and essentially do a paint-by-numbers instruction were the province of Nobel Prize-winning scientists only decades ago, and that really levels the playing field for any actor looking to develop biotechnology, biological agents and novel engineered agents that can present a real threat,” he added.

The assistant secretary confirmed that “both Al-Qaeda and ISIS are interested in chemical, biological, nuclear,” and “certainly would be if they had opportunity to acquire the materials and know-how.” He wouldn’t elaborate in open session.

Osterman said that “functional campaign planning” helps officials “observe where the technology transfer may occur between state and non-state actors.”

“Also, where one non-state actor perhaps is working with another non-state actor in a different geographic location or in a functional capacity,” the general added. “So we try to weave that in with the translation of our strategy and policy to actual tactical application of interdiction in order to basically reinforce the larger protocol efforts that are in place.”

The CBRN Response Enterprise is nearly 19,000 strong, consisting of National Guard and Title X military arranged into teams. **“We have the WMD-CSTs, the civil support teams. We have the enhanced response teams. We have a range of teams with a different mix of capabilities that go from decontamination, detection, medical effects, medical treatment,”** Rapuano said. “There is air transportation, ground transportation, the whole package that can be integrated that can either be commanded by the state National Guards and there’s at least one team in every state. Or they can be authorized under Title X and under DOD command.”

Response teams are deployed “on a routine basis starting with National Special Security Events, the Super Bowl, other large events, Fourth of July.”

“And these assets will be pre-deployed in the vicinity of activities for which there may be some concern that they would be the target of an attack that might include WMD,” Rapuano explained. “And they are prepared to respond in concert with all of the other assets that are typically deployed for those events — law enforcement and others.”

DoD has been working “very closely” with Health and Human Services and DHS “to look at bio threats in general, including naturally occurring, to sync our research with them to ensure that we’re covering the full landscape of what’s naturally occurring and what perhaps could be intensified or developed for malevolent use,” the assistant secretary told lawmakers.

Pressed on how the departments wouldn’t get caught off-guard, with the 2014 spread of the Ebola virus offered as an example, Rapuano replied that “we’re looking at ways



that we can get quick production, just in time, but that's very difficult because you need that base in terms of the manufacturing base."

Sen. Martin Heinrich (D-N.M.) mused on whether ISIS stripped of its physical caliphate poses the same WMD threat.

"Because, obviously, this is about talent as much as anything, and intellectual capacity," Heinrich noted.

Osterman replied that "they are still a threat, to put it simply."

"Really, when we look at pathways, we're looking at intent, infrastructure and expertise to your point, production, weaponization, delivery systems in use," the general added. "And they've demonstrated not only that capability over time, but even though as they lose the geographic caliphate, that those individuals that have the technical knowledge and frankly, the

level at which they were working and had been working is not one that by loss of that geographic caliphate that it would undermine their ability to continue to pursue the weapons of mass destruction capability."

Osterman stressed that "it's a very, very finite technical capability and human capital issue."

"And they are generally not front-line fighters. There are folks that were not necessarily easy to track, but they're ones that we've been working on for a number of years here and have ideas where they are if we haven't already basically taken them off the battle space," he said. "So that's where my concern is, and where we watch very closely again through the trans-regional approach is to make sure they're not leaving that area of operations and perhaps than becoming an export or, as we term it, an ex-ops threat to the United States proper."

AI experts list the real dangers of artificial intelligence

Source: <https://qz.com/1213524/ai-experts-list-the-real-dangers-of-artificial-intelligence/>

Feb 22 – A 100-page [report](#) written by artificial intelligence experts from industry and academia has a clear message: Every AI advance by the good guys is an advance for the bad guys, too.

The paper, titled "The Malicious Use of Artificial Intelligence: Forecasting, Prevention, and Mitigation," calls this the "dual-use" attribute of AI, meaning the technology's ability to make thousands of complex decisions every second could be used to both help or harm people, depending on the person designing the system. The experts considered the malicious uses of AI that either currently exists or could be developed over the next five years, and broke them out into three groups: digital, physical, and political. Here is a selected list of the potential harms discussed:

Digital

- **Automated phishing**, or creating fake emails, websites, and links to steal information.
- **Faster hacking**, through the automated discovery of vulnerabilities in software.
- **Fooling AI systems**, by taking advantage of the flaws in how AI sees the world.

Physical

- **Automating terrorism**, by using commercial drones or autonomous vehicles as weapons.
- **Robot swarms**, enabled by many autonomous robots trying to achieve the same goal.
- **Remote attacks**, since autonomous robots wouldn't need to be controlled within any set distance.

Political

- **Propaganda**, through easily-generated [fake images and video](#).
- **Automatic dissent removal**, by automatically finding and removing text or images.
- **Personalized persuasion**, taking advantage of publicly-available information to [target someone's opinions](#).

The report paints a bleak picture of our potential future, especially since the timeframe is a mere five years. But it doesn't mean we're resigned to dystopia. Researchers are already working on some [potential solutions](#) to these problems, though they warn it will likely be a cat-and-mouse game.





Analytical methods to help develop antidotes for cyanide, mustard gas

Source: <http://www.homelandsecuritynewswire.com/dr20180226-analytical-methods-to-help-develop-antidotes-for-cyanide-mustard-gas>

Feb 25 – Several Food and Drug Administration-approved antidotes are available for cyanide poisoning, but they have severe limitations. To develop effective antidotes for chemical agents, such as cyanide and mustard gas, scientists need analytical methods that track not only the level of exposure but also how the drug counteracts the effects of the chemical.

To develop antidotes for chemical agents, such as cyanide and mustard gas, scientists need analytical methods that track not only the level of exposure but also how the drug counteracts the effects of the chemical. That's where the work of Erica Manandhar, postdoctoral research associate at South Dakota State University, comes in.

Several Food and Drug Administration-approved antidotes are available for cyanide poisoning, but they have severe limitations, explained Manandhar, who completed her doctoral work in the Department of Chemistry and Biochemistry in December 2017. She developed the first analytical method to evaluate a new cyanide antidote, dimethyl trisulfide (DMTS), and a method of quickly detecting a substance associated with exposure to sulfur mustard.

Her research adviser, professor Brian Logue, has been developing countermeasures to deal with exposure to cyanide and other possible chemical weapons for more than a decade through support from the Department of Defense and National Institutes of Health. Logue developed a method of detecting cyanide exposure in 60 seconds from a blood sample and is working toward getting FDA approval for a portable device called a cyanalyzer.

Manandhar said, "I've always been interested in science to solve problems that impact people's lives. Working with Dr. Logue on cyanide and chemical warfare agents, I can help find answers to questions of great concern in the modern world."

Testing new cyanide antidote

"DMTS does not depend on any other body enzymes so it can work on its own. It can easily penetrate the cell membrane and blood-brain barrier and it can be administered intramuscularly—that's important when you're dealing with mass casualties in the field," Manandhar said.

SDSU [notes](#) that to evaluate an antidote in animal models, scientists must understand the rate at which the antidotes enters the body, how it neutralizes the cyanide and how the body excretes or metabolizes it. "Scientists need to know what the drug is doing in the body," said Manandhar. The analytical method she developed determines DMTS levels in blood.

Researchers working on DMTS as a cyanide antidote send samples from their animal studies to Manandhar for analysis as they work toward FDA approval. Their collaborative work is funded through the National Institutes of Health Countermeasures Against Chemical Threats (CounterACT) Program, which supports the development of new therapeutics to prevent and treat injuries from toxic chemicals, which can be released through an industrial accident or as a terrorist attack.

Detecting exposure to mustard gas

Nearly a century after sulfur mustard, commonly known as mustard gas, was first used as a chemical warfare agent in the First World War, **there is still no antidote.** Exposure to mustard gas, either as a liquid or a gas, causes blistering of the skin and mucous membranes, according to the Centers for Disease Control and



Prevention. Victims may not know they've been exposed for hours or even days and the vapor can be carried by the wind.

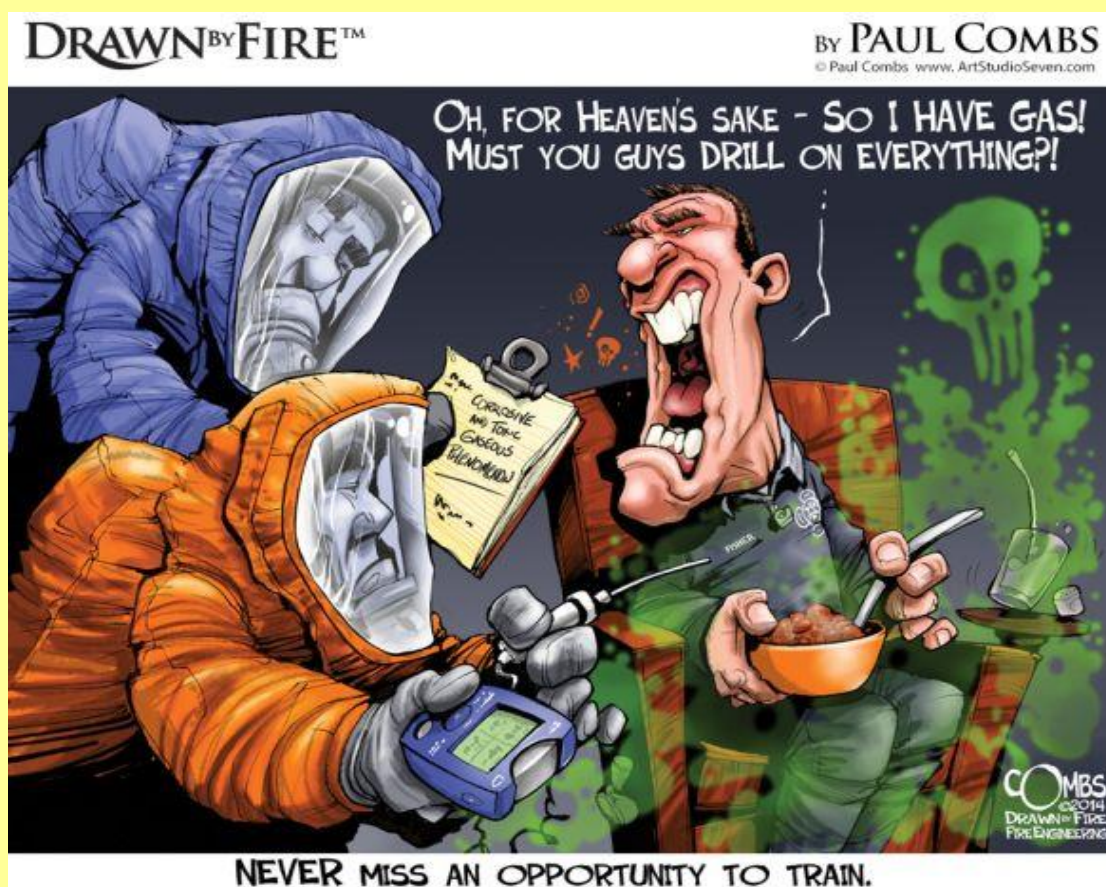
"The main way mustard gas kills is through respiratory damage," Manandhar said, pointing out sulfur mustard was used in the 1980s during the Iran-Iraq War and, more recently, in Syria. "Researchers are trying to understand how this toxicity happens, what we can do to mitigate it and what drugs have the potential to do this."

The end goal is to develop antidotes, but to do so, scientists need to determine exposure level so they know how effective the treatment is, Logue explained. "That's where we come in."

Determining the inhaled dosage is difficult because breathing rate and lung volume differ, explained Manandhar, who screens samples from animal studies conducted at the University of Colorado-Denver. The research is also supported by NIH CounterACT.

"We look for biomarkers—what mustard gas converts to—to develop accurate inhalation toxicity studies," Manandhar said. For her dissertation research, Manandhar developed a method of detecting sulfur mustard oxide, a biomarker of sulfur mustard exposure, in plasma. "It appears in the body right away after exposure and Erica's analytical method identifies the marker in 15 minutes," Logue explained.

"The plan is to use the biomarkers to create a diagnostic for mustard gas," he continued. However, Logue cautioned, only a small number of studies have been done. More work will be needed to confirm that the biomarkers they've identified will correlate to the actual inhaled dose. Though there is much yet to be done, scientists are making progress toward developing an antidote for a chemical warfare agent that has threatened world populations for decades.





Bio News

Using epigenetic signatures and machine learning to improve diagnosis

Source: <https://www.sciencedaily.com/releases/2018/01/180123112542.htm>

Researchers have identified unique epigenetic signatures for nine neurodevelopmental disorders lending to a better method of diagnosis for disorders with much clinical overlap. The epigenetic signatures were developed through methylation array analysis.

The world's largest set of brain scans are helping reveal the workings of the mind and how diseases ravage the brain

Source: <http://www.sciencemag.org/news/2018/01/worlds-largest-set-brain-scans-are-helping-reveal-workings-mind-and-how-diseases-ravage>

ENIGMA, the world's largest brain mapping project, was "born out of frustration," says neuroscientist Paul Thompson of the University of Southern California in Los Angeles. In 2009, he and geneticist Nicholas Martin of the Queensland Institute of Medical Research in Brisbane, Australia, were chafing at the limits of brain imaging studies. The cost of MRI scans limited most efforts to a few dozen subjects—too few to draw robust connections about how brain structure is linked to genetic variations and disease. The answer, they realized over a meal at a Los Angeles shopping mall, was to pool images and genetic data from multiple studies across the world.

After a slow start, the consortium has brought together nearly 900 researchers across 39 countries to analyze brain scans and genetic data on more than 30,000 people.

Two fine examples of what people can do when not killing each other

Experts tip on biological arms to prevent misuse

Source: <http://www.mediamaxnetwork.co.ke/news/402911/experts-tip-biological-arms-prevent-misuse/>

Jan 22 – Biosecurity experts have said biological weapons pose a serious threat to national, regional and global stability as they are weapons of mass destruction (WMD).

University researchers can, therefore, play an active role by contributing to development of effective measures and practices to secure biological materials and technology that could otherwise be misused to produce biological weapons or lead to their proliferation.

The revelation came at Jomo Kenyatta University of Agriculture and Technology (JKUAT) during the Kenya National Biosecurity Workshop for Universities, which was organised by the government through National Commission for

Science, Technology and Innovation (Nacosti) and the Commission for University Education (CUE) in partnership with the Danish Government's Centre for Biosecurity and Biopreparedness (CBB).

Nacosti Technical Services director Roy Mugira said under uncertain controls misuse of biological materials and technology may result in insecurity and threaten global stability.

Experts also said it was important to highlight the challenges encountered in the facilities that access, use, handle or transfer biological materials as they seek to handle infectious diseases on one hand and prevent hostile activities on the other.



JKUAT Vice Chancellor Prof Mabel Imbuga said the workshop was an opportunity for researchers, lecturers and students among others in biological sciences to acquaint themselves with emerging issues in the field.

Military Training To Spray Biological Weapons From Aircraft Inside US

Source: <https://chemtrailsplanet.net/2015/10/20/military-training-to-spray-biological-weapons-from-aircraft-inside-us/>

October 2015 – It's no secret that the United States is one of the few countries in the world [to have used chemical and biological weapons](#). But it's still surprising to watch this newly declassified video, which talks at length about the Navy's development and testing of biological and chemical weapons, including two large-scale tests on the California and Carolina coasts.

The 1952 video, called "[Naval Concepts of Chemical and Biological Warfare](#)," appears to be a training video produced by the US Naval Photographic Center. It details at length "offensive biological and chemical warfare" tactics and capabilities of the Navy, and features footage from two specific tests carried

out with non-pathogenic agents in the United States. The video's narrator does not say what specific chemicals were used in the tests but notes that they are stand-ins for biological weapons.

From the video's narrator:

"Navy delivery and dispersion of the agents started with tests made in 1950. A rather crude spraying system was installed on a minelayer, which, in September of that year secretly cruised off the coast of California and sprayed some 50 gallons of biological simulant 2-5 miles off shore. Within an hour, the simulant has been carried ashore by the wind. Sampling tests showed some 48 square miles of heavily populated area was contaminated. Had an infectious agent been used in the spray, there might have been 210,000 casualties."

That's not all. Less than two years later, the Navy carried out a larger-scale test off the coast of North Carolina, South Carolina, and Georgia.

"The USS Tercel cruised along some 100 miles of coastline, spraying 25 pounds of fluorescent tracer particles. The operation lasted 8 hours," the narrator said. "Sampling tests made throughout North Carolina, South Carolina, and Georgia indicated an area of 20,000 square miles received these particles, proving that it is possible to contaminate large land areas by releasing sprays at sea under proper weather."

The video, which was published over the weekend on Government Attic, a [repository of government documents and videos](#), goes on and on like this for 14 mind-blowing minutes. It details a missile designed to "fly a tank of agent over the target area and automatically disseminate it," the dispersion of chemical weapons from mines off the coast of Key West, Florida, and various water- and air-based methods of contaminating large tracts of land.

As I mentioned, details of these tests have been published before, but the video footage is newly declassified.

According to the video, biowarfare was designed to accomplish two objectives: "To reduce enemy's production of food by destroying his crops and food producing animals, and to incapacitate the enemy's armed forces and that portion of his human population that directly



supports them,” the video’s narrator said. “The Navy is preparing to accomplish these objectives with both biological and chemical agents.”

These tests were carried out during the height of the Cold War and were eventually shut down during the Nixon administration. The capabilities mentioned in the video are but a few of the United States’s ventures into the realm of biowar.

“The entire experimental legacy is dismaying,” Jeanne Guillemin, a Boston College authority on biological weapons [wrote in her book](#), *Anthrax*. “Most chilling are the mock scenarios played out in urban areas: light bulbs filled with simulated BW agents being dropped in New York subways, men in Washington National Airport spraying pseudo-BW from briefcases, and similar tests in California and Texas and over the Florida Keys.”

Wound monitoring app may keep patients out of hospitals

Source: <https://newatlas.com/woundcare-ssi-app/53074/>

Jan 23 – According to recent studies, surgical site infections (SSIs) are the leading cause of hospital readmission following an operation. In hopes of catching those SSIs before readmission is necessary, scientists from the University of Wisconsin, Madison have developed an experimental app known as WoundCare.

In a test of the app, 40 vascular surgery patients were instructed to regularly upload photos of their wound sites to a server, along with answering a few onscreen questions regarding any symptoms they might be experiencing. They were instructed to do so daily for two weeks.



Nurses reviewed each submission within an average of 9.7 hours – throughout the course of the study, they detected seven wound complications, and one false negative was found.

Screenshots of the WoundCare app

While the patients found the app easy to use, the nurses stated that it was difficult to find time to review the submissions on top of an already heavy workload. For this reason, it is being suggested that the reviews would have to be handled by a dedicated transitional care program, as opposed to simply being added to nurses' duties.

"We set out to come up with a protocol where patients could become active participants in their care and allow us to be in closer communication and monitor their wounds after they leave the hospital," says lead study author, Dr. Rebecca L. Gunter. "This approach

allows us to intervene at an earlier time rather than waiting for patients to come back in after the problem has already developed past the point of being able to manage it on an outpatient basis."

A paper on the research was recently published in the [Journal of the American College of Surgeons](#).



Step-by-step **horsepox** study intensifies dual-use research debate

Source: <http://www.homelandsecuritynewswire.com/dr20180124-stepbystep-horsepox-study-intensifies-dualuse-research-debate>

Jan 24 –“We haven’t described anything that isn’t well-known in the field.”

That’s how David Evans, professor of medical microbiology and immunology at the University of Alberta, defends his latest study involving potentially dangerous research published recently in [PLOS One](#).

The study, titled, “Construction of an infectious horsepox virus vaccine from chemically synthesized DNA fragments,” has caused a stir because it offers a step-by-step account of how Evans and his team recreated the horsepox virus (HPX) using synthesized DNA fragments based on HPX and vaccinia virus genomes. The virus was then used to develop a novel vaccinia vaccine tested in mice.

Pathway to smallpox?

The work generated criticism from global biosecurity experts who say that offering a manual for re-creating an orthopoxvirus is an inherently dangerous proposition. They fear being that Evans and his team have offered rogue states, terrorists, or others a how-to guide to recreating the world’s most dangerous orthopoxvirus—smallpox.

Also read:

- “Ban on deadly pathogen research lifts, but controversy remains,” [HSNW, 15 January 2018](#)
- “U.S. ends 3-year ban on research involving enhanced-lethality viruses,” [HSNW, 20 December 2017](#)
- Jenna E. Gallegos and Jean Peccoud, “DNA has gone digital – what could possibly go wrong?” [HSNW, 15 December 2017](#)
- “Synthetic biology and bioengineering: Opportunities and risks,” [HSNW 27 November 2017](#)
- “Lax policies governing dual-use research, scientists unaware of research’s biosecurity implications,” [HSNW, 15 September 2017](#)
- Eric van der Helm, “Biosecurity and synthetic biology: it is time to get serious,” [HSNW, 1 September 2017](#)
- “Identifying vulnerabilities posed by synthetic biology,” [HSNW, 25 August 2017](#)
- “Making gene editing safer,” [HSNW, 24 July 2017](#)

“This is the first time an orthopoxvirus has even been synthesized, which means there’s now a new pathway for redeveloping the smallpox virus even though it’s eradicated in nature,” said Greg Koblenz, the deputy director of the biodefense graduate program at George Mason University, in [interview](#) with CIDRAP. Besides laboratory samples maintained by the United States and Russia, smallpox cannot be found in the world.

Elizabeth Cameron, the vice president of global biological policy and programs at the Nuclear Threat Initiative (NTI), [issued](#) a statement calling for dialogue to develop clear norms for reducing the biological risks posed by such research. “It’s clear that the capability to create and modify biological agents is outpacing governmental oversight and public debate,” she wrote.

Vaccinia vaccine using dual-use research

Evans said the goal of the research was to understand recombinant viruses and develop new vaccines. Also published last Friday was research from the same group showing that mice were successfully immunized against vaccinia virus using the horsepox-developed vaccine.

Controversial “dual-use” research refers to studies that can be used for both beneficial and nefarious purposes.

“We have very old vaccine technologies that date back to the 1980s,” Evans said. “They work but are clunky if you are trying to really modify a virus, so we were interested in taking advantage of technology and developing better tools.”



Evans said his team worked with advisors with Canada's federal government who approved the work. He also said that although he may have been the first to recreate HPX, he's not the only scientists capable of doing so.

"There are publications on how to reactivate pox viruses dating back to the 1970s and 1980s," said Evans. "It doesn't take a rocket scientist to produce a pox virus. I worry about the people that say you've provided a blueprint. Implicit in that is that other scientists couldn't do it. But many could. They don't need blueprints."

Still, the paper concludes with a warning: "Most viruses could be assembled nowadays using reverse genetics, and these methods have been combined with gene synthesis technologies to assemble poliovirus and other extinct pathogens like the 1918 influenza strain... our studies show that it is clearly accessible to current synthetic biology technology, with important implications for public health and biosecurity."

Koblentz said that any dual-use research must consider what could be gained from the work. In this particular instance, Koblentz said there is no need to use this data to create new smallpox vaccines, and the paper's suggestion that the work could be embraced as a tool to develop new oncolytic agents is far-fetched.

"The benefits promised by the research are illusory, unneeded, and unlikely even," said Koblentz. "They're trying to solve a problem that doesn't exist."

Many scientists agree that this particular line of research [is not worth the risk](#).

As Kai Kupferschmidt [points out in Science Magazine](#), some scientists are worried about this research. He quotes Stephan Becker from the University of Marburg in Germany, who says safe vaccines exist and that there's no market for a horsepox-based replacement. And as Andreas Nitsche of the Robert Koch Institute in Berlin told Kupferschmidt, "If anyone wants to recreate another poxvirus, they now have the instructions to do that in one place."

Gizmodo notes that, strangely, the two Canadian scientists did not discuss any safe alternatives, such as a weakened vaccinia strain called Modified Vaccinia Ankara (MVA) or a similar vaccine developed in Japan called LC16m8.

The synthesis of horsepox virus and the failure of dual-use research oversight

By Gregory Koblentz

Source: <http://www.homelandsecuritynewswire.com/dr20180124-the-synthesis-of-horsepox-virus-and-the-failure-of-dualuse-research-oversight>

Jan 24 – On 19 January 2018, the open access scientific journal [PLOS One](#) published an [article](#) that describes the *de novo* synthesis of horsepox virus, the first ever synthesis of a member of the orthopoxvirus family of viruses that includes the variola virus that causes smallpox. As I have [written](#) about before, this research crosses a red line in the field of biosecurity. Given the high degree of homology between orthopoxviruses, the techniques described in this article are directly applicable to the recreation of variola virus. The synthesis of horsepox virus takes the world one step closer to the [reemergence of smallpox](#) as a threat to global health security. That threat has been held at bay for the past forty years by the extreme difficulty of obtaining variola virus which has

been eradicated from nature and is only known to exist in two WHO-designated repositories.

The reemergence of smallpox would be a global health disaster. Prior to its eradication, smallpox killed an estimated 300 million people, more people than all the wars of the twentieth century combined. Most of the world's population is susceptible to this lethal and contagious disease since routine immunization against smallpox was discontinued after the success of the WHO's global eradication campaign.

Per its [policy](#) on dual-use research, *PLOS* convened its Dual-Use Research Committee, composed of *PLOS* editors and outside experts, to review the manuscript. According to a [statement](#) from *PLOS*,



“The Committee was asked to consider the potential risks of this research, notably the risk that the study might provide new information which could be misused to construct a smallpox virus. They concluded that the study did not

Although this research did not fall under current U.S. regulations on dual-use research of concern, the authors and publisher were well aware of the risks that I and [others](#) had raised and they had an ethical responsibility to carefully



provide new information specifically enabling the creation of a smallpox virus, but uses known methods, reagents and knowledge that have previously been used in the synthesis of other viruses (such as influenza and polio viruses). In consideration of the benefits of publication of the research, especially the potential for improvements in vaccine development, the Committee unanimously agreed that in this instance, the benefits of publication outweigh the risks. The Committee therefore supported publication of this manuscript.”

Given the serious potential risks that this research could be used to recreate variola virus, the blanket assertion by the *PLOS* Dual-Use Research Committee that the benefits of this research outweighs the risks is woefully insufficient. The committee dramatically understates the risks and overestimates the benefits this research presents. The U.S. government has [outlined](#) a number of factors to consider and questions to ask about dual-use research when weighing the risks and benefits of conducting and publishing such research.

consider those risks before publishing the article. Based on the statement issued by *PLOS One*, it does not appear that this committee tried to answer these questions in a rigorous way. If the committee has more evidence to support their risk-benefit assessment, then they should present it for public scrutiny.

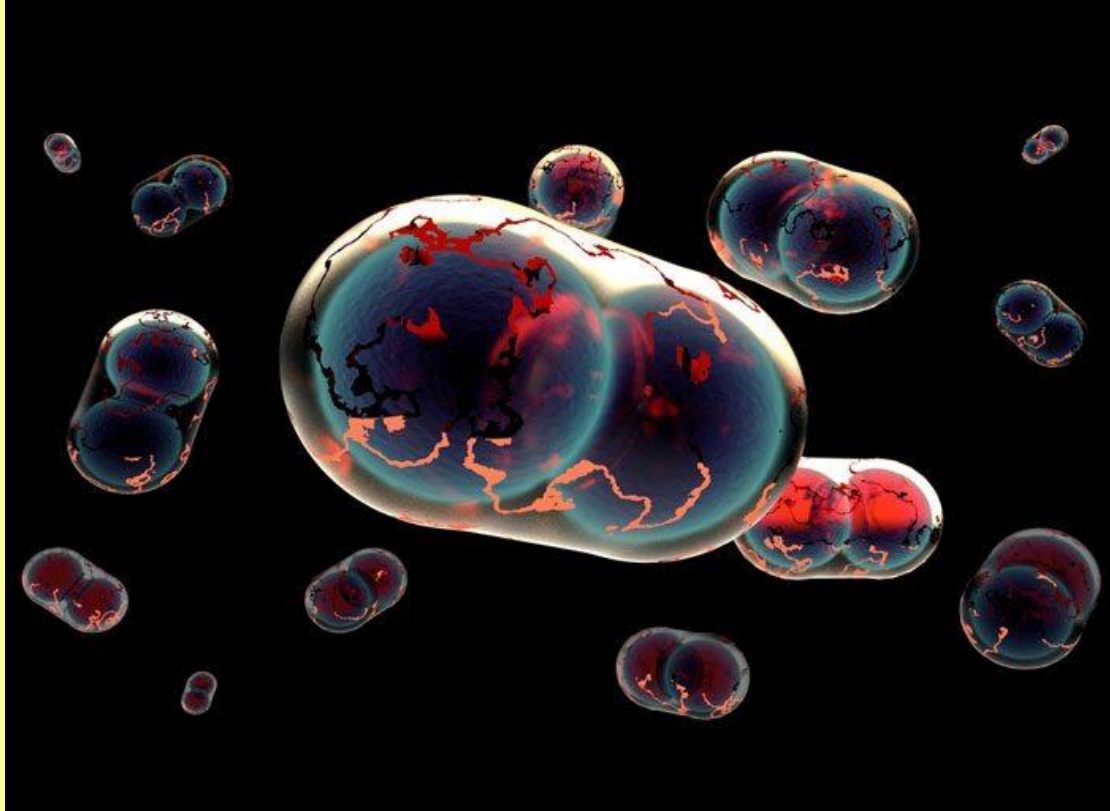
The committee’s central claim, “that the study did not provide new information specifically enabling the creation of a smallpox virus, but uses known methods, reagents and knowledge that have previously been used in the synthesis of other viruses (such as influenza and polio viruses),” is misleading. In fact, the article describes how the authors overcame several obstacles and challenges to synthesizing the horsepox virus, including design of the cloned synthetic DNA fragments, modification of the DNA fragments to aid genome assembly, design of synthetic hairpin telomeres based on vaccinia DNA, and the use of a “helper virus” to reactive infectious horsepox virus. Based on these original contributions to the



science of orthopoxvirus synthesis, it is difficult to understand how the committee could claim that this article does not provide new knowledge about how to successfully synthesize other orthopoxviruses such as variola.

Furthermore, it is misleading for the committee to claim that this study uses only “methods,

Given the high degree of homology between orthopoxviruses, it is also not accurate for the committee to claim this study does not pose any risk because it “did not provide new information *specifically* (emphasis added) enabling the creation of a smallpox virus.” Even the authors of the paper have publicly [acknowledged](#) that



reagents and knowledge that have previously been used in the synthesis of other viruses (such as influenza and polio viruses).” This claim is an attempt to downplay the technical feat accomplished by this paper: the largest ever viral genome to be synthesized chemically. The horsepox virus genome (212,000 base pairs) is much larger than that of either polio virus (7,500 base pairs) or influenza (13,500 base pairs) which necessitated special steps to obtain and assemble the large DNA fragments required to create the complete genome of horsepox virus. In addition, unlike polio virus, the naked DNA of horsepox virus is not infectious and requires the assistance of a “helper virus” to recover infectious virus. While this reactivation technique has been used previously with vaccinia, it has never before been used to reactivate horsepox virus or a synthetic orthopoxvirus.

these methods are directly applicable to the synthesis of variola. Professor David Evans ,who led this research at the University of Alberta, [told](#) the World Health Organization that his synthesis of horsepox virus “was a stark demonstration that that this could also be done with variola virus.” We should not be comforted by the fact that the authors didn’t actually synthesize variola—the techniques described in this article are a blueprint for doing exactly that. Given the [weak and patchy safeguards](#) on ordering synthetic DNA, this research creates a new pathway for the acquisition of variola virus and a new vulnerability for global health. Finally, the committee does not provide any evidence supporting its claim that the study’s “potential for improvements in vaccine development” provide tangible benefits sufficient to outweigh the very real risks that



this research represents. The authors of this article justify their research based on the need for a safer smallpox vaccine. This justification is disingenuous. The safety issues that the authors refer to emerged during the 2002-2003 smallpox immunization campaign in the United States when the first-generation Dryvax smallpox vaccine caused an unexpected number of [myopericarditis events](#). The United States now stockpiles a third-generation smallpox vaccine called IMVAMUNE that [does not have the cardiotoxicity side effects](#) of earlier smallpox vaccines. IMVAMUNE is even [safe enough](#) to give to people with compromised immune systems. Furthermore, the United States is [prioritizing](#) its limited biodefense dollars on improving the existing smallpox vaccines and has no interest in developing a brand new smallpox vaccine. Indeed, last year the Department of Health and Human Services signed a [contract](#) worth up to \$532 million to procure up to 132 million more doses of a freeze-dried version of IMVAMUNE. Without U.S. government funding for research and development, there is no viable business model for getting a horsepox-based smallpox vaccine

through the “valley of death” in the drug development process and turning this research project into a licensed medical countermeasure. Based on these considerations, the horsepox synthesis research is all risk and no reward. Given the known risks of this research for pioneering a technique that can be used to recreate variola virus and its questionable benefits, the publication of this article represents a failure of *PLOS One* to exercise its responsibility to carefully consider the biosecurity implications of the research it publishes. Other journals had [rejected](#) this article, at least in part due to concerns about the biosecurity risks it posed. At the same time, as [Tom Inglesby](#) at the Center for Health Security has pointed out, this article was also made possible by fundamental flaws in the dual-use research oversight system in the United States. Unless those flaws are fixed, the dual-use oversight system will be relegated to monitoring a shrinking slice of the life sciences research enterprise which will decrease our ability to govern emerging technologies and increase our vulnerability to the misuse of biotechnology.

— Also see: Ryan S. Noyce et al., “Construction of an infectious horsepox virus vaccine from chemically synthesized DNA fragments,” *PLOS One* (19 January 2018) ([doi:org/10.1371/journal.pone.0188453](https://doi.org/10.1371/journal.pone.0188453)); “The problem of horsepox synthesis: new approaches needed for oversight and publication review for research posing population-level risks,” *The Bifurcated Needle* (19 January 2018); Elizabeth Camron, “Horsepox Research Accentuates Urgency for Global Action to Reduce Biological Risks,” *NTI* (22 January 2018); and George Dvorsky, “Scientists Slammed for Synthesizing a Smallpox-Like Virus in the Lab,” *Gizmodo* (23 January 2018).

Gregory Koblentz is an Associate Professor in the Department of Public and International Affairs and Director of the Biodefense Graduate Program at George Mason University.

Saudi Arabia MERS-CoV infection

Source: <https://www.moh.gov.sa/en/CCC/PressReleases/Pages/default.aspx>

As of Sat 27 Jan 2018, there have been a total of:

- ◆ 1780 laboratory-confirmed cases of MERS-CoV infection, including
- ◆ 724 deaths [reported case fatality rate 40.8 per cent],
- ◆ 1033 recoveries, and
- ◆ 18 currently active cases/infections.





Space clinic being developed to treat Emirati astronauts

Source: <https://www.thenational.ae/uae/health/space-clinic-being-developed-to-treat-emirati-astronauts-1.700621>



Idea for Emirates Space Hospital project on display at Arab Health Congress in Dubai. Pawan Singh / The National

Jan 31 – Telemedicine programmes currently helping doctors remotely treat patients from hundreds of miles away could one day be so advanced they are able to treat Emirati astronauts in space.

Those are the grand ambitions of the Ministry of Health and Prevention that is working with the UAE Space Agency to develop a space clinic to treat astronauts, should they fall sick on a mission to Mars.

The concept may seem like science fiction, or the latest chapter from a Hollywood film, but doctors insist advanced technology will one day allow specialists to treat patients on another planet.

"We are following the government direction to think broadly about how healthcare can be delivered in the future, and that will involve space," said Dr Kalthoom Al Blooshi, director of hospitals department at the Ministry of Health and Prevention.

"This is a topic of discussion now with the Ministry of Health and Prevention. Nano technology is a concept of remotely managing the health of people.

"Research is ongoing to understand how this may work in the future.

"We are already using remote telemedicine services between hospitals, and even between countries so the next logical step in this field is to expand it to work in space.

"This will one day be developed so that it can work between Mars and Earth – but we know this will take a very long time to perfect."

An idea to establish the space clinic was inspired by the inception of the UAE Space Agency and the UAE Mars Mission – who will be sending an unmanned probe lead by an Emirati team to explore Mars by 2021.

It will be the first such operation carried out by an Arab and Muslim country. The UAE's centennial plan for 2117 involves building a human settlement in Mars as part of a scientific operation.

Telemedicine is a rapidly evolving segment of healthcare, offering patients more flexibility as to how and when they are treated.

Dubai Health Authority announced an expansion of its diabetic retinopathy programme, allowing patients to have routine check-ups without visiting a specialist ophthalmologist in person.



All diabetic clinics across DHA primary healthcare centres have installed digital retinal cameras.

It is allowing images to be sent to direct to Dubai Hospital via telemedicine, so diabetics no longer have to go to an ophthalmologist for their annual eye check-ups.

"Unfortunately, many people living with diabetes don't take the time out for eye screenings and we believe that telemedicine will help combat these issues," said Dr Manal Taryam, chief executive of the Primary Healthcare Sector at the DHA.

"Telemedicine has made the lives of patients easier, and it has also helped doctors with early screening. We believe this technology will go a long way in improving patient outcomes."

Headache clinics across Al Barsha and Nad Al Hamar primary healthcare centres are also using telemedicine and family physicians to co-ordinate with neurologists from Rashid Hospital. It is a programme that will one day be developed to accommodate the UAE space programme, doctors hope.

A 'space island' has been displayed at the 43rd Arab Health conference in Dubai as a concept of how to manage health in space, ahead of any future trip to Mars.

"This will hopefully inspire young people to enter these specialist fields of work that will be beyond the parameters of Earth, maybe in a hundred years or so," said Dr Al Blooshi,

"People will study the impact of different environments on health.

"This will not be easy and many of these hypothesis around how space will affect our health will go through many stages of trial and error, with many years of programming and experiments.

"This is a programme that is likely to run for a hundred years, to study the environment of space, and will be done alongside other international organisations, such as NASA.

"Going to Mars will involve a lot of time, research and ambition. It is important we are thinking beyond Earth.

"It is not a question of why go to Mars, but why not?"

EDITOR'S COMMENT: This is what I like in the Emirates: they have vision and always engulf innovative project that other more advanced countries still think about.

Mobility patterns influence the spread -- or containment -- of an epidemic

Source: <http://www.homelandsecuritynewswire.com/dr20180130-mobility-patterns-influence-the-spread-or-containment-of-an-epidemic>

Jan 30 – **Contrary to expectations, recurring mobility between different cities or districts of a large city (for example, from home to work and back again) can minimize the spread of an epidemic.**

This is the finding of research carried out by researchers from the Universitat Rovira i Virgili (Àlex Arenas) and the University of Zaragoza (Jesús Gómez and David Soriano) and which has just been published in the journal Nature Physics.

They have designed a mathematical model that predicts how mobility can encourage or reduce the spread of an epidemic. Using data from a large city (Cali, Colombia), they have demonstrated that daily mobility between districts reduces the spread of an epidemic, contrary to expectations. During an epidemic, common sense tells us that we should isolate

ourselves from the rest of the population or reduce our movements to diminish the likelihood of contagion. However, far from improving the



situation, isolating ourselves may increase our chances of contracting the disease and worsen the existing local situation.



People make regular journeys, they travel to another city or neighborhood and then return home. The researchers therefore asked the question, does this mobility affect the spread of an epidemic?. “The answer is yes”, explained the ICREA researcher, Àlex Arenas, from the URV’s Department of Computer Engineering and Mathematics, but in a way that is counter-intuitive: recurring mobility results in fewer epidemics. The mathematical model designed by the researchers corroborates this phenomenon and allows them to offer an explanation. They used data from various cities and “found that, to our surprise, an increase in mobility does not always increase the spread of an epidemic” explained Jesús Gómez Gardeñes, researcher at the Instituto Universitario de Investigación de Biocomputación y Física de Sistemas Complejos of the University of Zaragoza. URV says that the cities and districts that they analyzed (for example, neighborhoods of Barcelona, Tarragona and Reus) differed in terms of the number of people who live there and, therefore, in terms of population density. So what is happening? When people move around during the course of their daily activities, these populations end up balancing themselves out; that is, the populations of business and office districts increase when people travel there from residential areas to work. The homogenization of the population in metacities (cities that have connections between people who move around in a recurring manner) indicates that the spread of an epidemic could

be reduced, in contrast to what was previously believed.

The spread of a disease and population density

In a small settlement, it is more difficult for diseases to spread because, although they remain just as infectious, fewer people will come into contact with them. In a larger settlement, therefore, the spread of infection is theoretically much more likely. However, the risk of widespread infection in these large populations is actually lower because of the increased mobility of people between them. The researchers’ mathematical model can predict when this is likely to be the case. That is, it provides a more detailed understanding of why in certain cities the spread of an epidemic may be lower than in others, even though the level and means of infection in theory remain the same. Widespread mobility helps to even out the population and thus reduce the occurrence of epidemics.

The researchers believe that similar studies could be carried out on other cities or territories provided that there was sufficient accurate data regarding mobility between them. According to the researchers, analyzing such data with this model could play a crucial role in developing policies for preventing the spread of an epidemic or predicting when one is likely to occur: “If we fail to understand how the spread of an epidemic is related to mobility, we will not be able to apply the right measures when the need arises” stated Arenas.

— Read more in J. Gómez-Gardeñes et al., “Critical regimes driven by recurrent mobility patterns of reaction–diffusion processes in networks,” [Nature Physics](#) (18 December 2017).

Vaccine attitude rises and falls with ideology

Source: <http://www.homelandsecuritynewswire.com/dr20180131-vaccine-attitude-rises-and-falls-with-ideology>

Jan 31 – Political views and a person’s trust in government play a role in whether or not they get vaccinated, according to a study by three faculty members at the University of Idaho.

Bert Baumgaertner, Juliet Carlisle and Florian Justwan, faculty members in the Department of Politics and Philosophy in the College of Letters, Arts and Social Sciences, published their findings based on responses to a 2017 national survey. Their paper, “The Influence of Political Ideology and Trust on Willingness to Vaccinate,” was published today in the journal *Public Library of Science One* (PLOS ONE).

The results suggest a person’s ideology directly impacts who they trust, allowing the person to selectively credit information related to vaccine risks and benefits in ways that reflect their



ideology. A person with strong conservative political views is less likely to vaccinate than a person with strong liberal political views, according to the study, as is someone who holds lower levels of trust in government medical experts.

“... Decisions about vaccination are based on more than mere knowledge of risks, costs and benefits,” the authors wrote. “Individual decision making about vaccinating involves many other factors including those related to emotion, culture, religion and socio-political context.”

Uldaho says that the study focused on answers to two hypothetical questions related to whooping cough, measles and the flu. Survey respondents were asked to imagine they were missing vaccinations for the three diseases both during and outside of outbreak times.

Baumgaertner, Carlisle and Justwan said their findings suggest awareness campaigns will have limited success when targeting individuals who have limited trust in vaccines to begin with. Public health strategies have long focused on increasing knowledge and awareness based on a “knowledge-deficit” approach to vaccination, but the authors found a person’s ideology has a direct effect on a decision to get a specific shot.

“It’s a question of how do we as a society have coverage against diseases and what role do doctors and government health professionals play in that,” Carlisle said.

The researchers also found that ideology has a strong and statistically significant effect on trust in government medical experts as a whole. However, a person’s political worldview does not seem to influence the extent to which they trust their family’s primary health care provider.

“There is no effect on ideology with respect to trust of the family physician,” Baumgaertner said. “Further research is a good place for us to test how people place trust in the family physician.”

Among other findings, the study found older citizens have slightly more negative views about immunizations than younger respondents while more affluent citizens tended to have more positive views of vaccinations.

The researchers have started on a follow-up study looking at how increased risk of infection, the length a person is sick and chance of death affects that person’s vaccination attitude.

— Read more in Bert Baumgaertner, Juliet E. Carlisle, and Florian Justwan, “The Influence of Political Ideology and Trust on Willingness to Vaccinate,” *PLOS One* (25 January 2018).

Protecting airports against bioterrorism

Source: <https://news.mb.com.ph/2018/02/01/protecting-airports-against-bioterrorism/>

Feb 01 – Cebu City—A team from the Philippine Center on Transnational Crime (PCTC) and Interpol NCB Manila secretariat winds up today its Operational Exercise on Bioterrorism Evidence Exploitation at the Mactan Cebu International Airport.

The team will hold its next exercise at the Davao International Airport.

Assistant Secretary Pelagio Samson Jr., PCTC deputy executive director, said in a forum Tuesday the exercise is part of the CBRNE Bioterrorism Prevention Unit Operation Orders Project VECTOR 2017.

Samson said Project VECTOR aims to get all agencies working together in one network to prevent bio-related crimes and reduce its risks in the country.

David Hargreaves, specialized officer of CBRNE Sub-directorate, said the exercise is designed to raise awareness on bioterrorism by focusing on biosecurity, bioterrorism prevention and the impact of the intentional smuggling of biological materials across borders.

Hargreaves said members of the interagency team must learn to work better together with experts.

He said the threat of bioterrorism in the country or in the world “is quite low but there are groups with growing interests in acquiring and trafficking biological materials via the Internet/technology, these are the things we are preparing for.”

Fanny Ewan of the Interpol Bioterrorism Prevention Unit CBRNE and Vulnerable Targets Sub-directorate said the Internet is a rich source for recipes, materials, knowledge and tutorials on bioterrorism, bio-warfare and biological crimes.





Identifying risks and triggers associated with biological crimes is very important in transnational operations, Ewan said.

The exercise in airports is a “preparedness” skill that includes identification of biological materials, agents and equipment and transnational cooperation as well.

The PCTC and Interpol team said the airport exercise teaches law enforcement agencies skills and techniques for identifying biological samples, collecting evidence from a biologically contaminated crime scene or border screening and the requirements for laboratory transport.

Police Supt. Efren Fernandez, PCTC officer-in-charge for the PH VECTOR Team assured the Philippines is still safe from bioterrorism. “Systems are in place and concerned agencies here are working closely with Interpol and transnational crime units in the world,” he said.

Samson said terrorism will never thrive if people and law enforcement agencies cooperate with one another.

Belief in conspiracy theories associated with vaccine skepticism

Source: <http://www.homelandsecuritynewswire.com/dr20180202-belief-in-conspiracy-theories-associated-with-vaccine-skepticism>

Feb 02 – People who believe Princess Diana was murdered or that John F. Kennedy’s assassination was an elaborate plot are more likely to think that vaccines are unsafe, despite scientific evidence to the contrary, according to research published by the American Psychological Association.

“Vaccinations are one of society’s greatest achievements and one of the main reasons that people live about 30 years longer than a century ago,” said lead researcher Matthew Hornsey of the University of Queensland. “Therefore, it is fascinating to learn about why some people are so fearful of them.”

The study is the first to test the relationship between conspiracy beliefs and antivaccination attitudes among a global sample, according to Hornsey. The research was published in the journal [Health Psychology](#).

Hornsey and his co-authors surveyed 5,323 people from 24 countries on five continents using online questionnaires between March 31 and May 11, 2016, measuring antivaccination attitudes and belief in four conspiracy theories: that Princess Diana was murdered; that the American government knew about the 9/11 attacks in advance and chose to let them happen; that a shadowy group of elites exist to plot a new world order; and that John F. Kennedy was murdered as part of an elaborate plot.



The APA [notes](#) that those with strong beliefs in conspiracies were most likely to hold antivaccination



attitudes regardless of where they lived. For example, the more people believed that Princess Diana was murdered, the more negative attitudes they had about vaccinations. In contrast, level of education had a very small impact on antivaccination attitudes.

"People often develop attitudes through emotional and gut responses," Hornsey said. "Simply repeating evidence makes little difference to those who have antivaccination attitudes."

Large pharmaceutical companies, which profit from selling vaccines, are often targets for conspiracy theorists, said Hornsey. "For many conspiracy theorists, profits gained are a sign that the system is broken and the truth is being covered up by vested interests."

"Trying to reduce people's conspiracy beliefs is notoriously difficult," Hornsey said. "An alternative possibility is to acknowledge the possibility of conspiracies, but to highlight how there are vested interests on the other side too; vested interests that are motivated to obscure the benefits of vaccination and to exaggerate their dangers."

Anti-vaccination attitudes were also associated with intolerance of those who limit their freedom, disgust toward blood and needles and an individualistic worldview, according to the study.

— Read more in Matthew J. Hornsey et al., "The Psychological Roots of Anti-Vaccination Attitudes: A 24-Nation Investigation," [Health Psychology](#) (1 February 2018).

Worst-case global pandemic **scenario**: 700,000 dead, \$500 billion in economic losses

Source: <http://www.homelandsecuritynewswire.com/dr20180205-worstcase-global-pandemic-scenario-700-000-dead-500-billion-in-economic-losses>



Feb 05 – **The worldwide spread of a serious infectious disease could result in pandemic-related deaths of 700,000 and annual economic losses of \$500 billion**, according to a study in the *Bulletin of the World Health Organization*. Victoria Fan, an assistant professor in the Office of Public Health Studies at the Myron B. Thompson School of Social Work at the University of Hawai'i at Mānoa, is lead author of a new study which applied a theoretical



model to calculate the expected number of deaths and economic losses in rare pandemic scenarios. The study was based on Fan's work using impact and economic evaluations. The dollar figure of economic losses is much higher than those found in previous studies, which, according to the study, means "there is an unmet need for greater investment in preparedness against major epidemics and pandemics." Hawaii [notes](#) that the projection of total pandemic-related costs of \$500 billion, or 0.6 percent of global

Pandemic risk: how large are the expected losses?

Victoria Y Fan,^a Dean T Jamison^b & Lawrence H Summers^c

Abstract There is an unmet need for greater investment in preparedness against major epidemics and pandemics. The arguments in favour of such investment have been largely based on estimates of the losses in national incomes that might occur as the result of a major epidemic or pandemic. Recently, we extended the estimate to include the valuation of the lives lost as a result of pandemic-related increases in mortality. This produced markedly higher estimates of the full value of loss that might occur as the result of a future pandemic. We parametrized an exceedance probability function for a global influenza pandemic and estimated that the expected number of influenza-pandemic-related deaths is about 720 000 per year. We calculated that the expected annual losses from pandemic risk to be about 500 billion United States dollars – or 0.6% of global income – per year. This estimate falls within – but towards the lower end of – the Intergovernmental Panel on Climate Change's estimates of the value of the losses from global warming, which range from 0.2% to 2% of global income. The estimated percentage of annual national income represented by the expected value of losses varied by country income grouping: from a little over 0.3% in high-income countries to 1.6% in lower-middle-income countries. Most of the losses from influenza pandemics come from rare, severe events.

income, falls within the Intergovernmental Panel on Climate Change's estimates of the costs of global warming. This implies that the losses from pandemic risk would be similar in magnitude to those of climate change.

The model may also be applied to other outbreaks, such as malaria, or catastrophic events, including nuclear attack. "Policymakers may be able to estimate the economic losses that come with rare but potentially devastating events," said Fan. "We hope this can lead to more appropriate adjustments for national policies and investments, and international collaborations on pandemic preparedness."

— Read more in Victoria Y. Fan et al., "Pandemic risk: how large are the expected losses," *Bulletin of the World Health Organization* 96 (2018): 129–34.

Bill Gates **thinks** an infectious disease outbreak could kill 30 million people in the next decade — but the US is cutting efforts to prevent global pandemics

Source: <http://www.businessinsider.com/cdc-cutting-global-disease-outbreak-prevention-efforts-pandemic-risk-2018-2>

Feb 02 – The worst Ebola outbreak in history killed more than 11,300 people in West Africa between 2014 and 2016. It spurred a realization: the world was extremely unprepared for [epidemics of deadly disease](#). So the US Centers for Disease Control and Prevention began an initiative known as the Global Health Security Agenda in 49 countries around the world in 2014. That program is supposed to help identify and respond to infectious disease outbreaks.

But money for that program is running out, according to CDC documents [reviewed and reported on](#) by the Wall Street Journal. Because of that, the CDC reportedly plans to eliminate those operations in 39 countries in the fall of 2019. Locations where the program would end include the Democratic Republic of the Congo, China, Haiti, Rwanda, and Indonesia. In all of those locations, there's enough biodiversity that humans regularly come into contact with emerging and rapidly transforming viruses and other potential disease-causing organisms.



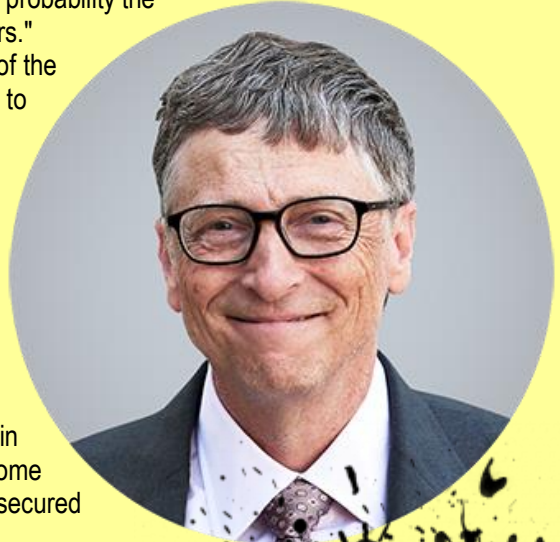
Diseases know [no national borders](#) and can jump from one species to another, as happened to with Ebola, MERS, SARS, and various other epidemics in recent years. Because of that, many experts think that we need to be better prepared to conduct global disease surveillance in order to prevent future outbreaks.

Bill Gates has described an emergent infectious disease as among the greatest threats humanity faces at the moment.

"Whether it occurs by a quirk of nature or at the hand of a terrorist, epidemiologists say a fast-moving airborne pathogen could kill more than 30 million people in less than a year," Gates [wrote in an op-ed](#) for Business Insider in 2017. "And they say there is a reasonable probability the world will experience such an outbreak in the next 10-15 years."

Other experts agree. George Poste is an ex officio member of the [Blue Ribbon Study Panel on Biodefense](#), a group created to assess the state of biodefense in the US.

"We are coming up on the centenary of the 1918 influenza pandemic," Poste told Business Insider last fall. "We've been fortunately spared anything on that scale for the past 100 years, but it is inevitable that a pandemic strain of equal virulence will emerge."



The end of surveillance

The global surveillance program

was funded by a five-year package that comes to an end in the fall of 2019 — which means those programs still have some time. But many experts hope additional funding can be secured before that end date comes.

The risk of a global pandemic hasn't fallen over the past five years. We live in a world that is more interconnected and populated than ever, with humans continuing to expand into wilderness areas where they regularly interact with new organisms, some of which may expose us to different diseases.

David Rakestraw, a program manager overseeing chemical, biological and explosives security at Lawrence Livermore National Laboratory, and Tom Slezak, the laboratory's associate program leader for bioinformatics, agree that these risks are ongoing.

"The fragile nature of living systems has been demonstrated repeatedly throughout history and we continue to witness the devastating impact of naturally occurring international pandemics," they told Business Insider in an email in the fall. "Both natural and intentional biological threats pose significant threats and merit our nation's attention to mitigate their impact."

A group of more than 200 global health organizations [wrote a letter](#) to Health and Human Services Secretary Alex Azar on Monday expressing grave concerns about the scale-back of the global health security programs.

"Pulling out now from countries like Pakistan and Democratic Republic of the Congo — one of the world's main hot spots for emerging infectious diseases — risks leaving the world unprepared for the next outbreak," the letter says. "[N]ow is not the time to step back."

The groups behind the letter hope to encourage Congress and the Trump administration to ensure continued funding for disease surveillance and prevention, which would likely involve Congressional approval for additional CDC funding.

"The ongoing danger that biological threats pose to American health, economic, and national security interests demands dedicated and steady funding for global health security," the authors wrote.



EDITOR'S COMMENT: It is OK if he "thinks". It is NOT OK if he "knows".

Health Effects of Wildfire Smoke and Ash: Lessons From California

By Robert Glatter, MD and John R. Balmes, MD, MPH

January 29, 2018

Source: <https://www.medscape.com/viewarticle/891439>

Robert Glatter, MD: Hello. I'm Dr Robert Glatter, assistant professor of emergency medicine at Northwell Health and attending physician at Lenox Hill Hospital in New York City.

The year 2017 was particularly devastating for California. The October wildfires in Northern California killed at least 44 people and caused unprecedented levels of air pollution.^[1]

The Thomas Fire in Southern California has become the largest in the state's history.^[2] The smoke and ash from these fires exposed the population to the risk of inhaling particulate matter, sending many people



to the emergency department. Now, as the latest blaze gradually comes under control, it's important to contemplate the health effects of wildfire smoke exposure.

Here to talk to us today about this topic is Dr John Balmes, professor of medicine at University of California-San Francisco and attending physician in the divisions of pulmonary and critical care medicine at Zuckerberg San Francisco General Hospital. I want to talk about the acute effects as well as long-term effects of smoke, especially from fires, and how this affects respiratory and cardiac health.

John R. Balmes, MD, MPH: Particulate matter is the primary constituent of wildfire smoke that we are concerned about in terms of health effects. There are many other nasty chemicals in wildfire smoke, but the bulk of the problem is related to particulate matter. Particulate matter comes in different sizes, and it's the fine particulate matter that can make it deep down into the lungs, which is what the Environmental Protection Agency (EPA) regulates and what we're concerned about.

Dr Glatter: There are different sizes, from 2.5 microns up to 10 microns. Is the 2.5-micron size the one that's causing the inflammation we see in lungs?

Dr Balmes: Yes. "PM10" means the particles are 10 microns in diameter or less. They make it through the vocal cords and into the large airways, so those particles can exacerbate asthma and chronic obstructive pulmonary disease (COPD). The small particles (2.5





microns; PM2.5) can make it down to the deep lung. Those are the ones that have been associated with an increased risk for death due to both respiratory and cardiovascular problems.

Dr Glatter: If an average person is exposed to smoke—for example, with this recent fire—and is overcome by the smoke, what is the impact of that exposure in and of itself? Is that enough to cause an inflammatory response or lead to some cardiac or respiratory issue down the line?

Dr Balmes: It all depends on the dose, like almost anything in medicine. If someone is near the fire, then the exposure is very heavy and they can actually be overcome with carbon monoxide intoxication. There was a woman who died in her husband's arms in the Santa Rosa fire. They sought shelter in a swimming pool. The husband made it; the wife didn't.

Farther away from the smoke, downwind in the Central Bay area—for example, during the October fires—the levels were quite high, as you mentioned. Unprecedented. The highest recorded in the Bay area. Most people had some eye, nose, or throat irritation, but the people most affected by those levels were those with preexisting heart or lung disease.

Dr Glatter: People with longstanding asthma or COPD—these are the patients who come to the emergency department and whom we see acutely. Can we expect any longer-term effects other than the pulmonary effects? In other words, any cardiac effects? Could you speak to that?

Dr Balmes: PM2.5 comes from different sources. Most of the PM2.5 that we experience without wildfires comes from combustion sources, such as motor vehicle emissions and power plants. That PM2.5 is associated with exacerbations of preexisting heart disease and death due to cardiovascular disease, either myocardial infarctions or strokes. It's not as clear that wildfire smoke, which is from wood combustion, is as toxic cardiovascular-wise. Respiratory-wise, there is no question. But cardiovascular effects of wildfire smoke are a little bit murky.

Dr Glatter: In a sense, does the smoke trigger inflammation that accelerates atherosclerosis? Has that been established?

Dr Balmes: With other types of PM2.5, definitely. There are some animal data in regard to wood smoke, but the epidemiology of human population studies is conflicting in regard to wildfire smoke and cardiovascular disease. I give advice to the public saying that we should be precautionary. People with heart disease need to protect themselves during these wildfire smoke episodes.

Dr Glatter: How can the general public and patients with lung or heart disease protect themselves? What is your advice on the important things to do in case of a fire?



Dr Balmes: Even healthy people should avoid exercising outside when the smoke is heavy. People with asthma, COPD, or heart disease should try to stay indoors, keep the windows closed, and turn off ventilation systems that bring in outside air without filtration.

If they have filter systems, then make sure they are high-efficiency particulate air (HEPA) filters. If they have to go outside, wear an N95 or N100 mask, which are the kind of masks we wear in hospitals to protect us from occupational transmission of tuberculosis. Those masks are available in hardware stores, home building stores, and pharmacies.

Dr Glatter: In terms of smoke cleanup, can you advise a safe way to help dispose of ash? Is there a specific way to go about this?

Dr Balmes: That's tricky.

In the Santa Rosa area after the October fires, there was a lot of ash in the neighborhoods—Coffey Park, in particular. That ash is actually probably more toxic than regular wildfire ash because that was a neighborhood that burned, so there were synthetic materials in the homes and cars—so there were more metal oxides and synthetic products of combustion.

The workers who clean up that ash have to be properly protected with N95 masks. People entering their homes should be wearing N95 masks. They shouldn't be vacuuming without special vacuums with HEPA filters. Wherever possible, they should wet the ash down with clean up. The bottom line is that using professionals is the best way to clean up after a fire—people who are trained properly.

Dr Glatter: You focused on the point of using water to clean up ash because of the risk of spreading the ash if you improperly use a vacuum. That could put people at risk.

Dr Balmes: The other thing that people can do—and I think the American Lung Association actually distributed some of these—is to get a good stand-alone home filtration device. There are several reputable brands. They should have that running at all times when they are trying to clean up. And if possible, have more than one in a home.

Dr Glatter: In a general sense, how long after exposure to fire smoke can health effects appear? Are we looking at 5 years or 10 years? Can you speculate on that?

Dr Balmes: Fortunately, while the exposures are heavy, they usually last for only a few days, so we mostly worry about acute, and not long-term, effects.

The people in whom we have to worry about long-term effects are the firefighters, especially wildland firefighters, because they can't wear the self-contained breathing apparatus that structural, urban firefighters wear. They are on the fire line for a long time—12-hour shifts and many days in a row, and they do it over the entire fire season. Some of them do it for years at a time.

The National Institute for Occupational Safety and Health is actually instituting a long-term study primarily to see whether there is increased risk for cardiovascular disease, COPD, and even cancer in these workers.

People who are exposed, even if heavily exposed, to one of these California wildfires are not likely to have long-term effects. There isn't enough exposure to chronically affect heart or lung disease and certainly not enough to cause cancer. However, there are some exceptions. Somebody with asthma could have a permanent worsening of their asthma with heavy exposure, because they get so much inflammation in their airways that it basically moves their asthma into a worse state.

Dr Glatter: Can you estimate the amount of carbon dioxide that was released as a result of this blaze? Have there been any data indicating that?

Dr Balmes: I think people have looked at this. I'm not going to be able to quote numbers, but as you alluded to earlier in the conversation, the amount of carbon dioxide that's emitted is a lot. It almost, in some ways, wipes out all of the efforts we've been making in California to have clean energy and clean vehicles, to have these catastrophic wildfires.

Dr Glatter: That brings us back to the point about climate change and doing all we can. These fires are devastating and certainly compound our efforts to help combat the situation.

Dr Balmes: Governor Brown said it well, after a few days of the Thomas Fire. He said that this is the new norm for us, and that we have to do all that we can to both try to better prepare communities for these catastrophic fires, but also to double our efforts in regard to climate change. And he's right.



Dr Glatter: Controlling fires is part of climate change now. I want to thank you for your time. This has been very beneficial. The fires have affected so many people in California, and to put this into perspective has been immensely beneficial. Thank you again. I appreciate your time.

Dr Balmes: Thank you.



Hospital Disaster Response - [Access](#) and watch a series of eighteen informative Hospital Disaster Response training videos

New Software to Prevent Biological Attacks

Source: <https://i-hls.com/archives/81106>

Feb 01 – US Federal research facilities rely on internet-connected devices to automate many basic building functions like ventilation, heating, and security, as well as more hazardous processes like decontaminating equipment and preventing lethal microbes from escaping the lab.

Hackers could potentially exploit these IoT devices to take control of building operations, but the DHS Science and Technology Directorate is investing in software that smothers attacks before they start.

The US Homeland Security Department is testing new software to protect government laboratories from cyberattacks that could potentially release dangerous pathogens into the environment.

Developed by Red Balloon Security, “**Symbiote Embedded Defense**” technology injects software into each device’s binary operating system and constantly analyzes the code to prevent rogue commands from executing. Because the technology doesn’t rely on a

particular operating system, it works for every single embedded device.

Homeland Security awarded the company a \$1 million contract to test the software at the agency’s Plum Island Animal Disease Center, S&T Chief of Media Relations John Verrico told nextgov.com. Researchers at the facilities work with dangerous microbes like SARS, West Nile virus and yellow fever, meaning even a small attack on building operations could have enormous consequences.

Assailants can cause the containment to breach, can cause damage to the people inside and release dangerous pathogens outside the facility by just manipulating the small embedded computers that control the building.

Building control systems at government labs and many production facilities run mostly on legacy software, which makes them particularly susceptible to an attack. Because the Symbiote software integrates directly into the operating system and detects any unauthorized changes to the code, it’s able to lock down most outdated technology.

Bioterrorism: Eco-radicals Are the Largest Threat

By Danielle Preskitt

Source: https://www.realcleardefense.com/articles/2018/02/07/bioterrorism_eco-radicals_are_the_largest_threat_113024.html

Feb 07 – Advancements in the sciences, such as biology and chemistry, enhance life on Earth substantially. However, the same scientists, equipment, and tacit knowledge responsible for such advancements may have a dual-use effect. In 2004, the National Research Council [said of](#) the growing issues caused by the destructive applications of technology: “The tension between the spread of technologies that protect us and the spread of technologies that threaten us is the crux of the dilemma.” Indeed, when it comes to threats, the proliferation of biological weapons should be a major concern. According to the [Nuclear Threat Initiative](#), “Gram-for-gram, biological weapons are the deadliest weapons ever produced.”



A [biological weapon](#) is any number of disease-producing agents, such as bacteria, viruses, rickettsiae, fungi, toxins, or other agents, utilized as weapons. Biological weapons are nothing new, as they were used prevalently in medieval warfare, WWI, Vietnam, and even in agroterrorist attacks, but advancements in the sciences increase the threat level considerably. What makes these weapons particularly dangerous is that they are inherently low visibility, high potency, readily accessible, and relatively easy to deliver. Unsurprisingly, the discriminate and “natural” nature of biological weapons increases their appeal to terrorist organizations.

Unlike other types of terrorism and weapon systems, biological agents and bioterrorism are absent when identifying the most likely groups or individuals likely to proliferate a biological weapon. Despite the absence of capabilities and motivations by the [Biological Weapons Convention](#) and various governments, the previously dormant eco-radical terrorist milieu – rather than Islamic extremist groups like Al Qaeda and the Islamic State – appear to be the most likely group to resurge and proliferate this deadly and discriminate weapon. Although members of these terrorist organization have similar delusional mindsets and aspirations for martyrdom, the overall motivation and capabilities of each organization are drastically different. Thus, a single generic bioterrorism counter-strategy cannot be applied to both, and it is imperative for the United States to develop a specific counterterrorism strategy focused on eco-radicals’ unique capability to proliferate biological weapons.

[Eco-radicals](#) are a loosely affiliated organization of domestic terrorists who commit illegal acts to protect the Earth. Examples of more violent and motivated groups are [Earth Liberation Front \(ELF\)](#), [Earth First!](#), and [Coalition to Save the Preserves \(CSP\)](#). These members are normally highly educated, resourceful, isolated, associated with a lab, and maintain “God-like delusions,” making the individual members perfect candidates for proliferation. If already employed within a university or federal laboratory, the remainder of the process can be accomplished with relative ease. However, authorities find it more difficult to connect attacks to an organization due to the loosely affiliated structure of the eco-radical’s online presence. Unlike the majority of Islamic extremist groups, members often do not associate with other members, nor do they vocalize their unusual beliefs. There is no member list to any organization. A radical may simply read online writings of an eco-radical organization, making it impossible for authorities to tie his attack to the greater group.

Although motivation is important, capability is even more important. Education, resources, laboratory equipment, laboratory employees, wealth, and a delusional mentality combine to form a very specific type of person or organization. When analyzing the various terrorist organizations with this in mind, eco-radicals are much more likely to proliferate a biological weapon. Although dormant today, a simple trigger, such as a perceived lack of environmental policy or natural disaster, could warrant an attack. The discriminate nature of a biological weapon allows eco-radicals to single out the human race while keeping the rest of Earth and living creatures safe.

Milieus within eco-radicalism believe they are predestined by a greater power to carry out the task of depleting or eliminating the human population. A simple trigger, such as severe droughts or a lack of innovation within the environmental sector, could mold a simple laboratory employee into a man attempting to “play God.” Unfortunately, the job of a scientist can be quite isolating, making character abnormalities such as delusions, sociopathic tendencies, need to be isolated, or lack of anger management, easier to hide. Laboratories make a large effort to maintain an active oversight on all of its employees, but it is not a perfect system. As bioterrorism concerns rise, the FBI has spoken at laboratories and universities throughout the United States regarding employee oversight, signs of concern, and alert protocols.

Preventative and emergency protocols have been established, despite the lack of a cohesive bio-counterterrorism strategy. After the attacks of 9/11, the National Guard increased the number of “Weapons of Mass Destruction Civil Support Teams,” which aid the police, fire, and medical first responders in the local area of an attack. Also, the [Department of Homeland Security](#), working with the [Department of Health and Human Services](#), invested in passive defenses against biological attacks, focusing on Project BioShield and Laboratory Response Network. As part of the [Strategic National Stockpile](#) program, every U.S. state has individual bioterrorism response plans in place, including mass vaccinations, triage, and quarantine.



Although emergency protocols are necessary, a counterterrorism strategy including a cohesive appreciation of ideology and capability is imperative. If a bioterrorism threat is detected by the modern sensors, the U.S. government or police would not be able to react effectively due to the lack of information regarding the motivation or values behind the attacker. In today's era of technological advancement, the defender of the free world should be capable of more than ineffective responses. Instead, U.S. Intelligence, CDC, NIH, researchers, local law enforcement, FBI, and other agencies should be able to develop a strategy to prevent and counter bioterrorist threats before their dissemination, while also acknowledging the ideology and values of the terrorist organization.

Danielle Preskitt is a Fellowship Editor at Young Professionals in Foreign Policy (YPFP). She recently received her master's degree from the Middlebury Institute of International Studies and will continue her education this fall in a Ph.D. program focusing on CBRN weapons, Russian language, and eco-radicalism.

The Spanish flu pandemic and its impact on the Middle East

Source: <https://www.thenational.ae/lifestyle/the-spanish-flu-pandemic-and-its-impact-on-the-middle-east-1.703289>

Feb 10 – Sir Mark Sykes would have had an agonising death as his body convulsed and contorted from the ravages of the Spanish flu. It was 1919 and the British politician, diplomat and all-round swashbuckler was working at the Paris Peace Conference at Versailles when he retired to his hotel room in the French capital and died, on the evening of February 16. He was just 39.

Such was the unusual and virulent nature of this efficient killer that it was often initially misdiagnosed for dengue, cholera or typhoid.

A physician, based in Glasgow, Scotland, grimly described the stages of the virus as it took hold of the body, in a letter dated September 1918: "It starts with what appears to be an ordinary attack of la grippe. When brought to the hospital, [patients] very rapidly develop the most vicious type of pneumonia that has ever been seen... It is only a matter of a few hours then until death comes and it is simply a struggle for air until they suffocate. It is horrible."

Sir Mark was, in many ways, an unlucky victim of the H1N1 pandemic, which struck 100 years ago and claimed 20 to 40 million lives worldwide (current estimates suggest up to 100m), as the globe was still reeling from the horrors of the First World War.

Indeed, the man who was co-architect of the 1916 Sykes-Picot Agreement, which carved up the Middle East into colonial spheres of influence in a post-Ottoman world, may have been one of the very last victims of the virus. It was first recorded at Camp Funston, Kansas, in

March 1918, and had largely burnt out by the summer of 1919 – but left vast devastation.

In the region where Sir Mark's colonial legacy still stirs great controversy, countless people also perished from the deadly effects of the Spanish flu – so-called because the virus was first widely reported in the Spanish press.

Across the Middle East, the flu took lives as mercilessly as elsewhere. The global pandemic came in three waves, but it was the second, more virulent wave, which secured a deathly grip on the likes of the Ottoman province of Greater Syria (encompassing the modern-day states of Syria, Lebanon, Jordan and Palestine/Israel) around September 1918.

Remarkably, very little definitive and authoritative information exists about the impact of the Spanish flu in Greater Syria, but what does exist, paints an intriguing picture of a region buffeted by a conjunction of adverse events.

Kjell Jostein Langfeldt Lind's highly accomplished 2012 thesis, *The Impact of the 1918 Spanish Influenza Pandemic on Greater Syria*, from London's School of Oriental and African Studies, tells us that, "this mutated and virulent [second wave] presumably embarked on a ship in France or Britain and disembarked in the Egyptian port of Alexandria [in] September".

The Middle East was a region in conflict, with Britain's Imperial war machine battling Germany's Great War allies, the Ottoman Turks.



Before the entirety of Egypt succumbed to the second wave in November 1918, Lind says the vast and unyielding troop movements in and out the region hastily spread the pandemic, with “Jaffa... in all likelihood the first point of entry for the virus on the Levantine coast [in September], carried by British ships from Alexandria or Port Said”.

Civilians and military troops alike were struck down by the contagion as it spread across Greater Syria’s sun-beaten lands where British legend T E Lawrence had set the desert on fire with his brave band of Ottoman-rebelling Arab irregulars. Troops from both sides of the war – British, Australian, Indian, Turkish and others – fell victim to the Spanish flu. The British Empire military formation of the Egyptian Expeditionary Force (EEF) experienced simultaneous epidemics of malaria and influenza in Palestine in October 1918 as it defeated the Turkish Army in a great cavalry campaign.

Lind also writes that, “Spanish influenza in Damascus, accompanied by malaria, put nearly half the Desert Mounted Corps of the Australian and New Zealand Army Corps (Anzacs) out of action” in the same month.

Greater Syria’s civilian population fared little better. In a November 6, 1918, diary entry, the Spanish consul of Jerusalem wrote: “There are so many cases of pneumonia lately. The sadly famous flu transforms into pneumonia, and in three days one is making the trip to the next world... A girl only 20 years old... got a temperature of 43°C. She died, so to say, all burned up”.

Indeed, the untimely death of this woman (and that of Sykes, who was not yet 40) was another curious aspect of this killer virus. The young and fit perished at an astonishing rate due to their strong immune systems which, scientists say, went into overdrive and turned against them. The influenza bug also moved inland toward the Gulf, appearing in Arabia by late autumn 1918. Ibn Saud, the first monarch and founder of Saudi Arabia, called for the services of American doctor, Paul Harrison. He arrived in Riyadh and found that one-tenth of the city’s 10,000 population had expired.

“The whole town was sick, so much that the bodies were carried out on donkeys and camels, two to a donkey and [illegible] to a camel,” Harrison wrote, on January 18, 1919. Prince

Turki, Ibn Saud’s eldest son, was only in his late teens when he succumbed to the Spanish flu.

Iran was also hit hard during the pandemic – and here some academic research does exist. Amir Afkhami, associate professor of psychiatry and global health at George Washington University in the United States, says that going into 1918, Iran was essentially a “failed state”.

This, as well as the fact it was being used as a battleground by various belligerent powers during the Great War, “sets the country up for famine in 1917 after two bad harvests”, Afkhami says. “There were particular predispositions that made [Iran’s] rural areas particularly vulnerable to the 1918 pandemic,” noted Afkhami, author of *Compromised constitutions: the Iranian experience with the 1918 influenza pandemic*. “And that is primarily malnutrition, malaria and opium use... Biomedically – and this is a complete hypothesis – there’s some evidence in the literature that anaemic individuals are more vulnerable to dying of influenza. And malnutrition, malaria and opium use tend to be correlated with anaemia.”

Across both rural and urban areas in Iran, Afkhami estimates that the Persian State probably lost between 910,400 and 2,431,000 of its inhabitants. That is between eight and 21.7 per cent of its then-total population – placing it near the top of the Spanish flu mortality table.

Other almost-forgotten victims of the pandemic include Lebanese and Syrian immigrants to the US. Research conducted by the Moise A Khayrallah Centre for Lebanese Diaspora Studies at North Carolina State University, suggests that Syro-Lebanese immigrants suffered greatly from the virus, which claimed between 500,000 and 675,000 lives in the US.

“The fact that most of the [Syro-Lebanese] immigrants were young certainly contributed to the disproportionate number of deaths they suffered, since the Spanish flu attacked young people in particular,” says Dr Akram Khater, centre director. “Immigration took a heavy toll on the bodies and minds of the [Syro-Lebanese] who came to the US. Even before the Spanish flu, immigrants were working long hours in hazardous conditions in unregulated textile mills, or peddling wares in towns and countrysides open to the vagaries of the weather and an



alien social and ecological environment.”

It is clear that people fell victim to the Spanish flu at an appalling rate across the Middle East. Civilian mortality rates in the Greater Syrian region itself were almost certainly high, even if little hard statistical evidence is available. But Lind notes that out of those 500,000 or so people who perished in Greater Syria from starvation or starvation-related diseases in the second-half of the war, a great many were surely victims of the influenza pandemic.

As for Sir Mark, a curious interest in his short life reemerged when his lead-lined coffin was dug up in 2008 in order to try to extract more information about the virus which killed him. Sadly, the coffin had split and scientists had to make do with inferior specimens. Yet, a diary entry on the day of Sir Mark's death, written by a friend of the controversial colonialist, surely sums up the harrowing nature of the pandemic, which, during its reign of terror, killed anybody, anywhere, at anytime. "... [We] go to the Lotey Hotel to visit the remains of our friend. Wilson is prostrated with weeping. Lady Sykes receives us and thanks us. It is a terrible situation for this unfortunate woman, alone, in a hotel room, without relations or friends.”

The facts

For a virus, which most people pick up and go on to survive, the flu has a nasty habit of striking fear into our hearts year after year.

Should you fall prey to a particularly unpleasant strain of the virus – which kills between 250,000 and 500,000 people worldwide every year, according to World Health Organisation (WHO) estimates – fevers, body aches and a whole host of other maladies often bedevil your road to wellness.

The Spanish flu was dramatic in both the number of lives it claimed and the virulence of the strain itself. It touched all continents of the world – equally impacting both the northern and southern hemispheres.

The United Kingdom lost 250,000 people, while the

Pacific islands of Fiji, Tonga and (Western) Samoa were also left counting the cost of the virus. Samoa lost up to 20 per cent of its population in the pandemic. India, too, had an estimated death toll of more than 10 million,

while up to two million lives were taken in sub-Saharan Africa.

► The 1918-19 killer was, however, not the final chapter of the world's flu pandemic worries and woes.

► The 1957-58 “Asian flu” was an H2N2 virus that caused the deaths of up to two million people globally. The virus was thought to have emerged from a human strain of H2N2 combined with a mutant form in wild ducks.

► The 1968-69 “Hong Kong flu” – so-called because it was first reported in the semi-autonomous Chinese territory – was an H3N2 virus that killed about one million people worldwide.

► The 1997 “Bird flu” was an H5N1 strain of influenza virus that previously was known to infect only birds but which also caused illness in humans. The first outbreak in Hong Kong killed six of the 18 people infected. Hong Kong took just three days to destroy its entire poultry population of 1.5 million birds.

► The 2009 “Swine flu” outbreak was first observed in Mexico, and quickly made its way around the world. It was caused by a new strain of H1N1 and is thought to have claimed somewhere between 151,700 and 575,400 lives globally.

Today, stark headlines

recently proclaimed the arrival of the dreaded “Aussie flu” of the H3N2 variety. Indeed, the 2017 flu season in Australia was the worst the nation had experienced in nearly 10 years.

In the UK, the National Health Service (NHS) – so often under strain as it deals with an ageing population and a need for increased funding – has been struggling to deal with its inbound influenza cases.

At the time of writing, England has recorded 193 deaths this season, while 26 people are known to have perished in Scotland, and 12 in Northern Ireland. Bethany Walker, 18, from Scotland was among those who died after her flu symptoms developed into pneumonia.

So, how do you protect yourself against this season's flu, which has led to hospitalisations across the UAE? Leading experts say that, while it is not a full-proof plan, vaccination is key to reducing your chances of becoming bed-ridden for weeks on end.



Hygiene is also a crucial tool to dodging the flu. However, should you go down with the flu virus, then stay at home and keep warm and hydrated until you feel well again.

Unpleasant as it is, the vast majority of us will endure this airborne horror-show and live to tell the tale. Just be thankful that you are not 100 years in the past, facing a flu bug with an exotic-sounding name.



Special UV light safely kills airborne flu virus, finds study

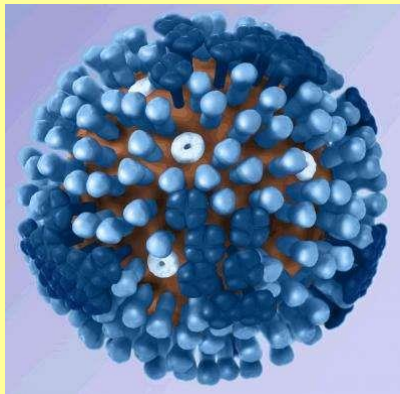
Source: <https://medicalxpress.com/news/2018-02-special-uv-safely-airborne-flu.html>

Feb 09 – Continuous low doses of far ultraviolet C (far-UVC) light can kill airborne flu viruses without harming human tissues, according to a new study at the Center for Radiological Research at Columbia University Irving Medical Center (CUIMC). The findings suggest that use of overhead far-UVC light in hospitals, doctors' offices, schools, airports, airplanes, and other public spaces could provide a powerful check on seasonal influenza epidemics, as well as influenza pandemics.

The study was published online today in *Scientific Reports*.

Scientists have known for decades that broad-spectrum UVC [light](#), which has a wavelength of between 200 to 400 nanometers, or nm), is highly effective at killing bacteria and viruses by destroying the molecular bonds that hold their DNA together. This conventional UV light is routinely used to decontaminate surgical equipment. "Unfortunately, conventional germicidal UV light is also a human health hazard and can lead to skin cancer and cataracts, which prevents its use in public spaces," said study leader David J. Brenner, PhD, the Higgins Professor of Radiation Biophysics Professor of Environmental Health Sciences and director of the Center for Radiological Research at CUIMC.

Several years ago, Dr. Brenner and his colleagues hypothesized that a narrow spectrum of ultraviolet light called far-UVC could kill microbes without damaging healthy tissue. "Far-UVC light has a very limited range and cannot penetrate through the outer dead-cell layer of human skin or the tear layer in the eye, so it's not a human health hazard. But because viruses and bacteria are much smaller than human cells, far-UVC light can reach their DNA and kill them," he said.



A 3-D image of a flu virus. Credit: Center for Disease Control

In their earlier studies, Dr. Brenner's team demonstrated that [far-UVC light was effective at killing MRSA](#) (methicillin-resistant *S. aureus*) bacteria, a common cause of surgical wound infections, but without harming [human](#) or [mouse](#) skin.

Influenza [virus](#) spreads from person to person mainly through fine liquid droplets, or aerosols, that become airborne when people with flu cough, sneeze, or talk. The new study was designed to test if far-UVC light could efficiently kill aerosolized influenza virus in the air, in a setting similar to a public space. In the study, aerosolized H1N1 virus—a common strain of flu virus—was released into a test chamber and exposed to very low doses of 222 nm far-UVC light. A control group of aerosolized virus was not exposed to the UVC light. The far-UVC light efficiently inactivated the flu viruses, with about the same efficiency as conventional germicidal UV light.

"If our results are confirmed in other settings, it follows that the use of overhead low-level far-UVC light in public locations would be a safe and efficient method for limiting the transmission and spread of airborne-mediated microbial diseases, such as influenza and tuberculosis," said Dr. Brenner.

At a price of less than \$1,000 per lamp—a cost that would surely decrease if the lamps were mass produced—far-UVC lights are relatively inexpensive. "And unlike flu vaccines, far-UVC is likely to be effective against all airborne microbes, even newly emerging strains."

The study is titled, "Far-UVC light: A new tool to control the spread of airborne-mediated microbial diseases." The other contributors are David Welch, Manuela Buonanno, Veljko



Grilj, Igor Shuryak, Connor Crickmore, Alan Bigelow, Gerhard Randers-Pehrson, and Gary Johnson (all at CUIMC).

The Spanish flu pandemic and its impact on the Middle East

Source: <https://www.thenational.ae/lifestyle/the-spanish-flu-pandemic-and-its-impact-on-the-middle-east-1.703289>



Feb 10 – Sir Mark Sykes would have had an agonising death as his body convulsed and contorted from the ravages of the Spanish flu.

It was 1919 and the British politician, diplomat and all-round swashbuckler was working at the Paris Peace Conference at Versailles when he retired to his hotel room in the French capital and died, on the evening of February 16. He was just 39.

Such was the unusual and virulent nature of this efficient killer that it was often initially misdiagnosed for dengue, cholera or typhoid.

A physician, based in Glasgow, Scotland, grimly described the stages of the virus as it took hold of the body, in a letter dated September 1918: “It starts with what appears to be an ordinary attack of la grippe. When brought to the hospital, [patients] very rapidly develop the most vicious type of pneumonia that has ever been seen... It is only a matter of a few hours then until death comes and it is simply a struggle for air until they suffocate. It is horrible.”

Sir Mark was, in many ways, an unlucky victim of the H1N1 pandemic, which struck 100 years ago and claimed 20 to 40 million lives worldwide (current estimates suggest up to 100m), as the globe was still reeling from the horrors of the First World War.

Indeed, the man who was co-architect of the 1916 Sykes-Picot Agreement, which carved up the Middle East into colonial spheres of influence in a post-Ottoman world, may have been one of the very last victims of the virus. It was first recorded at Camp Funston, Kansas, in March 1918, and had largely burnt out by the summer of 1919 – but left vast devastation.

In the region where Sir Mark’s colonial legacy still stirs great controversy, countless people also perished from the deadly effects of the Spanish flu – so-called because the virus was first widely reported in the Spanish press.

Across the Middle East, the flu took lives as mercilessly as elsewhere. The global pandemic came in three waves, but it was the second, more virulent wave, which secured a deathly grip on the likes of the Ottoman province of Greater Syria (encompassing the modern-day states of Syria, Lebanon, Jordan and Palestine/Israel) around September 1918.



Remarkably, very little definitive and authoritative information exists about the impact of the Spanish flu in Greater Syria, but what does exist, paints an intriguing picture of a region buffeted by a conjunction of adverse events.

Kjell Jostein Langfeldt Lind's highly accomplished 2012 thesis, *The Impact of the 1918 Spanish Influenza Pandemic on Greater Syria*, from London's School of Oriental and African Studies, tells us that, "this mutated and virulent [second wave] presumably embarked on a ship in France or Britain and disembarked in the Egyptian port of Alexandria [in] September".

The Middle East was a region in conflict, with Britain's Imperial war machine battling Germany's Great War allies, the Ottoman Turks. Before the entirety of Egypt succumbed to the second wave in November 1918, Lind says the vast and unyielding troop movements in and out the region hastily spread the pandemic, with "Jaffa... in all likelihood the first point of entry for the virus on the Levantine coast [in September], carried by British ships from Alexandria or Port Said".

Civilians and military troops alike were struck down by the contagion as it spread across Greater Syria's sun-beaten lands where British legend T E Lawrence had set the desert on fire with his brave band of Ottoman-rebelling Arab irregulars. Troops from both sides of the war – British, Australian, Indian, Turkish and others – fell victim to the Spanish flu. The British Empire military formation of the Egyptian Expeditionary Force (EEF) experienced simultaneous epidemics of malaria and influenza in Palestine in October 1918 as it defeated the Turkish Army in a great cavalry campaign.

Lind also writes that, "Spanish influenza in Damascus, accompanied by malaria, put nearly half the Desert Mounted Corps of the Australian and New Zealand Army Corps (Anzacs) out of action" in the same month. Greater Syria's civilian population fared little better. In a November 6, 1918, diary entry, the Spanish consul of Jerusalem wrote: "There are so many cases of pneumonia lately. The sadly famous flu transforms into pneumonia, and in three days one is making the trip to the next world... A girl only 20 years old... got a temperature of 43°C. She died, so to say, all burned up".

Indeed, the untimely death of this woman (and that of Sykes, who was not yet 40) was another curious aspect of this killer virus. The young and fit perished at an astonishing rate due to their strong immune systems which, scientists say, went into overdrive and turned against them. The influenza bug also moved inland toward the Gulf, appearing in Arabia by late autumn 1918. Ibn Saud, the first monarch and founder of Saudi Arabia, called for the services of American doctor, Paul Harrison. He arrived in Riyadh and found that one-tenth of the city's 10,000 population had expired.

"The whole town was sick, so much that the bodies were carried out on donkeys and camels, two to a donkey and [illegible] to a camel," Harrison wrote, on January 18, 1919. Prince Turki, Ibn Saud's eldest son, was only in his late teens when he succumbed to the Spanish flu.

Iran was also hit hard during the pandemic – and here some academic research does exist. Amir Afkhami, associate professor of psychiatry and global health at George Washington University in the United States, says that going into 1918, Iran was essentially a "failed state".

This, as well as the fact it was being used as a battleground by various belligerent powers during the Great War, "sets the country up for famine in 1917 after two bad harvests", Afkhami says. "There were particular predispositions that made [Iran's] rural areas particularly vulnerable to the 1918 pandemic," noted Afkhami, author of *Compromised constitutions: the Iranian experience with the 1918 influenza pandemic*. "And that is primarily malnutrition, malaria and opium use... Biomedically – and this is a complete hypothesis – there's some evidence in the literature that anaemic individuals are more vulnerable to dying of influenza. And malnutrition, malaria and opium use tend to be correlated with anaemia."

Across both rural and urban areas in Iran, Afkhami estimates that the Persian State probably lost between 910,400 and 2,431,000 of its inhabitants. That is between eight and 21.7 per cent of its then-total population – placing it near the top of the Spanish flu mortality table.

Other almost-forgotten victims of the pandemic include Lebanese and Syrian immigrants to the US. Research conducted by the Moise A Khayrallah Centre for Lebanese Diaspora Studies at North Carolina State University, suggests that Syro-Lebanese immigrants suffered greatly from the virus, which claimed between 500,000 and 675,000 lives in the US.



“The fact that most of the [Syro-Lebanese] immigrants were young certainly contributed to the disproportionate number of deaths they suffered, since the Spanish flu attacked young people in particular,” says Dr Akram Khater, centre director. “Immigration took a heavy toll on the bodies and minds of the [Syro-Lebanese] who came to the US. Even before the Spanish flu, immigrants were working long hours in hazardous conditions in unregulated textile mills, or peddling wares in towns and countrysides open to the vagaries of the weather and an alien social and ecological environment.”

It is clear that people fell victim to the Spanish flu at an appalling rate across the Middle East. Civilian mortality rates in the Greater Syrian region itself were almost certainly high, even if little hard statistical evidence is available. But Lind notes that out of those 500,000 or so people who perished in Greater Syria from starvation or starvation-related diseases in the second-half of the war, a great many were surely victims of the influenza pandemic.

As for Sir Mark, a curious interest in his short life reemerged when his lead-lined coffin was dug up in 2008 in order to try to extract more information about the virus which killed him. Sadly, the coffin had split and scientists had to make do with inferior specimens. Yet, a diary entry on the day of Sir Mark’s death, written by a friend of the controversial colonialist, surely sums up the harrowing nature of the pandemic, which, during its reign of terror, killed anybody, anywhere, at anytime. “... [We] go to the Lotey Hotel to visit the remains of our friend. Wilson is prostrated with weeping. Lady Sykes receives us and thanks us. It is a terrible situation for this unfortunate woman, alone, in a hotel room, without relations or friends.”

The facts

For a virus, which most people pick up and go on to survive, the flu has a nasty habit of striking fear into our hearts year after year.

Should you fall prey to a particularly unpleasant strain of the virus – which kills between 250,000 and 500,000 people worldwide every year, according to World Health Organisation (WHO) estimates – fevers, body aches and a whole host of other maladies often bedevil your road to wellness.

The Spanish flu was dramatic in both the number of lives it claimed and the virulence of the strain itself. It touched all continents of the world – equally impacting both the northern and southern hemispheres.

The United Kingdom lost 250,000 people, while the

Pacific islands of Fiji, Tonga and (Western) Samoa were also left counting the cost of the virus. Samoa lost up to 20 per cent of its population in the pandemic. India, too, had an estimated death toll of more than 10 million, while up to two million lives were taken in sub-Saharan Africa.

- ▶ The 1918-19 killer was, however, not the final chapter of the world’s flu pandemic worries and woes.
- ▶ The 1957-58 “Asian flu” was an H2N2 virus that caused the deaths of up to two million people globally. The virus was thought to have emerged from a human strain of H2N2 combined with a mutant form in wild ducks.
- ▶ The 1968-69 “Hong Kong flu” – so-called because it was first reported in the semi-autonomous Chinese territory – was an H3N2 virus that killed about one million people worldwide.
- ▶ The 1997 “Bird flu” was an H5N1 strain of influenza virus that previously was known to infect only birds but which also caused illness in humans. The first outbreak in Hong Kong killed six of the 18 people infected. Hong Kong took just three days to destroy its entire poultry population of 1.5 million birds.
- ▶ The 2009 “Swine flu” outbreak was first observed in Mexico, and quickly made its way around the world. It was caused by a new strain of H1N1 and is thought to have claimed somewhere between 151,700 and 575,400 lives globally.

Today, stark headlines

recently proclaimed the arrival of the dreaded “Aussie flu” of the H3N2 variety. Indeed, the 2017 flu season in Australia was the worst the nation had experienced in nearly 10 years.

In the UK, the National Health Service (NHS) – so often under strain as it deals with an ageing population and a need for increased funding – has been struggling to deal with its inbound influenza cases.



At the time of writing, England has recorded 193 deaths this season, while 26 people are known to have perished in Scotland, and 12 in Northern Ireland. Bethany Walker, 18, from Scotland was among those who died after her flu symptoms developed into pneumonia.

So, how do you protect yourself against this season's flu, which has led to hospitalisations across the UAE? Leading experts say that, while it is not a full-proof plan, vaccination is key to reducing your chances of becoming bed-ridden for weeks on end.

Hygiene is also a crucial tool to dodging the flu. However, should you go down with the flu virus, then stay at home and keep warm and hydrated until you feel well again.

Unpleasant as it is, the vast majority of us will endure this airborne horror-show and live to tell the tale. Just be thankful that you are not 100 years in the past, facing a flu bug with an exotic-sounding name.

Media outlet tries to link Olympic norovirus outbreak to North Korea bio-attack

By Robert Herriman

Source: <http://outbreaknewstoday.com/media-outlet-tries-link-olympic-norovirus-outbreak-north-korea-bio-attack-82037/>

Feb 11 – Several times over the years I see media outlets use hyperbolic and sensationalized headlines and stories in serious topics in the world of outbreaks and infectious diseases. Whether it be about plague or Ebola, this type of news story inevitably occurs.



The latest come from the Sunday Express in the UK—the news source that frequently capitalizes all the letters of a word in their headlines. The story is entitled—[Winter Olympics 2018 Norovirus OUTBREAK: Is North Korean bio-attack behind crippling bug?](#)

Of course there has been a norovirus outbreak in PyeongChang, with the latest officials case count from [the Korean Centers for Disease Control \(KCDC\) at 139 as of Saturday](#).

How is it linked to North Korea and why is it being questioned? Norovirus as a bioterrorism agent? Fears are now mounting that North Korea stands behind the attack?

The author of the article writes: “Mr Kim (Kim Hyun-jun, director of the Korea Centre for Disease Control & Prevention) said: “In order to stop the further outbreak of the virus, we’re quarantining patients beginning from the diagnosis to the treatment. We’re going to minimise this outbreak.”

The expert further underlined January and February are “peak seasons” for the winter flu, but some have pointed the finger at another potential culprit.

He then goes on to reference the Belfer Center study and some other quotes, none of them indicating an attack at the Olympics with the self-limiting virus, just general concerns on the country's ability and capacity.

Outbreak News Today reached out to Professor at Laboure College in Milton, MA and biodefense and bioterrorism researcher, Lawrence Roberge PhD to get his thoughts on this topic. “I do not think it holds water, unless the medical community has a unique genetic fingerprint that points towards North Korea (NK). The more serious issue is that evidence has surfaced that NK has smallpox as well as the technology for anthrax. Norovirus would debilitate the edge for the athlete, but depending on when it arose, they could perhaps shake it off in time for their event. Furthermore, many parts of the world have norovirus outbreaks. Even in my state-Massachusetts-norovirus is at epidemic levels-along with the flu.”





Biological Isolation Ambulance Insert

Source: <http://www.beind.com/biological-isolation-ambulance/>

Ideal for an isolation room within a minibus or van, the Biological Isolation Room insert can be customized and integrated into almost any type of vehicle to provide safe transportation to a medical facility for people suspected of carrying a contagious disease.

System Advantages:

- Constant ventilation of the isolated space
- Biological contaminants are filtered out before air is released into the environment
- Quick and easy assembly with not tools required
- Isolation liner envelopes up to 9 seats, without the need to take out seats for installation (**chamber has no floor**)
- Assembly possible in approximately 40 minutes
- Separates the driver compartment and the outside environment from potential infection

Technical features:

- Very high air exchange rate for maximum safety
- Zipper door entrance aligned with the side door of the vehicle
- Utilizes the highly efficient FA 300 HS Biological Filtration System mounted to the vehicle floor
- Entire system is powered by the vehicle's power management

FA 300 HS Applicable Standards:

- Quality control according to ISO 9001
- Quality Assurance AQAP 2110
- Electrical Safety
- IEC 60335-1
- Environmental Testing MIL-STD 810 D
- HEPA Filter Efficiency EN 1822
- IEST-PR-CC001.3



If you drink untreated water — and you shouldn't — this is what you're drinking

By Helen Branswell

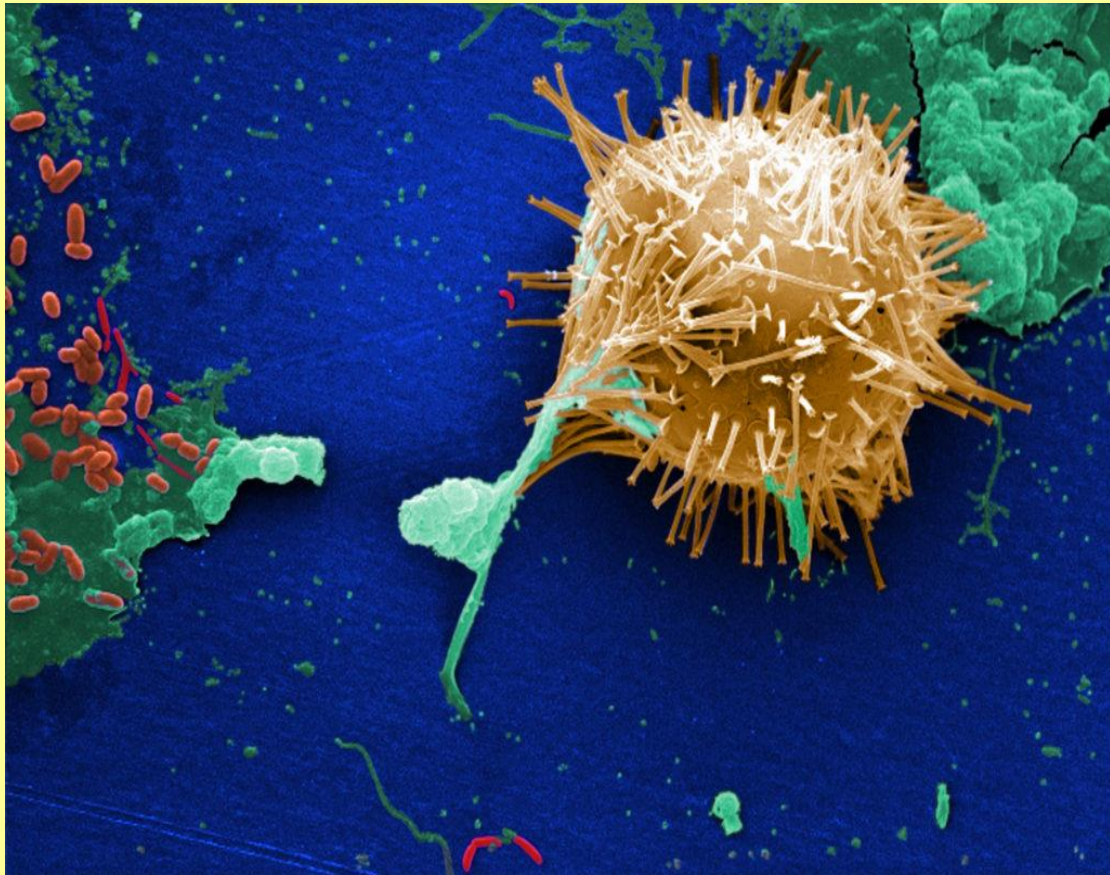
Source: <https://www.statnews.com/2018/02/07/tiny-water-monsters/>

Feb 07 – In 1854, a London anesthesiologist and amateur sleuth made a history-changing discovery about the link between contaminated water and human disease.

Several years before Louis Pasteur's groundbreaking experiments that established what came to be called germ theory, Dr. John Snow thought he'd figured out why there were so many cholera cases in a central London neighborhood now known as Soho. The prevailing belief at the time was that cholera was caused by miasma — bad air.

Snow had another idea. He persuaded civic officials to remove the handle from the [Broad Street pump](#), a water source for the neighboring businesses and residents. And fairly quickly, the cholera cases stopped.





This microscopic “pin cushion” was tethered to its surroundings by a biofilm within which many bacteria and amoeboid protozoa could be seen as well.

Over a century and a half later, it appears some in modern society want the Broad Street pump handle back.

Just as some people extoll the so-called benefits of [unpasteurized milk](#), a segment of the bottled water market is now embracing the idea of “raw” water. The argument: It tastes better. It’s more natural. It doesn’t contain additives like fluoride, which is often added to municipal water supplies to combat tooth decay.

But while the notion of crystal clear water bubbling up from a pristine spring sounds enticing, in reality there can be risks.

“When water is untreated, there is more uncertainty regarding what’s in it — and it may contain harmful germs,” explained Vincent Hill, chief of the Centers for Disease Control and Prevention’s waterborne disease prevention branch.

Think of them as nature’s additives. While these bugs — things like *Cryptosporidium*, *Giardia*, *Shigella*, and *E. coli* — can look lovely when captured by an electron micrograph, what they can do to your gastric tract definitely isn’t.

►► Click on source’s URL for **more photos** of strange microorganisms in untreated water

Helen Branswell is STAT’s infectious diseases and public health reporter. She comes from the Canadian Press, where she was the medical reporter for the past 15 years. Helen cut her infectious diseases teeth during Toronto’s SARS outbreak in 2003 and spent the summer of 2004 embedded at the US Centers for Disease Control and Prevention. In 2010-11 she was a Nieman Global Health Fellow at Harvard, where she focused on polio eradication. Warning: Helen asks lots of questions.





Donald Trump Jr's wife taken to hospital after opening letter containing 'white powder'

Source: <http://www.independent.co.uk/news/world/americas/us-politics/vanessa-trump-donald-jr-white-powder-letter-envelope-apartment-hospital-a8207386.html>

Feb 12 – The wife of Donald Trump Jr was taken to hospital after the President's eldest son was sent a package containing a white powder.



Vanessa Trump opened the letter at around 10am at the couple's apartment in the Sutton Place neighbourhood of New York.

NBC said a preliminary investigation suggested the substance sent to the couple's home was not hazardous and that Ms Trump, her mother and one other person were taken to hospital as a precautionary measure.

The package was reportedly addressed to the 40-year-old Mr Trump Jr, who with his brother Eric, has been running the Trump Organisation since their

father was elected to the White House.

The Associated Press said, Ms Trump Jr dialled 911 and that she was taken to hospital after coughing and saying she felt nauseous.

"The substance had arrived by mail and it was addressed to Donald Trump Jr," said New York Police Department spokesman Carlos Nieves.

The Trump Organisation did not immediately respond to a request for comment. It is unclear what the powder was.

Mr Trump Jr later said on Twitter: "Thankful that Vanessa and my children are safe and unharmed after the incredibly scary situation that occurred this morning. Truly disgusting that certain individuals choose to express their opposing views with such disturbing behaviour."

ABC said it was not known if any of the couple's five children were at home at the time of the incident. It said the New York Police Department and the Secret Service were investigating the incident.

Mr Trump Jr, who married his wife at his father's Mar-a-Lago estate in Florida in 2005, apparently dropped his Secret Service detail for a period of time last.

He did so because he wanted more privacy, yet the team was reassigned about a week later.

US authorities have been on alert for mail containing white powder since 2001, when envelopes laced with anthrax were sent to media outlets and US lawmakers, killing five people.

President Trump spoke with his daughter-in-law on Monday afternoon, White House spokeswoman Sarah Sanders said, declining further comment on the investigation.

EDITOR'S COMMENT: Security level: LOL!



VETIGEL™ Hemostatic Gel Kit

Source: <https://cresilon.com/index.php/vetigel/>

VETIGEL™ Hemostatic Gel Kit ("VETIGEL™") is a prescription hemostatic gel kit **for animal use only**. VETIGEL™ can stop moderate to severe bleeds in animals by achieving hemostasis in seconds.



Kit contents

A kit is comprised of one individually-pouched 5 mL hemostatic gel syringe and one individually-pouched removal wipe. Each VETIGEL™ box contains five kits.



Application

When directly applied to the source of bleeding, VETIGEL™ rapidly adheres to the wound-site and stops the flow of bleeding by creating a mechanical barrier. This allows the body to build a strong, natural clot without the need for applied pressure. A removal wipe may be applied after use, which disengages the excess hemostatic gel from the newly formed clot for easy removal.

Jay's Jokes: Did you forget your bioterrorism report on the plane?

By Jay Evensen

Source: <https://www.deseretnews.com/article/900009991/jays-jokes-did-you-forget-your-bioterrorism-report-on-the-plane.html>

Feb 12 – A CNN worker got on a plane recently and discovered a sensitive, top-secret document in the seatback pouch explaining how the Department of Homeland Security would respond to a bioterrorism attack at the Super Bowl. Thank goodness it didn't include important, compromising information about New England's game plan. There is evidence, however, that such a document was left in the seat back assigned to Philadelphia coach Doug Pederson.



CNN said that, **in addition to the bioterrorism plan, the seat back contained a boarding pass and other documents belonging to a high-level BioWatch**

official. I'm guessing something stronger than a bag of peanuts and a complimentary beverage was involved here.

The BioWatch official probably wasn't too worried. I mean, what are the odds that a terrorist would happen to sit in the exact seat with the bioterrorism report? Then again, what are the odds that seat would be occupied by a CNN employee?

Good thing the BioWatch official didn't accidentally drop the report on the flight attendant's chair. Passengers on the next flight would have heard, "In the unlikely event of a bioterrorism attack ..."

House Speaker Paul Ryan tweeted that the Republican tax-cut bill was so successful, a high school teacher in Lancaster, Pennsylvania, told him her take-home pay went up \$1.50 a week, which "will more than cover her Costco membership for the year." That's only if she doesn't blow it all on half a hamburger, first.

Some people are calling Ryan out of touch for his tweet. I'm not so sure. He did promise the tax bill would lead to real change, and what's more real change than 150 shiny pennies a week?

Best Buy has announced it no longer will sell music CDs. Apparently, sales of the discs are lagging too far behind vinyl records and cassette tapes. Like many of us, they're not quite old enough yet to be considered vintage classics.



Meanwhile, amusement parks nationwide are thinking of shutting down their roller coasters. They just can't keep up with the new thrills of the stock market.

Jay Evensen is the senior editorial columnist for the Deseret News. He has been on the editorial board since 1994. Prior to that, he was a reporter for the Deseret News, the Las Vegas Review-Journal and United Press International in New York City, covering a wide range of subjects from crime to politics. His weekly column on politics and social issues has won numerous local, regional and national awards.

Forecasting flu outbreaks

By Liz Wells and Holly Bennett

Source: <https://pursuit.unimelb.edu.au/articles/forecasting-flu-outbreaks>

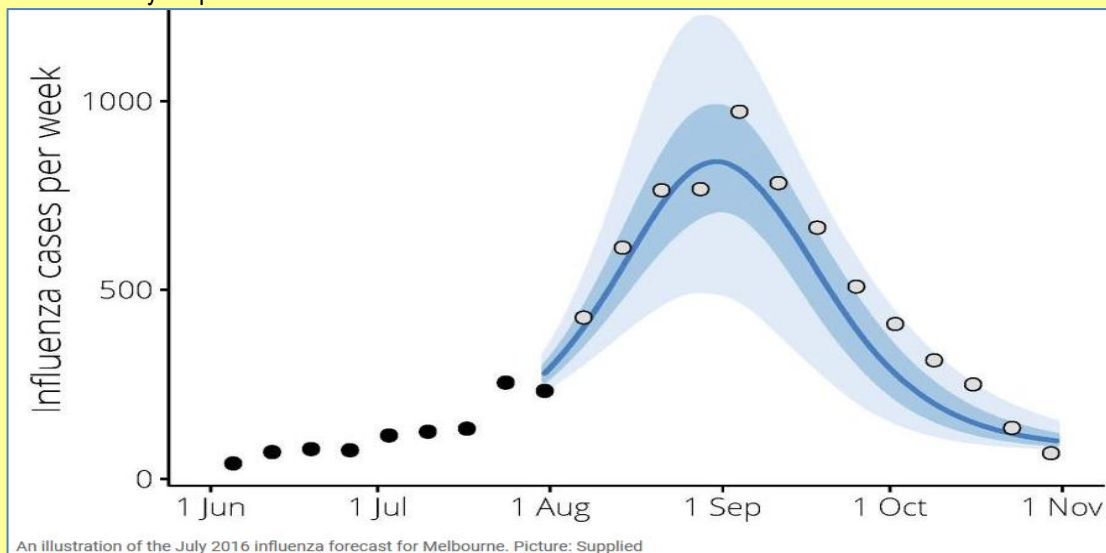
A forecasting tool that uses data routinely collected by state health departments could be used to forecast disease in the event of a bioterrorist attack or new influenza pandemic.

EpiFX, which was co-developed by researchers at the University of Melbourne and the [Defence Science Technology \(DST\) Group](#), is already predicting the start and extent of the winter influenza season, sometimes up to weeks in advance. In the event of a pandemic, it can also be used to identify an appropriate response.

The collaboration has drawn the attention of the US Government's Department of Defence, which is now working with researchers to develop a new tool to identify the level of threat from a bioterrorism attack and recommend appropriate response options.

Modelling the spread of disease

James McCaw, Professor in Mathematical Biology at the University of Melbourne, has been at the forefront of infectious diseases modelling since its early days in Australia about 12 years ago, and leads the University's EpiFX team.



Analysis allows researchers to see how quickly a virus is spreading and initiate an appropriate response. Picture: iStock

"We have to start with what we know about these pathogens and how they might spread," he says.

"When an outbreak occurs, either naturally or through an act of bioterrorism, the forecasting tool provides the crucial link between scenario planning, which has been conducted in preparation for future events, and real-time data analysis.



“That kicks in when people affected by the virus start to arrive at emergency departments, or when in a particular environment, such as a barracks, soldiers start displaying symptoms.

“Analysis of that data shows us how quickly a virus is spreading, and initiates an appropriate and proportionate response.”

In extreme cases, this could mean recommending the closure of schools or shutting down public transport to minimise opportunities for a virus to spread.

Dr Tony Lau, who leads DST Group’s epidemic detection and forecasting program, says the tool combines the concept of probability inference – which updates the probability of a hypothesis as more information becomes available – with susceptible, exposed, infected and recovered (SEIR) compartmental disease models.

“This provides a mathematical framework for understanding the establishment and spread of infectious diseases,” he says.

This modelling can potentially predict how quickly an epidemic will spread, and identify those most at risk so preventive action can be taken through measures like targeted vaccination.

“In general, it is the young, the old and the weak who are most at risk from viruses like influenza,” says Dr Lau. “Better forecasting means we can use state or national resources more efficiently, with those people in mind.”

Forecasting flu

In Victoria, EpiFX has accurately predicted flu outbreaks up to five weeks in advance. Weekly forecasts of the incidence of flu are shared with the health sector to gain further insight into the influenza season and continue its refinement.

Despite early success, challenges remain.

The 2017 influenza season in Australia was severe, with an extreme case count recorded in many jurisdictions.

Dr Rob Moss, mathematical biologist at the University of Melbourne and EpiFX technical project lead, says the underlying causes for this increase are not yet understood but may stem in part from behavioural changes.

“Our statistical tools are similar to those used to predict the weather, but we face the additional challenge of having to account for changes in human behaviours,” says Dr Moss.

“Individuals may change their health seeking behaviour based on media attention and general practitioners could have also changed their testing practices. We’ve only just started to scratch the surface in unpacking these complex interactions.”

Responding to bio-terrorism

This new tool being worked on with the US Government’s Department of Defence is a partnership between the DST Group, the University of Melbourne and the University of Adelaide.

Highly contagious diseases and viruses, like Ebola and influenza, as well as emerging diseases such as Zika, are being investigated as part of its development.

[DST Group](#) began working with the University of Melbourne research team on disease modelling in 2014.

“We are still developing and refining our forecasting, but in the event of a health emergency, we are in a better position to respond than we have ever been, as we improve our ability to integrate forecasting with our scenario analyses,” says Professor McCaw.

The success of these forecasting tools involves a huge amount of collaboration from researchers and public servants working in fields including computer science, physics, mathematics, electronic and software engineering, epidemiology and medicine.

Other countries including the United Kingdom, South Korea and Singapore are interested in using the tool’s epidemic modelling capabilities.

James McCaw is Professor, Mathematical Biology, School of Mathematics and Statistics & Melbourne School of Population and Global Health, University of Melbourne



Dr Rob Moss is Research Fellow, Centre for Epidemiology and Biostatistics, Melbourne School of Population and Global Health The University of Melbourne

Preventing intentional or accidental creation of synthetic biological threats

Battelle has been awarded a contract by the Intelligence Advanced Research Projects Activity (IARPA) to develop threat assessment software to help prevent the creation of dangerous organisms. Using predictive algorithms, the software would be able to determine the suspected function of a DNA fragment based solely on its sequence. It would be used to screen DNA sequences to determine whether the sequence is related to any known organisms, predict the function of unknown sequences, and assign a threat level based on the potential for harm. By screening and characterizing genetic sequences before they are synthesized, the software would enable the end user to vastly reduce the risk that biological threats will be created either intentionally or accidentally



Dozens of safety violations found at U.K. biolabs

Source: <http://www.homelandsecuritynewswire.com/dr20180220-dozens-of-safety-violations-found-at-u-k-biolabs>



Feb 20 – The U.K. Health and Safety Executive (HSE) said that there have been more than 40 incidents at high-security biolabs between June 2015 and July 2017. Mistakes led to staff being infected and falling ill at labs run by hospitals, private companies, and Public Health England. The U.K. Health and Safety Executive (HSE) found dozens of safety breaches in U.K. biolabs, breaches which caused scientists to be infected and which exposed many others to potentially deadly diseases, it has been reported. The *Guardian* [reports](#) that the HSE launched investigations into more than forty incidents,

which means that during the period under investigation – **June 2015 to July 2017 – there was a safety breach every two to three weeks.**

The pathogens released as a result of these breaches caused researchers and other staff at labs run by hospitals, private companies, and Public Health England (PHE), **to fall ill, some seriously.** The *Guardian* reports that one scientist, working at a PHE lab, contracted the infectious disease **Shigella**, while another, who was employed by a private



company, was hospitalized after falling ill with **salmonella** poisoning, the paper reported.

Another security mistake saw a live version of the **Dengue virus** - which kills about 20,000 people around the world each year – sent by regular mail from one lab to another.

Among the security breaches discovered:

- ⊗ Staff handling potentially lethal bacteria and fungi with inadequate protection
- ⊗ Students at the University of the West of England unwittingly studied live meningitis-causing germs, which they thought had been killed by heat treatment

The HSE said in a statement: “The sector has a good health and safety record, with a high level of control of the most hazardous organisms.

“The role of maintaining this record is down to the diligence of the duty holders themselves as well as our role as the regulator.

“There have been a limited number of instances over the past two years where biological agents

have been received by U.K. labs from other labs within the U.K. that were unsolicited, mislabeled or unlabeled.

“However, these cases are in the minority and there was no significant threat to public health.

“We are satisfied that the action we took in each case was proportionate.”

In all, eighty-two incidents were reported to the HSE’s microbiology and biotechnology unit over a two-year period, but no investigation was deemed necessary in forty of the cases.

The HSE typically investigates incidents which “resulted or could have resulted in the release or escape of a micro-organism likely to cause severe infection or illness.”

PHE chief executive Duncan Selbie said: “Nothing is more important than the health and safety of the public and our staff.

“We are open and transparent when rare mistakes happen, and always improving our safety systems.”

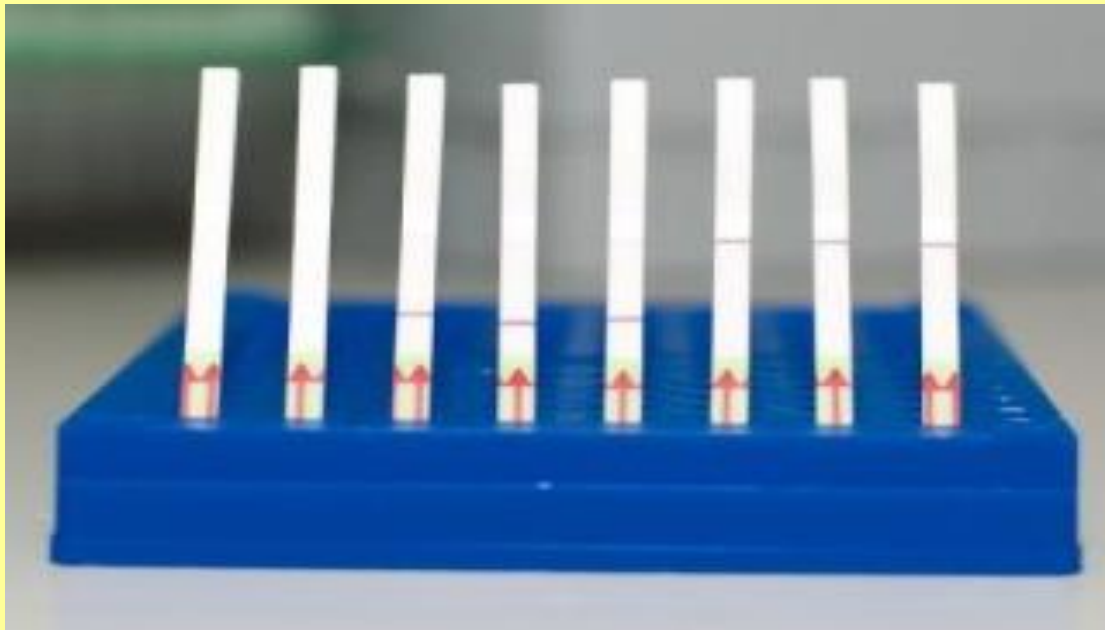
CRISPR-based diagnostic tool advanced, miniature paper test developed

100-fold greater sensitivity, ability to detect multiple targets at once, and other improvements provide more power for detecting genetic signatures

Date: February 15, 2018

Source: Broad Institute of MIT and Harvard

<https://www.sciencedaily.com/releases/2018/02/180215141753.htm>



This is a collection of SHERLOCK paper test strips. (Left) Unused paper strips. (Middle) Paper tests displaying a negative SHERLOCK readout. (Right) Paper tests displaying a positive SHERLOCK readout



The team that first unveiled the rapid, inexpensive, highly sensitive CRISPR-based diagnostic tool called SHERLOCK has greatly enhanced the tool's power to work with a miniature paper test, similar to a pregnancy test, allowing rapid and simple detection in any setting. Additional features greatly expand both the breadth and sensitivity of the diagnostic information, including the ability to detect multiple targets at once and quantify the amount of target in a sample.

Meghan Markle and Prince Harry in 'racist' white powder threat terror

Source: <https://www.standard.co.uk/news/crime/meghan-markle-and-prince-harry-in-anthrax-threat-terror-a3773041.html>

Feb 23 – Scotland Yard is investigating after a letter containing white powder purporting to be anthrax was sent to [Meghan Markle](#) at [Kensington Palace](#).

The letter, addressed to her and fiancé [Prince Harry](#) and understood to contain a racist message, led to a security scare, with specialists rushed in to check the powder.

Measures already in place meant the package was intercepted before it reached the couple. Meghan, 36, and Harry, 33, are understood to have been informed.

Officers from the Metropolitan Police's counter-terrorism command were called in after the letter was received on February 12. It was delivered



to St James's Palace for sorting. Analysis of the powder found it was harmless.

On February 13, police revealed a package containing white powder had been sent to Parliament, reportedly to the office of Home Secretary Amber Rudd.

The **material was also found to be harmless**. Police are believed to be examining whether the incidents are linked. There have been no arrests.

The palace letter is being played down officially by police but it has put the Met on high alert before the wedding in Windsor in May.

Security for the day is under constant review, with potential threats ranging from a terror attack to that posed by obsessed individuals.

Thames Valley Police has bought a net of spikes which can stop a vehicle weighing up to 17 tonnes and be deployed in less than a minute. Meghan and Harry are due to ride around a public route in a carriage after marrying at St George's Chapel in Windsor Castle on Saturday May 19.

They will pass along a route including Castle Hill, High Street, Sheet Street, Kings Road, Albert Road and Long Walk then return to the castle.

There are no plans to change any of the details



of the wedding, which is being paid for by the royal family.

The anthrax scare is the first security alert surrounding Harry's fiancée, who will become an official member of the royal family after the wedding but already has 24-hour protection.

She has been assigned a team from the Met's royalty and specialist protection command.

The US former actress will have been briefed on security and how she should react in a threatening situation. She and Harry announced their engagement last November.



Cases of hoax letters involving white powder have soared since 2001, when anthrax attacks in America left five people dead.

This month police in Washington DC began investigating after a substance, thought to have been baby powder, was sent to the office of ex-president Barack Obama.

Anthrax is an acute infectious disease caused by spore-forming bacteria and can be fatal.

Flu-like symptoms and distinctive lesions usually appear within seven days.

Infection can occur by breathing the bacteria, ingesting it or through skin contact.

The disease can be weaponised as a powder but is possible to treat with antibiotics.

In October a man aged 31 allegedly called for attacks on Harry's nephew Prince George. He faces trial in April.

The Met said: "Police are investigating after a package containing a substance was delivered to St James's Palace on Monday, 12 February.

The substance was tested and confirmed as non-suspicious. Officers are also investigating an allegation of malicious communications which relates to the same package."

Analyzing the past to protect our future: discussing the 1918 flu pandemic

Source: <http://www.homelandsecuritynewswire.com/dr20180222-analyzing-the-past-to-protect-our-future-discussing-the-1918-flu-pandemic>

Feb 22 – Imagine living in a time of unprecedented medical breakthroughs that significantly increased the human lifespan—new therapies to treat cancers, new vaccines to prevent previously fatal infectious diseases. Imagine living in a time of new modes of communication with never-imagined speed to spread news. Sounds a lot like the world that we live in, doesn't it?

This was also the world in which the 1918 influenza epidemic took place.

ASM [says](#) that despite their advancements, societies and countries around the world experienced vast losses of life and cultural shifts due to the 1918 influenza pandemic. Lessons learned about influenza preparation in the 100 years since then were discussed at a dinner session at the [2018 ASM Biothreats meeting](#). Moderator and health security expert [Gigi Kwik Gronvall](#) led a conversation between [Scott Knowles](#) of the Department of History at Drexel University and [Jason Matheny](#), Director of the Intelligence Advanced Research Projects Activity (IARPA). The panel discussed the history of the pandemic and how understanding this history might help us prepare for a similar event in the future.

Preparing for disasters, including the disaster of epidemic infectious disease, requires coordination between public health workers, communications officials, government agencies, and health care providers to release accurate

information to the public and to educate communities on the best courses of action. People living in 1918 were at the forefront of many medical and technological advances (as we are 2018). "If you lived in 1918, you were living in an age of wonders. You were living in a time when rabies, typhoid—they now had shots for these things," said Knowles. This was also the era of World War I, which affected all aspects of government and civilian life. The US entry into the war led to passage of the Espionage and Sedition Acts, which made it illegal to use "abusive language about the form of government of the United States." In addition to stifling information about sick soldiers, these acts led news outlets to feel obligated to print morale-lifting news. Very few news outlets covered the severe illness that was affecting many soldiers in their barracks. Information censorship, practiced in many nations at the time, made these countries less prepared when the disease spread from the armed forces into the civilian population.

Knowles also emphasized that not all disasters are given equal attention or prioritization, creating a dominant disaster paradigm within policymaker circles. War is often seen as a top-priority disaster, and this prioritization affects the attention given to other ongoing events. In the fall of 1918, as influenza was raging through troops in the US,



shipments of troops to the war in France continued even as some in the Army Medical Corps recommended suspending deployments until the infection could be brought under control. Army staff officers urged continuing the deployment of U.S. troops overseas because of military considerations, and [President Wilson agreed that this should be the priority](#). During the 1918 pandemic, soldiers who died from influenza were often grouped with those who died in combat, further blurring the impact of the disease. Disaster prioritization even affects the way that disaster events are remembered and contextualized by historians; there are many more war memorials than infectious disease memorials. Special cemetery markers or long lists of victims help mark deaths as part of a larger event, and further denote that the event should be remembered and studied.

Could an event like the 1918 influenza pandemic happen now?

Historians and researchers continue to debate the exact reasons why the 1918 influenza outbreak was so severe. Many argue that the ongoing war contributed to the spread of disease, either directly through the movement of troops transmitting the illness, or indirectly through war-related conditions creating a malnourished and vulnerable population throughout Europe. However, even without a worldwide war, a pandemic influenza or similar infectious disease could create chaos and damage to our societal infrastructure today. Matheny gave the example of the antiviral drug Tamiflu, demand for which would increase if there were a pandemic. Several components necessary to produce Tamiflu are delivered as [just-in-time](#) manufactured constituents from supply chains that could easily be broken if the workforce were to drop by 30 percent, as

happened in 1918. In fact, global trading patterns could make the world more vulnerable than in the past, with suspended trade interrupting the ability to produce enough food or goods in some countries.

For that reason, monitoring metrics to predict the onset of an epidemic are very important to Matheny and IARPA; one advantage we have today versus 1918 is our ability to collect and analyze data with amazing detail. Important metrics include not only social media and search queries, but also the sales of over-the-counter medicines, which sick people use to self-medicate. “And when people get sick, one of the first things they do is call off their dinner dates,” Matheny said. Canceled plane flights and other travel plans can also be an illness indicator, and many canceled plans may be an outbreak indicator. To further prepare, IARPA and other disaster preparedness institutions undertake thought exercises to imagine worst-case scenarios under a variety of conditions.

Each influenza pandemic has been unique, and though none have been as severe as the 1918 pandemic, they have pointed public health officials to weak points in preparedness plans. “Disaster reveals vulnerability,” said Knowles. Vulnerability is even greater in areas of the developing world without access to strong health care systems and federal-level disaster responses. “If you want to know how local can provide when federal can’t, look at developing countries,” added Matheny, who previously worked on global health in southeast Asia. As for those global supply chains that may be vulnerable to disruption, they may instead be a source of transmission between countries if shipments are not disrupted. We won’t know unless a global pandemic tests the limits of our systems we have in place.

Budgeting for medical countermeasures is essential for preparedness

Source: <http://www.homelandsecuritynewswire.com/dr20180222-budgeting-for-medical-countermeasures-is-essential-for-preparedness>

Feb 22 – While the September 11, 2001 attacks on the World Trade Center and Pentagon ushered in the era of terrorism as the nation’s primary security threat in the post-Cold War era, it was the October 2001 mailing of envelopes containing *Bacillus anthracis* spores to several locations in the U.S. that raised the specter of the use of biological weapons to kill



civilians on a large scale. Many countries named by the U.S. State Department as sponsors of terrorism are believed either to possess or to be actively pursuing biological weapons. Most recently, it has been reported that North Korea is moving steadily to acquire the essential machinery and scientific expertise that could potentially be used for an advanced bioweapons program.

Thought leaders such as Bill Gates have warned that a pandemic, whether caused by a terrorist or nature itself, is one of the biggest threats our nation faces. The Bipartisan Policy Center [says](#) that, importantly, the American public has expressed concern as well. The Alliance for Biosecurity, the Blue Ribbon Study Panel on Biodefense, and Trust for America's Health found in a survey that eight out of ten Americans are concerned that naturally-occurring diseases like Ebola and Zika pose a threat to the United States, and about nine out of ten people are concerned that terrorists might use chemical or biological weapons against the United States. Importantly, the survey found that most Americans support increasing the federal budget for preventive measures for biological threats.

The Bipartisan Policy Center stresses that preparedness against a chemical, biological, radiological, or nuclear (CBRN) threat requires a sustained and multi-pronged approach by both the public and private sectors. An essential component of this strategy is the development, procurement, and stockpiling of diagnostic tests, drugs, and vaccines in response to a potential event, as well as the ability to distribute these products where needed. To address this critical need, Congress passed the Project BioShield Act in 2004 to encourage the development of CBRN medical countermeasures by private manufacturers. Project BioShield created a government-market guarantee by providing a 10-year appropriation permitting the secretary of Health and Human Services (HHS) to obligate funds to develop and purchase medical countermeasures for stockpiling by the government. These products are added to the Strategic National Stockpile (SNS), managed by the Centers for Disease Control and Prevention (CDC). The act also establishes a process for the HHS secretary to temporarily allow the emergency use of countermeasures that lack Food and Drug Administration (FDA) approval.

Over the last thirteen years, Project BioShield has facilitated the procurement of twenty-seven medical countermeasures against Department of Homeland Security-identified national security threats, including products for smallpox, anthrax, botulinum, radiologic/nuclear emergencies, and chemical events. Of these, six products have received FDA approval. "However, gaps in preparedness remain. In particular, the transition from multi-year to year-over-year appropriations has raised questions about the sustainability of the program. Meeting the continued threat will require a joint commitment from both the public and private sectors," the Bipartisan Policy Center says.

A **new white paper** from the Center summarizes the progress to date in procuring medical countermeasures and prior congressional funding mechanisms for Project BioShield. It also discusses ways to optimize funding for medical countermeasures so that the existing public-private partnership can continue to thrive: namely, by restoring the program's original multi-year funding structure.

— *Read more in Tom Daschle and Judd Gregg, [Budgeting for Medical Countermeasures: An Ongoing Need for Preparedness](#) (Bipartisan Policy Center, February 2018).*

Epidemics Working to halt outbreaks in 60 days or less

Source: <http://www.homelandsecuritynewswire.com/dr20180223-working-to-halt-outbreaks-in-60-days-or-less>

Feb 23 – The increasing threat of infectious diseases is intensifying the need for breakthrough technologies and capabilities to protect first responders and equip them with therapeutics that can halt the impact of infectious agents. Current approaches for recent public health emergencies due to infectious diseases have not produced effective preventive or therapeutic solutions in a relevant timescale. Examples from recent outbreaks such as H3N2 (flu), Ebola, and Zika viruses highlight the significant lag in deployment and efficacy of life-saving solutions. To address the growing threat from infectious diseases as well as to properly equip DoD Service members who regularly deploy worldwide to provide assistance in all manner of high-risk environments,



DARPA launched the Pandemic Prevention Platform program (P3). DARPA notes that quickly produced nucleic-acid-based technologies may hold key to body creating protective antibodies.

For more information on the P3 program, visit: <http://www.darpa.mil/program/pandemic-prevention-platform>. Also, to hear Dr. Hepburn talk about P3 as well as the rest of his research portfolio at DARPA, listen to him on the just-released Voices from DARPA Podcast episode, The Disease Slayer: <http://www.darpa.mil/about-us/podcast>.

Top Ten Bio Convergence Trends Impacting the Future Operational Environment

Source: <http://madsicblog.tradoc.army.mil/31-top-ten-bio-convergence-trends-impacting-the-future-operational-environment/>

The Health Consequences of Libya's Long War

By Dr. Issam Hajjaji

Source: <https://africar3.com/the-health-consequences-of-libyas-long-war/>

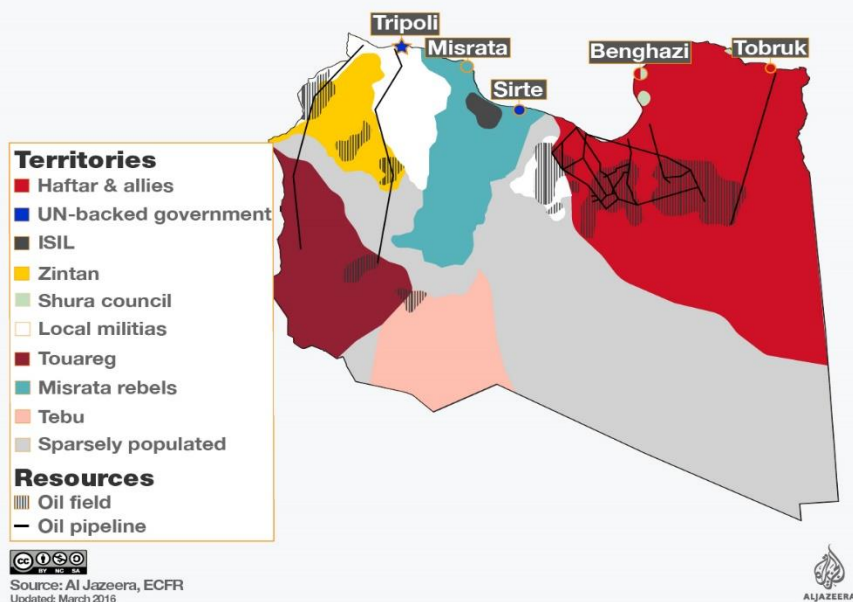
Jan 2018 – A month before the uprising that would lead to his downfall and death in 2011, Col Muammar Gaddafi did something compassionate. A young girl with diabetes, under my care, had a rare type that required massive doses of daily insulin injections. She spends most of the year in hospital, away from her family and friends in her hometown 80km away. One day, I took a group of medical students to see her. This group happened to include Gaddafi's daughter. I told them that this patient needs further investigations & treatment in the US and

that this would cost at least \$100,000. A week later, I got a call from Gaddafi's secretary, asking what they can they do to organize and pay for her treatment abroad. While we started organizing this, the revolution started and matters came to a standstill. I later heard that on hearing about the case from his daughter, he banged the table in anger & instructed his secretary to transfer \$1 million to the embassy in Washington specifically for her care, accompanied by a family member.

It used to amaze me that whenever Gaddafi, members of his family, cronies, or senior government officials heard of the poor standard of health services in Libya or, in the rare occasion, had to use them, they would express shock. In what universe were these people living?

Following the steep rise in oil prices in 1974, much was spent on new hospitals, foreign staff, medical schools and training of Libyan doctors abroad. In the 1980s, however, Libya closed in on itself and there was a steady decline in healthcare that is to continue until the regime's fall.

Libya: Who controls what



I was guardedly optimistic when I wrote an opinion in the [British Medical Journal](#) shortly after the whole country finally shook off the old regime. Sadly, subsequent governments have fared no better, and the decline continued, but at a swifter pace. The following short appraisal is reminiscent of other third world countries post-independence or revolution. The difference is that Libya is rich enough to absorb the corruption and nepotism and can *still* be able to provide high quality healthcare to its citizens.

Following the end of the revolution, \$400m were allocated to treat the injured fighters abroad. This was to be managed by Global Health Program (GHP). However, the file was taken from them a few months later and given to a committee in the transitional government. The funding was doubled to \$800m. The number sent for treatment subsequently exceeded the total number of fighters (injured and healthy). Women went for tummy tucks, nose jobs, removal of tattoos, and breast implants, men for hair transplants. They were put up in 4 or 5 star hotels along with 3-4 family members and given a daily stipend. By March of 2015, \$9 billion has gone to this fund (see the piece in [libya-al-mostakbal](#)). According to a [deputy PM on BBC](#), a mere 10-15% of those treated had war injuries. Suddenly, it seemed every young man was a revolutionary fighter, and around 200,000 drew the salary set up for fighters. Were Gaddafi and his sons the only enemy combatants in the seven months' long conflict?

In a space of 4 years, Libya has had 9 governments, some replaced while ministers were still being picked, whilst the last 2 coexist. During all this, little of significance was done to address the long list of problems in the health sector. As usual in third world countries, endless meetings, grandiose plans and goals are agreed upon. These are rarely realized when the next government comes along. All past work is shelved and a new round of meetings begins to consider yet other proposals. The Peter Principle* is frequently seen in operation: it is assumed that doctors who are successful in their field will do just as well at running a hospital or ministry. The practice of giving the Hospital Director virtual dictatorial powers, carried from the previous regime, also serves to make the institution operate at the level of that director.

Currently, we are blessed with 2 ministers of health in 2 governments that are geographically 1,000 km, but politically 1,000,000 km apart. So what is happening on the ground? Provision of medical supplies and drugs to small towns has dropped appreciably. Countryside roads are blocked or insecure, with flare ups of intertribal/inter-town conflicts, and carjackings in plain daylight. Indeed, even the carjackers have lost their decorum of late: in the past they allowed you to take your valuables before driving away with your car. A patient of mine, living in a town 300 km southwest of Tripoli, came to her clinic appointment via Tunisia, as all other connecting routes were blocked or too insecure. Perim Associates in partnership with the University of California at Berkeley, UCSF and EyePACS, has worked for two years to create emergency medicine training facility, and a [program](#) to diagnose and treat diabetic eye disease. The project was suspended in 2012, and then again in 2014 due to security concerns (the group is currently working to restart operations in Benghazi). These are projects are eminently workable, and would have a noticeable impact on the quality of medical care, given a modicum of security and local assistance.

Hospitals in large cities are expectedly better off, though not by much. 2 out of the 3 large government hospitals in Benghazi are closed. A colleague, an orthopedic surgeon in one of the better off general hospitals in Tripoli, tells me that in operations that need insertion of a metal plate or screws, the patient has to provide them. Those operating theatres that are not closed operate at 20% capacity. Recurrent acute shortages of cancer drugs, dialysis disposables and childhood vaccines occur. The consequence with regard to the latter caused a measles outbreak in the south in 2012. In 2009, 17.6% of the total health sector workforce was foreign, comprising mainly Filipina nurses. They tend to be highly experienced and industrious: it is universally agreed that hospitals in Libya have grown to be highly dependent on them. Pre-revolution, 1,300 and 600 were working at the main hospitals in Tripoli and Benghazi respectively. About 4,000 stayed after evacuations during the conflict. However, in July 2014 a Filipino construction worker was beheaded and a Filipina nurse was gang raped in Tripoli. This has caused a further flight and the Philippine government to issue a ban on travel to Libya on its nationals (strangely, North Korean nurses were banned from returning home by their government). Before these hideous crimes, a nurse that has been working in my hospital for 20 years told me that she would only leave Libya after nationals like me emigrate. She has since left without waiting for us to make up our minds. Many health (and other) establishments have taken to using



paid militias for maintaining security, a job previously done by the police and internal security. These militias are composed of armed and inexperienced youth. Some are vain and trigger happy. There has been many incidents of them threatening and assaulting staff at the very hospitals they are supposed to be guarding. Gunfights between members have occurred on hospital grounds. A neurosurgeon was kidnapped for allegedly allowing a more junior surgeon to operate on a militiaman's relative. It was known by the authorities where he was held, but they were unable to secure his release. This finally occurred, but after imprisonment and torture for over a year. Lately, kidnapping of senior consultants have occurred on several occasions, where ransom money of up to one million dinars was paid for their release.

The volume of health tourism to neighboring Tunisia, a 160 km drive from Tripoli, already high during the old regime, has increased markedly in the new. During 2009, 100,000 medical tourists went there, in 2013, 155,000. Estimates for the 2014 & 2015 would not tell the whole story: frequent suspensions of flights from/to Libya, security concerns on the coastal road to the border and stricter passport control on the Tunisian side have served to slow down the deluge. [Current debts to private clinics in Tunisia amount to \\$60m](#). Up to 2m Libyans ($\frac{1}{3}$ of the population) are thought to be currently residing abroad, half of these in [Tunisia](#). Reliable figures for the current leading causes of morbidity and mortality are unattainable at present. Those for rape and mental illness more so, as these are considered taboo. A rape victim would only seek help if a significant physical injury occurred. A survey conducted by the Danish human rights organization, Dignity, 2 years post revolution on mental illness found that 30% of Libyans suffered from clinical depression and 29% from anxiety. Again, these are likely underestimates. The other issues that contribute to the decline of the health of Libyans are the unchecked flow of migrant workers from Africa through the unmanned borders, the lack of quality control on drugs in private pharmacies and on foodstuffs and a Libyan dinar on a downward spiral. Alternative therapists are going strong: an innovative one treats diabetes by adding the tablets the patient is already on in his secret mixture whilst telling the patient stop 'these synthetic chemicals'. Unexploded mines have left many children dead or maimed. After clearing over 100,000 mines in 2013, MAG (Mines Advisory Group) suspended its operations citing the deteriorating security situation.

The expected reversal of the brain drain with the new Libya did not, unsurprisingly, occur. Published original medical research from Libya continues to be paltry compared with its neighbours (25 papers per million population in 2015/16, cf Tunisia with 10 times as many).

I feel that in trying to solve major problems we seem to add to them. An example is the introduction of machine-readable passports. The applicant is required to come in person to the passport office to be photographed and a 10-finger print taken. Sick people on hospital trolleys are regularly seen in the waiting room, brought by their relatives from the hospital by ambulance, seeking to travel abroad for treatment. At the border crossing checks there aren't even the machines that read these passports.

With such rapid turnover of governments, there is a scramble for ministerial and other posts with plenty of perks. The late British novelist Douglas Adams said "It is a well-known fact that those people who want to rule people are, *ipso facto*, those least suited to do it... anyone who is capable of getting themselves made President should on no account be allowed to do the job".

On the media and social networking sites, virtually every Libyan seems to have the solution to these and other problems. Many are saying that the public healthcare system is moribund. Even during Gaddafi's time, throwing money at the more chronic problems ceased to make any difference (other than lining the pockets of ministers). The private health sector is doing comparatively well and extending health insurance to encompass all government employees seems a possible, though not perfect solution. Bank and oil sector employees are already covered, and recently judges were added. Any resolution of the more pressing problems will not restore the lost faith in medical care in Libya by the multitude that seeks it elsewhere for a long time to come.

My young patient has still not been able to get government funding for her treatment and is now living in the hospital where she passes the time as a nurses' aid.

*A manager is promoted to his or her level of incompetence'

Dr. Issam Hajjaji is former Head of the Libyan Diabetes & Endocrinology Association.

