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January 2017

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CBRNE-Terrorism Newsletter – 2017©

January 2017

Website: www.cbrne-terrorism-newsletter.com



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Mendor Editions S.A.



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Editorial

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

Editor-in-Chief
CBRNE-Terrorism Newsletter

Dear Colleagues,

2016 ended with a terrorist lorry (Nice, France copycat modus operandi) attack in Berlin, Germany and the assassination of the Russian Ambassador in Ankara, Turkey... Both incidents open new chapters in the global geopolitical chessboard and the war against terrorism – as if we all needed them! **2017 started** with a Turkish Bataclan when a terrorist disguised as Santa Claus murdered 39 (16 foreigners) and injured 69 in Disco Reina in Istanbul (more than 500 people were inside the building at the time of the attack).

It seems that in 2016 (but also during previous years) we have chosen the wrong prototype to follow: “tolerance”. In an effort to show the world how modern and civilized we (Europeans) are, we chose to tolerate almost anything – even against our core values, principles and ethics. We forgot the quote from Greek poet Cleobulus of Lindos who stated “Παν μέτρον ἄριστον” (moderation is the best thing). We chose not to say out loud what we really want without double readings or hidden messages. There is always space between “Yes” and “No” but this space misinterpreted as tolerance. Hopefully we will be clever enough and make problems identified in 2016 to lessons learned in 2017 – in all aspects of our life; from defense to politics. In 2017 we have to follow the way terrorists respond to changing environments: adaptation, modification and change in a fast and effective manner. Our actions proved that too much democracy is bad for our health; especially during times of war. Privacy, civil rights and freedom of speech are some of the core cornerstones of our civilization but only when they serve the public good and all the citizens – not the majority of them. It is time that European Union to become a model UNION with members caring and support each other since no nation can survive and prosper alone – even the supposed “strong” nations. EU rope is made of many strings and each string is equally strong and all of them together make the rope difficult to brake!

Donald Trumb is officially the 45th President of the United States of America. “From this day forward, it’s going to be only America first. America first!” he declared during his inaugural addresses. I wish our governors in Greece one day to say exactly this! But wishes and reality do not walk together in this country!

After a long and fruitful collaboration Assistant Editor Panagiotis Stavrakakis, Captain (ret.) MEng, PhD, MBA, MSc, (Greece) and Co-Editor Dr. Sarafis Pavlos, Captain RN (ret.), PhD, MSc (Greece) will not be with us. I would like to sincerely thank both of them for their contribution and wish them all the best for their future endeavors. At the same time, three new colleagues (and friends) join the Editorial Team: (1) Giada Bellanca, MD (Italy); (2) Peter Tarlow, PhD Sociol (USA); and (3) Michael Hopmeier, Bsc/MSc MechEngin (USA). I would like to welcome all of them and I am confident that their presence will boost the CBRNE-Terrorism Newsletter further.

The Editorial Team is wishing, deep from heart, to all CBRNE-CT First Responders a very fruitful New Year, full of health, peace, joy, happiness and success both in personal and professional life. Always be alert and remember that preparedness is better than cure and mitigation!

The Editor-in-Chief





The NEW members of Newsletter's Editorial Team

Giada Bellanca, MD (Rome, Italy)

- Attendant student of "Level I CBRNe International Master Course" in University of Rome Tor Vergata, Rome, Italy;
- Lecturer CO.CI.M at CAD (advanced study Academic Center of Defense, Rome) for University of Rome Tor Vergata, Rome;
- Medical Consultant for IOM-UN International Organization for Migration head-quarters in Rome;
- Medical health consultant for CARA Castelnuovo di Porto, Rome and HUG National Migration Center, Switzerland for control and research of diseases and public safety;
- Medical Consultant for safety and security in Public event of His Holiness Pope Francis I for Maundy day, Easter 2016 Rome;
- Official medical doctor consultant for rescue health corps of Holy Order of Malta Knight of Saint John (2014-2016) – more than 380 days of active navigation and more than 12.000 people rescued.

Michael Hopmeier, BSc/MSc (Washington, D.C., USA)

- President, Unconventional Concepts, Inc (June 1997 – present);
- Holds Bachelors and Master's degrees in mechanical engineering from the University of Florida;
- Technical advisor and operational consultant to numerous governmental and international agencies and organizations, including the DARPA Defense Sciences Office, U.S. Army Medical Research and Materiel Command, United States Surgeon General, the Deputy Assistant to the Secretary of Defense for Chemical and Biological Defense, the World Health Organization and several foreign governments;
- Founding and current member of the Executive Board of the International Counter-Terrorism Academic Community and an Associate Researcher of the Institute for Counter-Terrorism;
- Founder of a number of different start-up companies and actively involved in numerous international programs as a senior or executive manager or advisor, and has supported a number of efforts in the UK, Greece and Israel;
- **Areas of interest:** mass gathering and complex event response, training and preparedness, chemical /biological incident response, combat casualty care and medical support, crisis response and management, unconventional pathogen countermeasure programs, federal agency protective measures, counter-terrorism, terrorist cultural motivation and integrated federal/civilian disaster response.
- **Web:** <http://www.unconventional-inc.com>

Peter Tarlow, Ph.D. (Houston, TX, USA)

- President and Founder, Tourism & More;
- Ph.D. in Sociology from Texas A&M University; degrees in history, in Spanish and Hebrew literatures, and in psychotherapy;
- Special Envoy for the Chancellor of the Texas A&M University System (2013);
- Well-known author in the field of tourism security;
- Member of the Distance Learning Faculty of "The George Washington University" in Washington, DC;
- Adjunct faculty member of Colorado State University and the Justice Institute of British Columbia (Vancouver, Canada);
- Member of the graduate faculty of Guelph University in Ontario, Canada;
- Honorary professor at the Universidad de Especialidades Turísticas (Quito, Ecuador), of the Universidad de la Policía Federal (Buenos Aires, Argentina), la Universidad de Huánuco, Peru, and on the EDIT faculty at the University of Hawaii in Manoa, (O'ahu);
- Appeared on national televised programs such as Dateline: NBC and on CNBC and is a regular guest on radio stations around the US;
- Past president of the Texas Chapter of the Travel and Tourism Research Association (TTRA);
- Member of the International Editorial Boards of "Turizam" published in Zagreb, Croatia, "Anatolia: International Journal of Tourism and Hospitality Research," published in Turkey, and "Estudios y Perspectivas en Turismo," published in Buenos Aires, Argentina, and the American Journal of Tourism Research.
- **Web:** <http://www.tourismandmore.com>



Greece – So polite! Not to insult our illegal newcomers!

Athens Dec 2016



Traditional Chrstm Tree ►



Traditional Greek Xms symbol ►



2016: A spinning wheel or something like this...

Editor's wander

Why CSI personnel worldwide wear the white PPEs? We all know why.
Why don't they wear them properly?



Collecting evidence from the scene (Milan, Italy) where the Berlin terrorist was killed.



Collecting evidence following detonation of a parcel bomb in Florence, Italy that amputated an EOD officer (Jan 01, 2017)



Muslim girl refuses to shake German president's hand as he visits a school to praise it... for integrating migrants so well

Source: <http://www.dailymail.co.uk/news/article-4048650/Muslim-girl-refuses-shake-German-president-s-hand-visits-school-praise-integrating-migrants-well.html>

Dec 19 – **A Muslim girl refused to shake the hand of the German president despite him visiting her school to praise students for integrating migrants so well.**

Footage has emerged of the visit of Joachim Gauck to the Theodor Heuss School in Offenbach at the end of last month.

It shows him arriving at the school in his official car with students waiting for him at the entrance and holding up welcome signs in a variety of languages including German and Arabic.



He had chosen to visit the school after it was singled out as being an example of how they successfully help migrant children learn the German language and culture.

Mr Gauck was then introduced to a line up of students and as he went down the line, he proceeded to shake hands with every one of them.

But when the president, who largely has a ceremonial role in Germany, reached the girl in a hijab in the line-up she quickly moved her hand away.

She then placed it over her chest and bowed her head as Mr Gauck held out his hand for her.



After refusing the president's hand, the pair just exchanged smiles and he quickly moved on to the next student

But realising she was not going to greet him like the other students, the pair just exchanged smiles and he quickly moved on to the next student.

It is unclear why she moved away from the hand shake, however some Muslims refuse all physical contact with members of the opposite sex they are not married or related to.

However, it is not the first time Muslims have refused to shake hands with members of the opposite sex in Germany.

In July, a Muslim pupil refused to shake the hand of his female teacher on 'religious grounds.'

As the teacher at the Kurt-Tucholsky School in Hamburg went to shake the hand of the student he offered his wrist instead. Apparently, seconds later, he told her; 'No offence, my religion won't let me do that. I do not mean to disrespect you.' But fellow teachers were outraged and demanded he be sent home from the event, a move the headteacher refused.

Meanwhile **in Switzerland**, a 15-year-old Muslim schoolboy was forced to shake hands with his female teachers after he refused to do so. Amer Salhani lost his appeal in September after his school rejected his argument that the Swiss tradition of handshake greetings went against Islam. The teenager and his older brother sparked a fiery debate earlier this year when they said



they could not shake their teacher's hand because their religion forbids physical contact with a member of the opposite sex - unless they are family.

EDITOR'S COMMENT: Multicultural societies. State benefits. Education for a better future in a peaceful society. Integration efforts. Solidarity. Tolerance. Sick tired of people who use "that's just how I am" to excuse rude or inconsiderate behavior! In the bottom line: we did not invite them to come to our countries; it was their choice.

Robotic lie detector for border, aviation security

Source: <http://www.homelandsecuritynewswire.com/dr20161229-robotic-lie-detector-for-border-aviation-security>

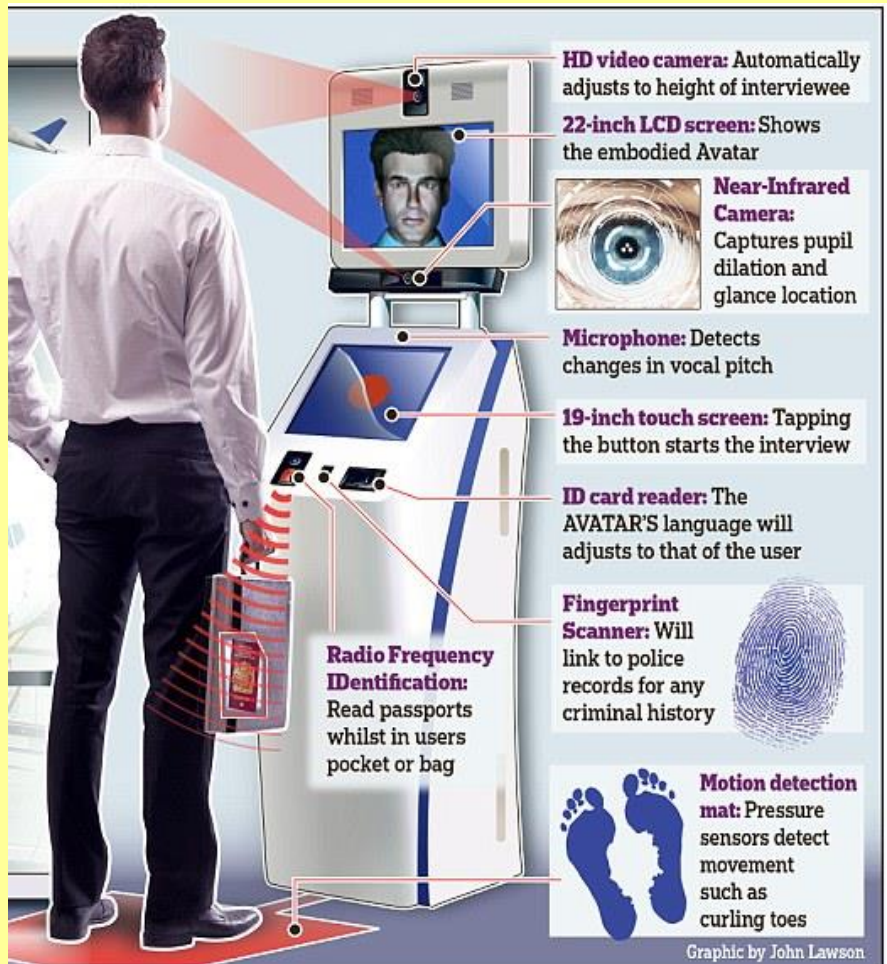
Dec 29 – When you engage in international travel, you may one day find yourself face-to-face with border security that is polite, bilingual and responsive — and robotic.

The **Automated Virtual Agent for Truth Assessments in Real Time (AVATAR)** is currently being tested in conjunction with the Canadian Border Services Agency (CBSA) to help border security agents determine whether travelers coming into Canada may have undisclosed motives for entering the country.

"AVATAR is a kiosk, much like an airport check-in or grocery store self-checkout kiosk," said San Diego State University management information systems professor Aaron Elkins. "However, this kiosk has a face on the screen that asks questions of travelers and can detect changes in physiology and behavior during the interview. The system can detect changes in the eyes, voice, gestures and posture to determine potential risk. It can even tell when you're curling your toes."

Here's how it would work: Passengers would step up to the kiosk and be asked a series of questions such as, "Do you have fruits or vegetables in your luggage?" or "Are you carrying any weapons with you?" Eye-detection software and motion and pressure sensors would monitor the passengers as they answer the questions, looking for tell-tale physiological signs of lying or discomfort. SDSU notes that the kiosk would also ask a series of innocuous questions to establish baseline measurements so people are just nervous about flying, for example, wouldn't be unduly singled out.

Once the kiosk detected deception, they would flag those passengers for further scrutiny from human agents.



Elkins began working on AVATAR when he was a Ph.D. student at the University of Arizona. As the deception detection project grew more advanced and more sensors were added, more data about the interviewee was analyzed.



When Elkins became an assistant professor at SDSU in the fall of 2016, his work moved with him. Here, he is in the process in completing construction of his lab where he plans to continue researching and teaching students about artificial intelligence.

“We’ve come to realize that this can be used not just for border security, but also for law enforcement, job interviews and other human resources applications as well,” Elkins said. “We continue to make improvements, such as analyzing the collected data using Big Data analysis techniques that make AVATAR a potentially valuable tool across many industries.” In the meantime, Elkins is looking for a government agency willing to utilize the technology in a real-world application.

“AVATAR has been tested in labs, in airports and at border crossing stations,” Elkins noted. “The system is fully ready for implementation to help stem the flow of contraband, thwart fleeing criminals, and detect potential terrorists and many other applications in the effort to secure international borders.”

Two Bullies, Putin and Erdoğan, Try Friendship

By Daniel Pipes

Source: <http://www.meforum.org/6454/putin-and-erdogan-try-friendship?>



Dec 23 – The assassination on Dec. 19 in Ankara of the Russian ambassador to Turkey, Andrey Karlov, raises some major geopolitical issues: Will this act of violence break relations between the two countries, isolate Turkey, or – counterintuitively – improve their ties? And does this murder affect the Middle East and the world beyond?

[The siege of Constantinople, 1453](#)

Turks and Russians have a long and complex history that starts with the Ottoman conquest of

Constantinople in 1453 and the Russian dream to win it back for Orthodox Christianity. The two states fought twelve major wars in the 3½ centuries between 1568 and 1918, had a flurry of good relations under Atatürk and Lenin which went south with Stalin, improved



substantially in 1991 upon the Soviet Union's dissolution, then subsequently plummeted (2015) and revived (2016).

Generally, Russians have enjoyed the whip hand. They won most wars, occupied most land, and came away with better terms in treaties. Turks long ago realized their need of Western support to fend off Russia: thus, they won support from a 4-power coalition in mid-nineteenth century, the Central Powers in World War I, and the North Atlantic Treaty Organization (NATO) during and after the Cold War.

Fear of Moscow has influenced Turks in deeper ways too, steadily inclining them toward Western ways; of all Muslims, Turks have been the most open to Western influence, from drinking wine to building democracy. A Turk, Kemal Atatürk, not coincidentally stands out as the most influential Muslim Westernizer.

These centuries-old patterns remained mostly in place until the strongman Islamist president of Turkey, Recep Tayyip Erdoğan, decided in November 2015 to bring down a Russian war jet for allegedly breaching Turkish airspace. Whatever his reason – perhaps retaliation for a comparable shooting down of a Turkish plane by Syrian forces in 2012 – this capricious act both infuriated Russia's President Vladimir Putin and alienated NATO leaders. Put in schoolyard terms, the little bully misjudged in taking on the big bully.

Erdoğan eventually realized his mistake. In June 2016, he swallowed his engorged pride, apologized to Putin, humbly visited him in Russia, and partially retreated from those Turkish policies in Syria that contradicted Putin's. Without betraying affection or trust for Erdoğan, the Russian leader absorbed these concessions and resumed cooperating with him. Then, this past Monday, came the assassination of the Russian ambassador at an art exhibit, of all places, made the more horrifying and vivid by a [high-resolution video](#) of the violence. The murderer, Mevlüt Mert Altıntaş, 22, made explicit his outlook and purpose by [shouting](#) before his own death by gunfire, "We are the ones who obey the call of jihad! Allahu Akbar!

Don't forget Aleppo! Don't forget Syria!" Assuming someone who yells slogans as he murders and is killed tells the truth, Altıntaş was a Sunni jihadi lashing out against Russian military help in Syria for the enemies of other Sunni jihadis.

As is their wont, the Turkish authorities rushed to pronounce Altıntaş an agent of one mortal domestic enemy, the Hizmet movement of Fethullah Gülen. Once close allies, Gülen and Erdoğan murderously fell out in a tiff over power in 2011. Since then, Erdoğan has been trying to crush Gülen and his millions of adepts by blaming every problem on them. Pinning Altıntaş on Gülen both fit that hackneyed narrative and signaled Moscow that the Republic of Turkey sees the murderer as their mutual enemy. Putin obligingly responded in kind, ascribing the murder to "terrorism" and not holding Erdoğan's team responsible.

Indeed, in an ironic contrast to Altıntaş' presumed wishes, his act of violence brought the two strongmen closer together; a *Chicago Tribune* analysis finds "Russia reaping political benefits by arguing that it has paid a high price for fighting terrorism as Turkey, embarrassed by its security breaches, increasingly coordinates with Russia in neighboring Syria."

That said, relations between the two states remain fraught with tensions: Historic enemies remember grudges. Bullies cannot form a stable relationship. Opponents in Syria's civil war cannot smooth over contrary goals. Structurally, Ankara needs NATO; so, talk of its joining the Shanghai Cooperation Organisation, the Russian-Chinese counterpart to NATO, appears to be blather for pressuring Westerners.

Karlov's murder highlights how, as Turks increasingly self-isolate and go rogue, this country of 75 million becomes a leading source of instability. While still a member of NATO, Erdoğan's Turkey, now challenges Khomeinist Iran for the title of the Middle East's most dangerous regime.

Daniel Pipes is president of the Middle East Forum.



The crucial challenge for international aid

Source: <https://crucialchallengeforinternationalaid.com/book/>

Mirek Karasek and **Jennifer P. Tanabe** present a book that uses simple algebra and statistical analysis to map, analyze and present possible solutions to a very serious problem the world is facing today, namely how to resolve and reduce the risk of conflict between developed (Donor) countries and developing (Recipient) countries. In particular, the conditions leading to success or failure of international aid from donor to recipient countries are studied in detail. The results offer valuable insight into the dangers the world faces if these efforts fail, and lead to a paradigm that promises success.

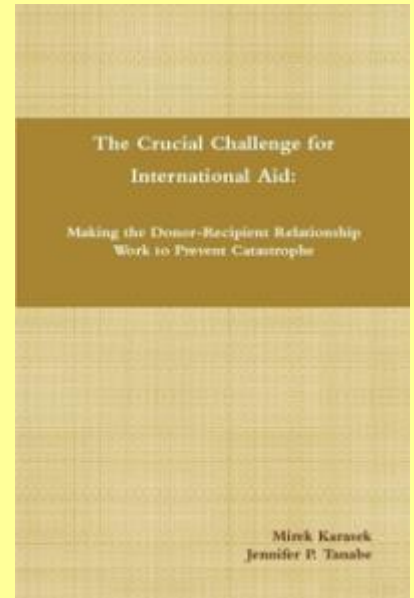
The basis of the study lies in ranking societies along a number of characteristics which are economic, political and cultural in nature. It is proposed that the most important factor is not the absolute value of any of these measures, but rather the level of similarity or difference, both within each society and between societies engaged in the donor-recipient relationship. These cultural, political and economic differences—called “heterogeneities” in the text—stem from vastly different foundations of cultural, ethical, cognitive and religious histories experienced by the different societies.

The analysis shows that high levels of inter-societal homogeneity between donor and recipient provide the basis for successful aid transactions. On the other hand, recipient societies with high levels of intra-societal heterogeneity pose a significant problem, the most serious occurring when an impoverished country is under the control of militant ethnic or religious zealots to whom wars and terrorism are not unknown political tools.

These findings warn us that:

(1) Throwing billions of US dollars into developing countries which the donor countries have little in common with and equally little understanding of their cultural, political and cultural structures and goals, is not just a waste of money but adds fuel to fires of discontent in both recipients and donors.

(2) Doing nothing is even more dangerous, as an increasing number of countries slide dangerously toward political and economic chaos, resulting in violence that can spread domino-like throughout the world. Fortunately, such a “Doomsday Scenario” is not inevitable. This study provides a paradigm which offers hope, provided it is taken seriously and acted upon before it is too late. The book suggests a way to analyze, assess and understand the inner workings of the developing and/or the world poorest societies’ ruling classes. In reality, however, it is up to the governments and NGOs to make sure that donor-recipient aid transactions are carried out successfully. The paradigm developed here offers a possible solution to the difficulties and dangers encountered in the past, and also a way of avoiding future disasters.



►► The book is available from [Amazon](#) and [Barnes & Noble](#).

Incredibly Detailed Map Of The World's Religions

Source: <http://brilliantmaps.com/religion-world-map/>

The incredibly detailed map of the world's religions above, was created by reddit user scolbert08. To see the full resolution version just click on it.

It shows what the biggest religion is by census area in each country, along with its level of support. For example, in large parts of British Columbia the most common answer on the census is no religion, but the intensity of that feeling varies widely.

Another important thing to note is that while Christianity is divided between Catholicism, Protestantism and Orthodox denominations, Islam is not similarly divided between Sunnis and Shias.

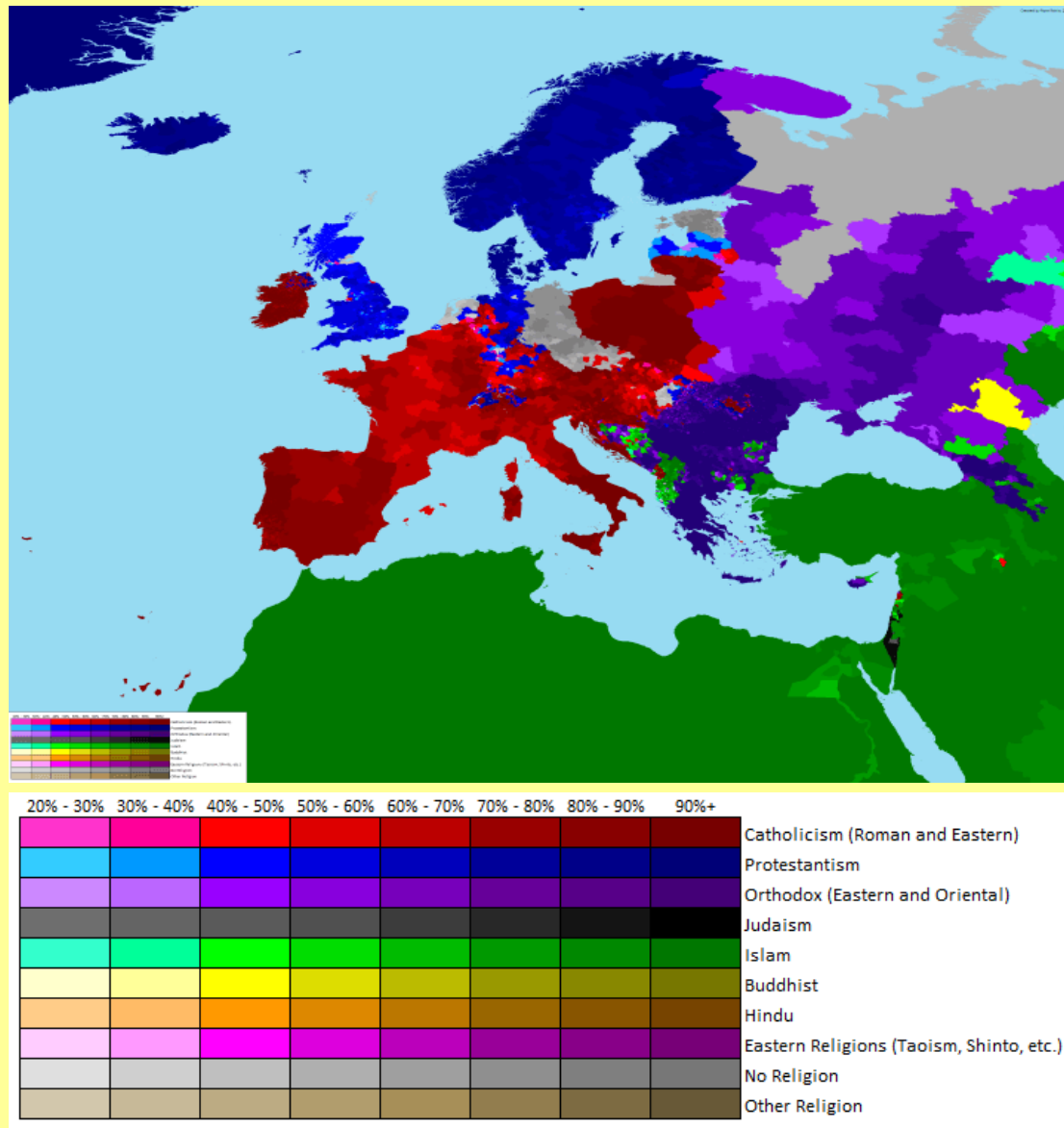


Also, the map likely wildly overstates the religiosity of Scandinavians, since the data is based on state Church records and everyone is assigned to a church at birth. Actual church attendance is much lower than the map would suggest.

Other interesting things to note:

- The Catholic bit of Antarctica is based on Chilean census data for [Villa Las Estrellas](#)
- Oman's Hindu population comes from migrant workers who outnumber locals.
- The Buddhist area in Russia is [Kalmykia](#).

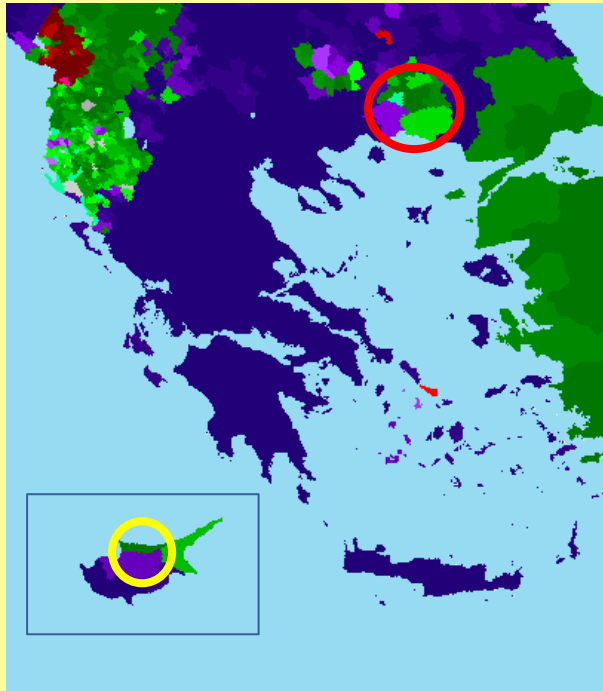
Below are more detailed maps by region. All created by scolbert08:



Religions of Europe

Two things to note about Europe. The formerly communist states of East Germany and Czechoslovakia (now Czech Republic and Slovakia) are clearly visible on the map as the areas with no religion. Second, despite right-wing fear-mongering, Muslims do not form a majority in any area of Western Europe.





EDITOR'S COMMENT

Might this be an incredibly detailed map on religions but for sure it is not incredibly accurate regarding Greece and Cyprus. Perhaps it is the colors that are confusing; perhaps ignorance contributes to mapping. The fact is that if you see a picture and a text on the internet do not assume that info provided is correct!

The Greek Constitution recognizes Eastern Orthodoxy as the "prevailing" faith of the country, while guaranteeing freedom of religious belief for all. The Greek government does not keep statistics on religious groups and censuses do not ask for religious affiliation. According to the U.S. State Department, an estimated 97% of Greek citizens identify themselves as Eastern Orthodox, belonging to the Greek Orthodox Church. Estimates of the recognized Greek

Muslim minority, which is mostly located in Thrace, range from 98,000 to 140,000, (about 1%) [red circle] while the immigrant Muslim community numbers between 200,000 and 300,000. Albanian immigrants to Greece are usually associated with the Muslim religion, although most are secular in orientation. The Roman Catholic community is estimated to be around 250,000 of which 50,000 are Greek citizens – many of them living in the island of Syros [yellow circle].

Nearly 500,000 immigrants deported from U.S. in 2016

Source: <http://www.homelandsecuritynewswire.com/dr20170104-nearly-500-000-immigrants-deported-from-u-s-in-2016>

Jan 04 – **The U.S. Immigration and Customs Enforcement (ICE) agency reported that nearly half million immigrants were deported in 2016.**

The agency did not offer details about the nationalities of the deported immigrants.

The *Jamaica Observer* [reports](#) that 530,250 individuals were apprehended across the United States in 2016 – of which 450,954 were removed.

The US Border Patrol reported 415,816 apprehensions, compared to 337,117 apprehensions by the Border Patrol in 2015. ICE noted that 114,434 individuals were arrested last year, compared to 125,211 in 2015.

"The department continues to successfully implement the civil immigration enforcement priorities announced by Secretary [Jeh] Johnson in November 2014," ICE said, noting that last year, 98 percent of initial enforcement actions

involved individuals classified within one of the three enforcement priority categories.

Johnson said the numbers listed in the report "reflect the continued effort by this Administration to dedicate the Department of Homeland Security's resources to smart enforcement of our nation's immigration laws, with a particular focus on public safety and border security.

"We continued to strengthen the federal Government's decades-long investment in border security. These investments have paid off," he said.

Johnson added that apprehensions on the border in recent years — a good indicator of total attempts to cross the border — are much lower than they used to be.

ICE said that 94 percent of removals and returns were classified within a Priority 1 category, and 5 percent were



classified within a Priority 2 category, which comprises “serious and repeat misdemeanants, individuals who unlawfully entered the United States on or after January 1, 2014, and significant abusers of the visa system or visa waiver program.”

ICE also said that 1 percent of immigrants were classified within a Priority 3 category – these are

“individuals issued a final order of removal on or after January 1, 2014.”

ICE said that less than 0.1 percent of removals and returns involved individuals classified as other federal interests, and less than 0.3 percent had unknown priority classifications.

EDITOR’S COMMENT: “... individuals who unlawfully entered the United States...” Unlawfully = illegal immigrants. In Greece, our left government uses the term “atypical immigrants”. But atypical points to an immigrant who fulfills the criteria and possesses the documents to be typical but he enters the country by climbing the border fence instead of going through the border gate. Otherwise he/she is “illegal”. It is a disturbing feeling to consider citizens as “idiotes” who cannot speak and understand their own language by those who think that they monopolize the right to be politically correct.

Airports post REAL ID deadline warning signs

Source: <http://www.homelandsecuritynewswire.com/dr20170104-airports-post-real-id-deadline-warning-signs>



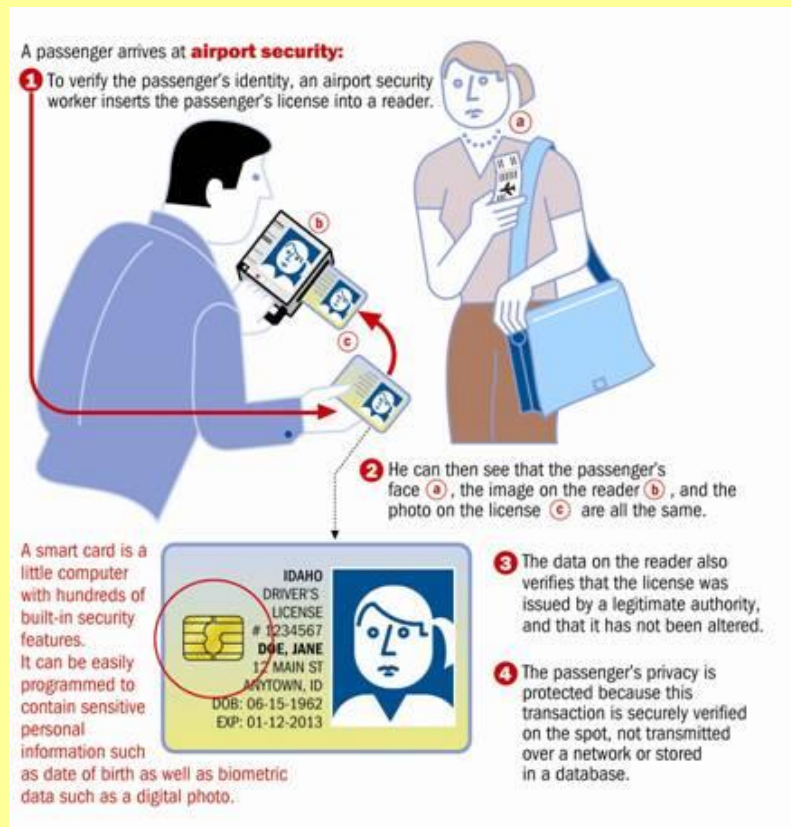
Jan 04 – Many U.S. airports have posted signs to alert travelers that beginning 22 January 2018, the Transportation Security Administration (TSA) will begin to enforce the REAL ID requirements at airport security checkpoints.

DHS says that a year from now, passengers presenting a driver's license or identification card from states not in compliance with the [REAL ID Act's security standards](#) — states, that is, which have not received an extension from DHS — may not be allowed to board.

TSA said it will continue to accept alternate

forms of ID at airports, such as a passport, military ID, or permanent resident card. Next year, however, driver's licenses and state-issued ID cards from the nine non-compliant states — Kentucky, Maine, Minnesota, Missouri, Montana, Oklahoma, Pennsylvania, South Carolina, and Washington — will not be accepted.





The Department of Homeland Security said in a statement that it is working with states to “encourage compliance” and that TSA will update the signs in airports “if and when states that are currently listed receive extensions.”

The REAL ID security requirements are already being enforced in federal facilities and nuclear power plants.

USA Today notes that REAL ID Act was passed by Congress in 2005 to establish minimum security standards for state-issued IDs. The law requires states to include a person's full legal names, birth date, gender, address, signature, an ID number, a photo and

a security feature such as a bar code or a hologram.



DHS stresses that REAL ID “is a national set of standards, not a national identification card,” but critics charge that the law creates a national identity card and allows the federal government to gather and store too much personal information.

Some states, referring to the costs associated with implementing the act, have objected to the REAL ID Act as well.



DHS had granted extensions to several states since 2008 – the first year in which had to come into compliance — but last January Secretary Johnson set 22 January 2018 as the day driver's licenses or identification cards issued by states must meet the REAL ID Act, or have an approved extension in place.

Austrian police searching for group of men 'of foreign appearance' over New Year's Eve sexual assaults in Innsbruck

Source: <http://www.telegraph.co.uk/news/2017/01/04/austrian-police-searching-group-men-foreign-appearance-new-years/>

Jan 04 – **Police in the Austrian city of Innsbruck are searching for a group of men “of foreign appearance” in connection with a series of sexual assaults on women during New Year celebrations.**

Nineteen women have so far come forward to identify themselves as victims of the assaults, which are [reminiscent of the Cologne sex attacks of New Year's Eve in 2015](#).

The women said they had been harassed by groups of up to ten men in the city centre, Ernst Kranebitter, a spokesman for the local police, said.

The men encircled the women then grabbed their breasts or put their hands between the women's legs.

The incidents left Innsbruck, a deeply conservative city of some 130,000 people amid the high Alps of western Austria, in shock.

“This has never happened to us before,” Ch Insp Kranebitter said. “It has definitely been proved that the men are foreign. We are investigating.”

The women described their attackers as of foreign appearance, with dark skin. Some were bearded while others were not. One of the men was missing a tooth.

The attacks took place in and around the Market Square in the heart of the Alpine city between 11.30pm and 1.30am, when the area was most crowded.

There is video footage of some of the attacks from a private security camera, but it is of poor quality and the suspects cannot be identified.

“We have videos of poor quality but we are trying to make the most of them,” the police spokesman said. Victims also took a number of photographs of the men using their mobile phones, but the images are poorly lit and blurred.

Police have CCTV cameras in the city centre but they are only used for live surveillance and no recordings are made.

Most of the victims were women aged between 19 and 25. They include four local women, three Italians, two Germans, a Swiss woman and a visitor from another area of Austria.

One local mother came forward to say that her 17-year-old daughter had been attacked together with three of her friends.

An Italian man from the region of South Tyrol, just across the border, said his 18-year-old daughter and a friend had been assaulted.

Police believe all the attacks were carried out by the same group of men. The attacks were “systematic”, with the victims being pushed away or otherwise separated from their groups.

The incidents evoke immediate parallels with the Cologne sex attacks, in which more than 1,200 women were assaulted, more than 500 of them sexually, while trying to celebrate the New Year in the heart of the city.

In Cologne, as in Innsbruck, crowds of men gathered in the city centre and deliberately encircled women, cutting them off from their male companions.

Again, in Cologne as in Innsbruck, details of the assaults did not emerge for some days after the New Year, as victims came forward.

German police believe the overwhelming majority of the perpetrators in the Cologne attacks were economic migrants from North Africa, many of them posing as asylum-seekers.

The New Year passed off peacefully in Cologne this year without reports of mass sexual assaults.



Police in the city were accused of racial profiling after they detained some 650 men of North African origin as they tried to head into the city centre.

But the Cologne police chief defended his officers, insisting they were acting on intelligence that known suspects were heading for the city.

The New Years Eve 2015 attacks in Germany:

► Hamburg

50 criminal complaints have been filed by women in the northern city of Hamburg, 39 of them for sexual assault

► Düsseldorf

Eleven women filed criminal complaints. A group of residents has formed a vigilante group to protect women in the city from further attacks

► Cologne

120 criminal complaints filed following New Years Eve attacks by group of 1,000 men

► Frankfurt

Police are investigating seven criminal complaints of sexual assault, including the case of three women who were surrounded by a group of 10 men and "massively" groped

► Stuttgart

Two 18-year-old women were surrounded and groped by a group of around 15 men. They later discovered their mobile phones had been stolen. Police described the suspects as of "southern or Arab appearance"

► Weil am Rhein

A 21-year-old man and two 14-year-old boys are being held in a small town near the Swiss and German borders, for the alleged rape of two girls aged 14 and 15.

Prosecutors allege that the two girls were held for several hours and gang-raped after attending a New Year celebration at the home of the 21-year-old man in the nearby village of Friedlingen



Austrian embassy: "Christmas delicacies" renamed "Winter delicacies" out of consideration for Islam

Source: <http://diversitymachtfrei.blogspot.gr/2016/12/austrian-embassy-christmas-delicacies.html>



I was interested why, on the 4th day of Advent, there would be "winter delicacies" instead of "Christmas delicacies".

Dec 17 – On Thursday the Austrian ambassador [to Germany], Dr. Nikolaus Marschik, issued invitations to a reception in the embassy.

There Aiman Mazyek, chairman of the Central Council of Muslims in Germany, was to present his new book ("What do Muslims make of Christmas?"). The evangelical pastor Margot Käßmann would give an introductory speech. Then there would be a "cosy gathering with winter delicacies".



A lady from the embassy told me on the telephone that the name "winter delicacies" was chosen out of consideration for Islam. That was only fair towards Muslims, she said.

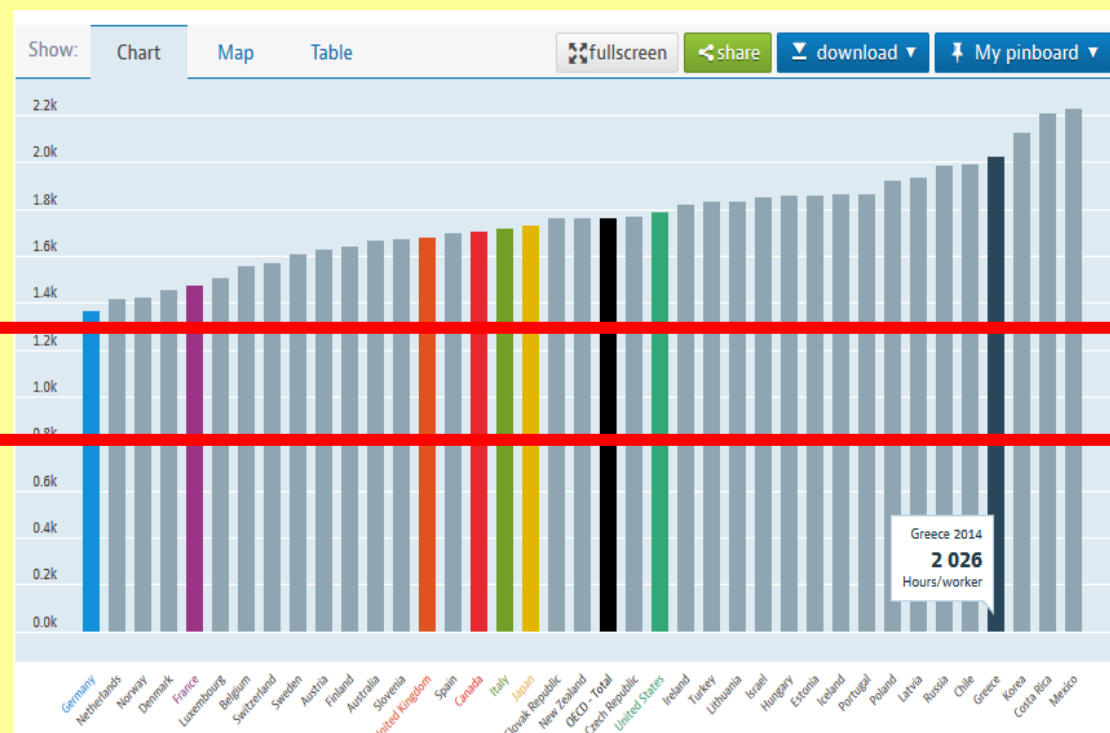
Somewhere in Sevran suburb, **Paris** (France) – No women allowed...

Source: <https://www.youtube.com/watch?v=ftiL7iOhSy0>



OECD Data – Hours worked in 2016

Source: <https://data.oecd.org/emp/hours-worked.htm>



Average annual hours worked is defined as the total number of hours actually worked per year divided by the average number of people in employment per year. Actual hours worked include regular work hours of full-time, part-time and part-year workers, paid and unpaid



overtime, hours worked in additional jobs, and exclude time not worked because of public holidays, annual paid leave, own illness, injury and temporary disability, maternity leave, parental leave, schooling or training, slack work for technical or economic reasons, strike or labour dispute, bad weather, compensation leave and other reasons. The data cover employees and self-employed workers. This indicator is measured in terms of hours per worker per year. The data are published with the following health warning: The data are intended for comparisons of trends over time; they are unsuitable for comparisons of the level of average annual hours of work for a given year, because of differences in their sources and method of calculation.

TOP 5

Mexico – 2.246 hrs
Costa Rica – 2.230 hrs
South Korea – 2.113 hrs
Greece – 2.042 hrs
Chile – 1.990 hrs

BOTTOM 5

France – 1.473 hrs
Denmark – 1.458 hrs
Norway – 1.447 hrs
Netherlands – 1.420 hrs
Germany – 1.366 hrs

Organisation for Economic Co-operation and Development (OECD) - 2016

The decay of our civilization...

No Trousers On The Tube Day (8 Jan 2017)



London



Berlin

University of London students demand 'white philosophers' like Plato, Kant be removed from syllabus

Source: <https://www.rt.com/uk/373042-white-philosophers-students-demand/>

Jan 09 – **University of London students are demanding that thinkers such as Plato, Aristotle, Voltaire, and Immanuel Kant be banned from the philosophy syllabus... because they are white.**

UK media quotes students from the **University of London's School of Oriental and African Studies (SOAS)** as saying that "the majority of philosophers on our courses" should be from Africa and Asia.

A statement from the students' union added that banning white philosophers should be part of a wider campaign to "decolonize" the university and "address the structural and epistemological legacy of colonialism."

"White philosophers" should be on the syllabus only "if required," and their work should be studied from a "critical standpoint," the statement said, as cited by British media.

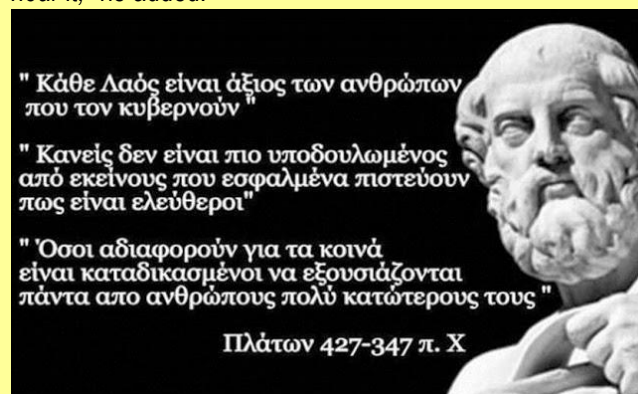
"For example, acknowledging the colonial context in which so-called 'Enlightenment' philosophers wrote within," it elaborated.



Many scholars have been outraged by the demand, warning that the situation could spiral out of control. "You can't rule out a whole area of intellectual endeavor without having investigated it, and clearly they haven't investigated what they mean by white philosophy," Sir Roger Scruton told The Daily Mail.



"If they think there is a colonial context from which Kant's Critique of Pure Reason arose, I would like to hear it," he added.



The vice-chancellor of Buckingham University, Sir Anthony Seldon, told The Daily Mail that it looks like "a real danger" of "political correctness getting out of control."

Opinions within the university are also divided, however. The head of SOAS's Religions and Philosophies department, Erica Hunter, was surprised by the students' statement, calling it "rather ridiculous."

"I would firmly resist dropping philosophers

or historians just because it was fashionable," she added, as cited by The Telegraph.

However, Pro-Director (Learning and Teaching) Dr. Deborah Johnston sees the students' initiative to question the syllabus as positive, explaining that "informed and critical debate and discussion about the curriculum we teach" is "a healthy and proper part of the academic enterprise."

EDITOR'S COMMENT: The decay of our civilization... part 2

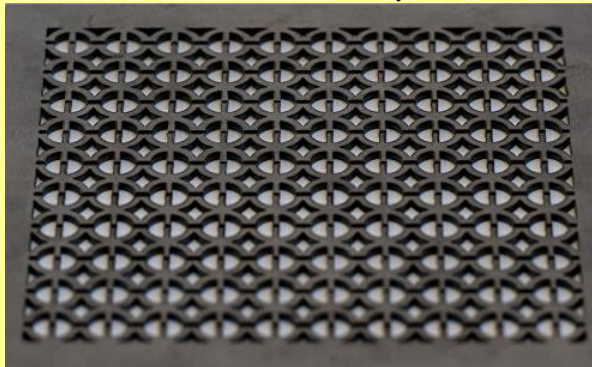
Russian Scientists Obtain Unique Material to Make Combat Vehicles Invisible

Source: <https://sputniknews.com/russia/201701101049439289-russia-metamaterial-stealth/>

Jan 10 – A team of researchers at Moscow's National University of Science and Technology (NUST MISIS) have come up with a unique metamaterial which can make combat vehicles invisible, the authoritative scientific journal Physical Review wrote.



Metamaterial is a substance engineered to have a property that is not found in nature. It is capable of manipulating electromagnetic waves by blocking, absorbing, enhancing, or bending them to make things invisible. Metamaterials can be widely used in the development of new types of weapons and the design



of supercomputers where conventional electrical signals will make way for photonic ones.

The NUST MISIS team worked closely with colleagues from the University of Crete, Greece. In 2016 Russia and Greece signed a memorandum on cooperation in quantum technology research and joint financing of this work, including the study of metamaterials.

"The experimental part of our research was the creation of a one-of-a-kind metamaterial consisting of a small flat grid of the so-called meta-molecules cut out from a solid piece of ordinary steel," the project's director Alexei Basharin was quoted as saying by the NUST MISIS press service.

Basharin said that thanks to the special shape and configuration of these cells the scientists managed to obtain metamaterial with absolutely unique properties. **This metamaterial can be used to make supersensitive sensors to detect explosives and chemical weapons.**

"An addition of a nonlinear semiconductor will turn the metamaterial into an adjustable screen for stealth technologies, which make fighting vehicles less visible in radio, infrared and other bands," the NUST MISIS press service said in a statement. The newly obtained metamaterial can also become a vital element of the latest types of lasers and serve the basis for quantum computers. "The Russian Satellite Communications Company (RSCC) and other space-related organizations have already shown interest in the new material," the NUST MISIS statement said.



The best mobile phone in the market!

Source: <http://www.thelightphone.com/#phone-2>



EDITOR'S COMMENT: Why the best phone? Because now people will fight their addiction to smartphones and restart looking around them like normal people – "smart" people. This will greatly enhance our security and close a gap that evil people take advantage of.



In a planet flooded with violence and evil, friendship, love and devotion are the only valuable properties that underline our purpose in life!

Brazil



USA

By JENNIFER EARL / CBS NEWS / January 11, 2017, 3:54 PM

Dog saves injured Michigan man from freezing to death in the snow



A Michigan man says his dog saved his life after he slipped and fell in 20-degree weather on New Year's Eve.



DHS designate U.S. election infrastructure as a Critical Infrastructure Subsector

Source: <http://www.homelandsecuritynewswire.com/dr20170109-dhs-designate-u-s-election-infrastructure-as-a-critical-infrastructure-subsector>

Jan 09 – **The Department of Homeland Security has added the U.S. election infrastructure to the list of protected critical infrastructure sectors of the economy.** The move comes in the wake of the Russian government's interference in the 2016 presidential election, which was aimed to help Donald Trump win the election.



"I have determined that election infrastructure in this country should be designated as a subsector of the existing Government Facilities critical infrastructure sector. Given the vital role elections play in this country, it is clear that certain systems and assets of election infrastructure meet the definition of critical infrastructure, in fact and in law," DHS secretary Jae Johnson [said](#) Friday:

"I have reached this determination so that election infrastructure will, on a more formal and enduring basis, be a priority for cybersecurity assistance and protections that the Department of Homeland Security provides to a range of private and public sector entities," Johnson added. "By 'election infrastructure,' we mean storage facilities, polling places, and centralized vote tabulations

locations used to support the election process, and information and communications technology to include voter registration databases, voting machines, and other systems to manage the election process and report and display results on behalf of state and local governments."

Johnson noted that DHS had consulted many state and local election officials, and said he was aware of the fact that many of them are opposed to the designation. "It is important to stress what this designation does and does not mean. This designation does not mean a federal takeover, regulation, oversight or intrusion concerning elections in this country. This designation does nothing to change the role state and local governments have in administering and running elections," he said.

The designation of election infrastructure as critical infrastructure subsector means that election infrastructure becomes a priority within the National Infrastructure Protection Plan. It also enables DHS to prioritize its cybersecurity assistance to state and local election officials, but only for those who request it.

"Particularly in these times, this designation is simply the right and obvious thing to do," Johnson said. At present, there are sixteen critical infrastructure sectors, including twenty subsectors that are eligible to receive prioritized cybersecurity assistance from DHS. The existing critical infrastructure sectors are:

- | | |
|---------------------------|---|
| ● Chemical | ● Financial Services |
| ● Commercial Facilities | ● Food and Agriculture |
| ● Communications | ● Government Facilities |
| ● Critical Manufacturing | ● Healthcare and Public Health |
| ● Dams | ● Information Technology |
| ● Defense Industrial Base | ● Nuclear Reactors, Material, and Waste |
| ● Emergency Services | ● Transportation Systems |
| ● Energy | ● Water and Wastewater Systems |

Many critical infrastructure sectors include assets and systems owned and operated by state and local governments, such as dams, healthcare and public health, and water and wastewater systems.



“Election infrastructure is vital to our national interests, and cyberattacks on this country are becoming more sophisticated, and bad cyber actors – ranging from nation states, cyber criminals, and hacktivists – are becoming more sophisticated and dangerous,” Johnson said.

Johnson noted that just as the continually evolving digital age has improved people’s quality of life, it has also introduced an array of cyber threats and implications.

Remote Door Breaching – for Use of the Special Units

Source: <http://i-hls.com/2017/01/remote-door-breaching-use-special-units/>



Jan 07 – Door breaching devices are one of the tools used by SWAT teams and other security forces in counter-terrorism and police operations.

India’s security personnel fighting terrorists holed up in a house would soon get a helpful device that helps them break into a house and neutralise the armed men.

Door Breaching Device, which can be used from a distance of 100 metres for rapid entry, has been developed by India’s Defense Research and Development Organization’s (DRDO) Terminal Ballistic Research Laboratory (TBRL).

According to security experts, door-breaching is an important activity in low- intensity conflict operations as it provides rapid entry through the locked or barricades structures.

During the Army Expeditionary Warrior Experiments (AEWE) 2017 Live Fire held in Fort Benning, the U.S. Army tested a 40mm grenade for breaching doors. The 40mm grenades are made by Florida Company Chemring Ordnance and showed the test doors are not much of a problem for it.



TBRL’s scientist Yogeshwar Nath, part of the developers team, said that the device can successfully breach various kinds of doors like thick metal door and thick wooden doors by remote action, according to deccanchronicle.com.

“This device is ready for production and it is yet to be inducted into the security forces. We have conducted demonstration trials for Indian Army, DG Infantry, National Security Guards, CRPF, ITBP, SSB, CISF and Punjab police,” he said.

“In the present system, the flexible linear shape charge is being used. In this system, we have used exploding bridge wire detonator to initiate the charge assembly. The system uses



a specially designed wireless firing system to provide required excitation power. Wireless trigger can initiate the firing unit remotely. There will be minimum collateral damage and there is no primary explosive involved in complete system," said Mr. Nath.

Why I like Norwegians very much!

By the Editor



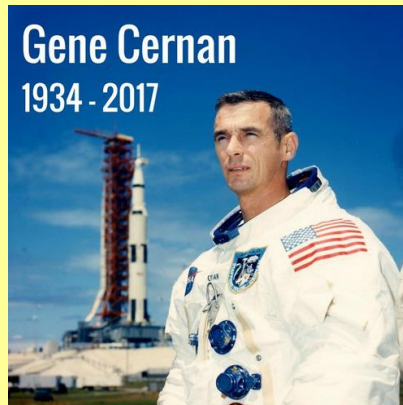


Apollo astronaut Gene Cernan has passed away

The last astronaut to walk on the moon

Source: <http://www.theverge.com/2017/1/16/14287856/apollo-17-astronaut-gene-cernan-obituary>

Jan 16 – **Gene Cernan, the last man to walk on the Moon, has died at the age of 82**, according to NASA. He was a veteran of three spaceflights: as the pilot for Gemini 9A, the Lunar Module Pilot for Apollo 10, and as the commander of Apollo 17.

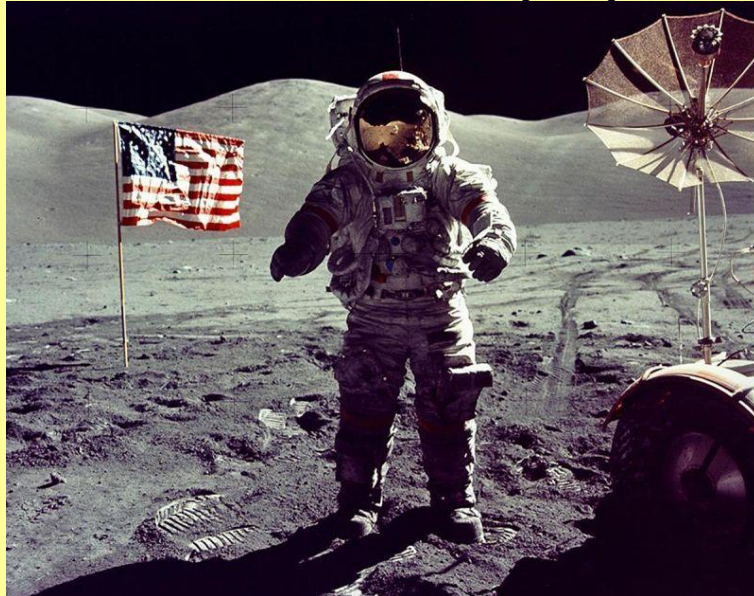


“Even at the age of 82,” His family said in a statement. “Gene was passionate about sharing his desire to see the continued human exploration of space and encouraged our nation's leaders and young people to not let him remain the last man to walk on the Moon.”

“Truly, America has lost a patriot and pioneer who helped shape our country's bold ambitions to do things that humankind had never before achieved,” said NASA Administrator Charles Bolden.

“As the last person to stand on the surface of the Moon,” said Francis French, the director of education at the San Diego Air & Space Museum and author of *Into that Silent Sea: Trailblazers of the space Era, 1961-1965*. Cernan “felt a responsibility not only to share his memories, but also to inspire young people to become explorers. He dearly hoped that he would live to see someone else take his unwanted title of the last person to stand on the moon.”

Eugene Cernan was born on March 14th, 1934 in Chicago, Illinois. He attended Purdue University where he earned his Bachelor of Science in Electrical Engineering. While there, he earned a commission through the Reserve Officer Training Corps, and became a Naval Aviator following his graduation. He eventually earned his Master of Science in Aeronautical Engineering from the U.S. Naval Postgraduate School.



In 1963, he was selected as part of the third class of astronauts, a group that included Buzz Aldrin (Gemini 12, Apollo 11), Alan Bean (Apollo 12, Skylab), Michael Collins (Gemini 10, Apollo 11), (Russell Schweickart, Apollo 9), and others.

Cernan's first mission into space was on board the Gemini 9 mission along with command pilot Tom Stafford, in which he spent three days in space and became the second American to conduct a spacewalk. He would also serve as the backup pilot for Gemini 12

and the backup Lunar Module Pilot for Apollo 7.

In May 1969, he served as the Lunar Module Pilot for the Apollo 10 mission, which served as the final dress rehearsal for the Apollo 11 mission, the first to touch down on the moon.



Along with Commander Tom Stafford and Command Module Pilot John Young, he descended within eight miles of the lunar surface to test the spacecraft.

Cernan would get his chance to land on the moon just three years later when he was named the commander for Apollo 17 — the final mission to the lunar surface. Accompanied by command module pilot Ronald Evans and lunar module pilot Harrison Schmitt, he landed in the Moon's Taurus-Littrow valley on December 11th, 1972. There, he and Schmitt conducted a total of three EVAs on the lunar surface in as many days. Over the course of the mission, they drove more than 22 miles using a lunar rover, conducting geological surveys and bringing back almost 250 pounds of samples.

Before departing, Cernan became the last person to speak from the moon's surface:



Bob, this is Gene, and I'm on the surface; and, as I take man's last step from the surface, back home for some time to come – but we believe not too long into the future – I'd like to just (say) what I believe history will record: that America's challenge of today has forged man's destiny of tomorrow. And, as we leave the Moon at Taurus-Littrow, we leave as we came and, God willing, as we shall return, with peace and hope for all mankind. Godspeed the crew of Apollo 17.

Following his mission to the moon, Cernan retired from the Navy in 1976, and worked at Coral Petroleum as the Executive Vice President-International, before forming his own business, Cernan Corporation, a management and consulting firm in the energy and aerospace industry.

Apollo 17 was the culmination of a race that had consumed the United States for over a decade. Cernan was a pivotal figure within the Gemini and Apollo programs, conducting numerous experiments that helped ensure that the country made it to the moon, but also collected scientific data that has helped scientists better understand the moon and its origins.

In 2010, he and Neil Armstrong testified before US Congress to oppose the Obama Administration's plans to end the Constellation Program, and has made numerous appearances in documentaries about the moon, most recently in 2016's [The Last Man on the Moon](#).

Protecting European borders: 21st century King Canute*

By Andy Oppenheimer

Source: <http://www.cbrneportal.com/protecting-european-borders-21st-century-king-canute/>

Oct 2016 – Border security is an issue of rising concern and controversy on both sides of the Atlantic. It is a constant priority in the face of the migrant crisis in Europe, which has seen a huge rise in people trafficking and mass movement of asylum seekers and illegal migrants crammed onto hundreds of ramshackle boats across the Mediterranean from the MENA countries.

The migrant crisis has also fuelled fears of further infiltration by ISIL into a continent that for decades has promulgated free movement of people and the absorption of refugees. Following the terrorist attacks in Paris in November 2015 and Brussels in March 2016, border security became arguably the biggest challenge faced by EU institutions since its inception. Terrorists slipped easily into Paris from Belgium, and some had entered the EU with crowds of migrants via Greece.

Many land borders are ungoverned spaces where movement across formal state lines is controlled only at checkpoints. Border and protection systems must be selective and cannot afford to enforce full screening at every key point, but must instead decide what and who to target on entry, or before entry. Each mode of transportation – by land, sea, and air – poses its own dilemmas and many border systems hold up traffic and trade while not stopping illicit materials and people entering their territory.





The border between Northern Ireland and the Irish Republic at Killeen, as viewed from the UK side, is currently marked only by a metric (km/h) speed limit sign.

Most countries cannot afford to rigorously watch every border, especially at points where there is significant economic activity. They must develop protocols for selecting vehicles for inspection and customs enforcement so as not to increase border wait times or incur prohibitive costs.

Protecting borders and transportation nodes must factor in costs of a potential attack through that entry point into a country; the probability of that attack occurring; the costs of delayed traffic and trade; costs and effectiveness of scanning and other systems; lost or wasted time for passengers, and bureaucratic and political opposition of proposed measures to protect a given border or transportation network.

Europe: the Schengen problem

The rules governing the passport-free Schengen Area continue to be scrutinised, as this is increasingly seen as a handicap in tracking and catching terrorists. **There are 26 Schengen countries – 22 EU**

members and four non-EU – covering an area of 44,000 km of external sea borders and nearly 9,000 km of land borders, allowing for internal movement for half a billion people. The UK is outside the zone along with Bulgaria, Croatia, Cyprus, Ireland, and Romania.

Harmonising EU policy for justice and home affairs means 28 countries creating a common set of policies for counterterrorism, cross-border crimes, border controls and immigration. Unwieldy bureaucracies and the need for greater sharing of intelligence, countries and agencies have multiple challenges to keep up with the pace of increased terrorist threats.

The European Border Surveillance System (Eurosur) instigated in December 2013 aimed to ensure “monitoring, detection, identification, tracking, prevention and interception of unauthorised border crossings for the purpose of detecting, preventing and combating illegal immigration and cross-border crime and contributing to ensuring the protection and

saving the lives of migrants.”

Tightening the borders

In December 2015 the European Commission proposed a major amendment to Schengen. Non-EU travellers have always had their details checked against police databases at the EU’s external borders. The main change is that the rule will apply to EU citizens as well, who until now had been exempt. Non-EU nationals who have a Schengen visa generally do not

Migrant route to Germany



have ID checks once they are travelling inside the zone. But since the Paris atrocities last November those checks have increased.

In September 2015 Germany re-introduced controls on its border with Austria, and with Denmark in January 2016. UK border staff intensified checks on passengers, vehicles and goods coming from France after the January 2015 Paris attacks. More pre-flight passenger data is being collected.

In May 2016 EU member states decided on six more months of border controls within the Schengen area despite protests from Greece and Slovenia. Austria, Germany, Denmark and Sweden will continue border checks within the bloc's passport-free zone until near the end of 2016. Border checks will therefore become the norm in parts of Europe following the vast migrant influx in 2015.

Post-Brexit: moving the UK border

One consequence of the UK leaving the EU could mean installing air and maritime border controls between its border between Northern Ireland and the Irish Republic to control immigration from the EU. This would put the onus on the Irish Republic as a border with the rest of the EU, instead of the UK having to introduce a 'hard border' between north and south – which would be regarded as breaking the 1998 Belfast Agreement and Ireland's commitment to free movement of people as part of the EU. It could also present a possible catalyst to further terrorism in a province that has largely rescinded political violence and still working hard to prevent its resurgence.

Of more immediate concern is the outcome of the clearance of the Calais migrant camp, where some migrants are likely to resist being moved to refugee centres in other parts of France because they are determined to reach the UK. French politicians are calling for the border with the UK to be moved from Calais to Kent, removing the 2003 that allows UK border checks to be carried out on the French mainland. Britain remains vulnerable as an island. Sea ferries still undergo far fewer checks than aviation transit. Vessels may be used to smuggle weapons into an unguarded point along Britain's long coastline. Beyond that, some observers believe that the migrant influx will increase exponentially with climate change affecting poorer countries, and that the **future will be borderless.**

Andy Oppenheimer AIEpE MIABTI is Editor of CBNW (Chemical, Biological & Nuclear Warfare) journal and a consultant in CBRNE and counter-terrorism. He is author of IRA: The Bombs and the Bullets (Irish Academic Press, 2008) and of the CBRN and IEDs module courses for the St Andrews University Certificate in Terrorism Studies.

* **King Cnut the Great** (c. 995 – 12 November 1035), also known as **Canute**, was King of Denmark, England, and Norway, together often referred to as the Anglo-Scandinavian or North Sea Empire. After his death, the deaths of his heirs within a decade, and the Norman conquest of England in 1066, his legacy was mostly forgotten. The medieval historian Norman Cantor stated that he was "the most effective king in Anglo-Saxon history", although Cnut himself was Danish and not a Briton or Anglo-Saxon. Cnut is popularly invoked in the context of the legend of *King Canute and the waves*, but usually misrepresents Cnut as a deluded monarch believing he has supernatural powers, when the original legend in fact states the opposite and portrays a wise king.

Robots in the Air – Robots on the Ground

Source: <http://i-hls.com/2017/01/robots-air-robots-ground/>

Jan 15 – It begins to look like an episode from a science fiction movie – along the border between Israel and the Gaza strip, robots in the air and on the ground are performing a growing number of missions.

In some situations they cooperate through a very advanced command and control system – these are the unmanned air systems (UAS) and the unmanned ground systems (UGS) that take a very active part of sealing this volatile border that is really a barrel of dynamite.

While the UASs are known better, the UGSs are no less important. They perform an increasing number of missions as new versions are being introduced.





The main UGS operated along this border is the Guardian made by G-NIUS, a joint company that was established by Israel Aerospace Industries (IAI) and Elbit systems. This company does not exist anymore but the two, IAI and Elbit Systems are continuing to develop UGVs separately. Some of these UGSs are already being used along the border between Israel and Gaza. Others are still in the development phase, and many armed services in the

world are interested in them.

The accumulated operational experience shows that the UASs and the UGSs can in many situations work in harmony supplying surveillance capabilities that give the soldiers in the headquarters a look from above and a constant look from very close on the actual border line. This without the problems that are involved in manned patrols. The UGSs and the payloads they carry are



100% alert as long as the unmanned platform is on the move with fuel in the tank. And when the fuel is low another UGS is sent to cover the border line.

The pace of introducing UGS into armies and other defence organizations has been slower than expected but the companies say that there is a shift in the market and that brings meaningful potential.

It must be said that many of the technologies used in the UGSs have been developed and honed by Israel's UAS industry, and the transfer of these technologies continues.

EDITOR'S COMMENT: I have seen these UGVs in action during a drill inside Ben Gurion Intern Airport som years ago. Really impressive! New models should be more sophisticated and more deadly effective – and a good solution for airport perimeter security. Existing fences are good for keeping rabbits away from aifields (although they can also go underground).

Secrets and lies: intelligence and the media in the Trump era

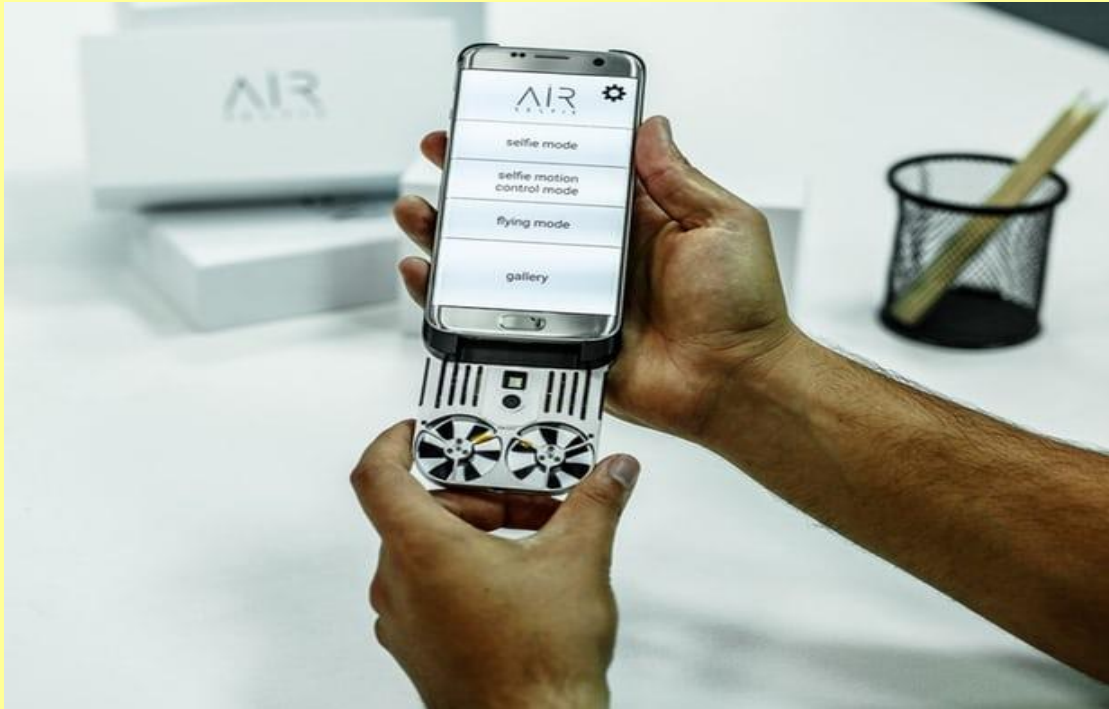
Spymasters speak to the FT about truth, transparency and state power

Source: <https://www.ft.com/content/d6e87afe-dd6a-11e6-9d7c-be108f1c1dce>



Pocket-sized drone slides right into a smartphone case

Source (video): <http://newatlas.com/airselfie-drone-smartphone-case/46519/>



Nov 2016 – Just like the selfie stick before them, [tiny drones](#) are giving those concerned with self-portraiture more reach than ever before. The **AirSelfie** is the latest flying camera to zoom into the arena, and may just be the least cumbersome one we've seen, with the ability to slide away into the user's smartphone case when not in use.



When all you really need is a decent enough camera to hang in the air for a few moments and capture a memory or two, the necessary hardware can be packed into some pretty small packages. A number of interesting takes on the selfie drones have popped up over the last



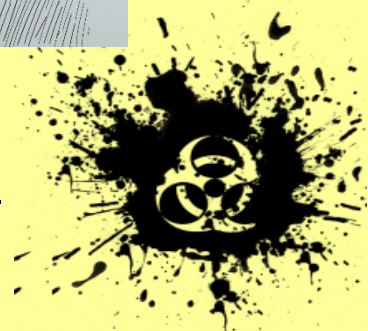
year or so, including one that wraps around the [wrist like a bracelet](#), one that folds [shut like a book](#) and another with the shape and size of a [small water bottle](#).

But stuffing it away into a smartphone case is something we haven't yet seen, although that case is going to be bulkier than most. The AirSelfie's aluminum frame measures 3.72 x 2.65 x 0.42 in (9.5 x 6.7 x 1 cm) and is stored in purpose-built smartphone cases, which also house a battery said to recharge the drone in 30 minutes. Compatible smartphones include the iPhone 6, 6s, 7, 7 Plus, Huawei P9, Google Pixel and Samsung Galaxy S7 Edge. For those without a compatible phone, a separate power bank is available that can be used to charge the drone up to 20 times. It also sports a Micro-USB port that can be used for charging.

The drone connects to iOS or Android phones via its own Wi-Fi network, where users can control it via a companion app. There are three different flight modes to choose from, with "Selfie mode" seemingly the simplest, where users only need to concern themselves with moving the drone closer for tighter shots or farther away to fit more in the frame. There are a couple of more advanced modes, one using a single virtual joystick and another simulating a classic drone controller with the phone held horizontally.

AirSelfie carries a 5-megapixel camera for stills and is said to grab HD-quality video, both of which are stored in the 4 GB onboard memory. Users can also download and share their captures from within the accompanying smartphone app over the Wi-Fi connection. The drone can fly up to 66 ft (20 m) away, 66 ft (20 m) in altitude and remain airborne for three minutes at a time.

A Kickstarter campaign is currently underway for the AirSelfie drone, where its makers are looking to raise €45,000 for production. At the time of writing they are well on their way, amassing more than €20,000 of that goal so far. Early pledges of €179 (US\$189) are available, which will have a drone, phone cover and Micro USB cable headed your way in March 2017 if the campaign plays out as planned.



Mental tests set in chemical weapon case

Source: <http://www.vcstar.com/story/news/courts/2016/12/30/mental-tests-set-chemical-weapon-case/96016956/>

Dec 30 – An Oxnard man accused of placing a chemical weapon inside a Walmart store in June will be sent to a state mental hospital for evaluation and treatment before his criminal case can continue, prosecutors said.

Martin Reyes, 31, appeared before Ventura County Superior Court Nancy Ayers on Thursday for a placement hearing. He has pleaded not guilty to felony possession/manufacture of a weapon of mass destruction and attempted assault with a deadly weapon.

Reyes was arrested June 18 after Oxnard police officers and the Oxnard Fire Department responded to a report of a suspicious device inside the Walmart at 2701 Saviers Road.

Authorities found a bowl containing a mixture of chemicals that was connected to a phone charger plugged into an outlet, Senior Deputy District Attorney Richard Simon said. The device was identified as a possible improvised chemical weapon and removed from the business, police said.

Simon said tests showed the chemicals were a chloroform gas mixture.

"He had poured chemicals he got from inside the store, connected the phone charger to it and placed it in a fish bowl," Simon said. "It also was electrically charged."

Ayers continued Reyes' case to Jan. 19 while the Oxnard man is committed to a state mental hospital. Once he is deemed competent to stand trial, Reyes will be transferred back to Ventura County, where his criminal case will continue, Simon said.

The court found Reyes could be committed for a maximum of three years. Both sides will meet again in January to confirm Reyes' placement. According to court records, the Ventura County Sheriff's Office will transport Reyes to Atascadero State Hospital.

Simon said during Reyes' court appearance on Dec. 8 that the Oxnard man was "bobbing his head up and down."

"Despite an initial psychology report that he was deemed competent to stand trial, his behavior in court showed us that he clearly wasn't," Simon said.

Reyes allegedly confessed to investigators that he made the weapon and was aware it could create a harmful gas, police said. He allegedly told authorities he researched how to make the device on the internet.

"He said he was going to use it on people inside the store and 'see what it could do,'" Simon said.

"If it worked, (Reyes) said he would 'try it on a guy named Ralph,' who he didn't like. If that worked, he said he would plan to sell it."

Isis would use chemical weapons in attack on UK, says minister

Source: <https://www.theguardian.com/world/2017/jan/01/isis-chemical-weapons-attack-uk-ben-wallace>

Jan 01 – **Islamic State wants to carry out a mass casualty attack in Britain and has "no moral barrier" to using chemical weapons,** a minister has said.

The **security minister Ben Wallace** said there were reports of Isis using chemical weapons in Syria and Iraq, where it controls large areas, and that Moroccan authorities had apprehended a cell in February which was harbouring substances that could be used to make either a bomb or a "deadly toxin".

He also pointed to a recent Europol report that warned of the chemical threat and the potential realisation of "everybody's worst fear".

He told the Sunday Times that the group's ambition was "definitely mass casualty attacks. They want to harm as many people as possible and terrorise as many people as possible. "They have no moral objection to using chemical weapons against populations and if they could, they would in this country.

"The casualty figures which could be involved would be everybody's worst fear.



"We have certainly seen reports of them using it in Syria and Iraq [and] we have certainly seen aspiration for it in Europe."

Wallace also warned about the threat from terror groups, Russia and cyber-attackers trying to plant people in the government, the military and leading businesses.

"There are traitors. We have to be on our guard for the enemy within," he said.

"The insider threat, as we would call it, is real and it can be exploited and there are people trying to do that as we speak."

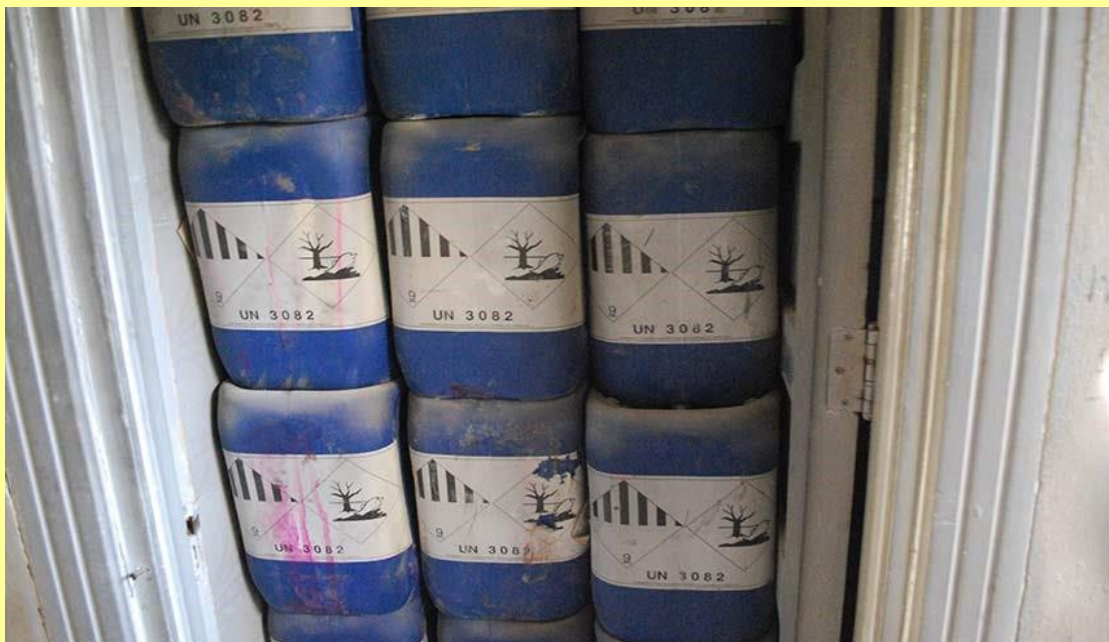
This comment comes after a year in which Europe suffered a spate of terror attacks using less sophisticated means.

In two of the most high-profile attacks in Nice and Berlin, lone attackers drove lorries through crowds of people celebrating Bastille Day and browsing a Christmas market. In March, three coordinated suicide bombers attacked the airport and metro system in Brussels. Isis claimed responsibility for all three atrocities.

EDITOR'S COMMENT: What is the purpose of this generic warning? To warn the people? People have no idea on what to do to protect themselves. To warn the business world? Businessmen and enterprises have no idea how to apply a CBRN business continuity plan. To scare the people? Why? To inform allies? If they share information they should have known already. To motivate health community to review and update their response plans. Medical people have no idea on how to respond to contaminated mass casualties rushing to their hospitals. So, what is the purpose of this public statement?

VIDEO: Terrorists' Chemical Weapon's Factory in Aleppo

Source: <http://en.alalam.ir/news/1904478>



Recent search operations in eastern Aleppo have confirmed that terrorists have used chemical weapons during the conflict.

Sputnik correspondents managed to explore makeshift factories in eastern Aleppo used by terrorists to build bombs laced with poisonous chemicals.

A source in the Syrian military confirmed that this type of ordnance was used by the terrorists against the Syrian army; one such attack occurred in the southwestern area of the city in the vicinity of the al-Assad Military Academy.



Analyses indicate that chemicals used by the terrorists were made in the US while the bombs were manufactured on site. Furthermore, the mark UN 3082 is clearly visible on the chemical canisters discovered at the terrorist factory.

Earlier this year Samer Abbas, spokesman for the Syrian National Authority monitoring the implementation of the Chemical Weapons Convention, contacted the Organization for the Prohibition of Chemical Weapons (OPCW) and presented documented proof of terrorists using sulfur mustard ordnance against civilians in Syria. OPCW declared that a special committee to confirm the veracity of these documents needs to be created, but so far have apparently refrained from pursuing this line of inquiry for reasons unknown.

Meanwhile, Russian Defense Ministry experts collected evidence of terrorists using chemical weapons in Marana Um Hosh village located to the south of Aleppo.

VIDEO: Syrian Army Finds Schools Full of Chemical Missiles in East Aleppo

Source: <http://en.alalam.ir/news/1901942>

After gaining full control on Aleppo, Syrian Army forces in cleaning operation of formerly terrorist held neighborhoods of eastern Aleppo discovered many weapon warehouse in different regions. Many chemical missiles and chemical agents also found in the stores hidden in governmental institution and schools.

Israel's Coming Chemical Weapons Crisis

By Neri Zilber

Source: <http://www.thetower.org/4373-israels-coming-chemical-weapons-crisis/>

Jan 03 – One of the more iconic and sobering elements of Israeli reality were the gas masks distributed on the street or at post offices to every citizen after Saddam Hussein fired SCUD missiles at Israel during



the 1991 Gulf War. They continued to be distributed until early 2014, when the Israeli government decided to end the practice in the wake of an international deal to disarm Syria of its chemical weapons stockpiles. Now, nearly three years later, the issue has resurfaced as a direct result of the Syrian civil war—in particular, the threat from both Hezbollah and the Islamic State.

In August 2013, the Assad regime deployed chemical weapons against the neighborhood of Ghouta near

Damascus, asphyxiating to death over a thousand civilians, including women and children. U.S. President Barak Obama threatened a military response and issued an ultimatum to the Syrian government—his notorious “red line”—only to acquiesce to Russian mediation efforts. Under the terms of the brokered deal, Syria’s chemical weapons would be shipped out of the country and destroyed by international monitors. A triumph of diplomacy, some called it at the time.

But problems with the deal emerged almost immediately. Citing Israeli and Western intelligence officials, reports surfaced in April 2014 that the Assad regime was, contrary to the deal, hiding parts of its chemical weapons stockpile as a deterrent against rebel forces.



This didn't stop the U.S., in mid-2014, from proclaiming that Syria was free of chemical weapons. Tellingly, however, Secretary of State John Kerry acknowledged that there remained "important questions with regard to discrepancies and omissions."

These discrepancies and omissions appear to have come home to roost. In early December, Israeli Defense Minister Avigdor Lieberman told European ambassadors in Tel Aviv that Israel would "prevent the smuggling of advanced weapons, military equipment and weapons of mass destruction from Syria to Hezbollah." Coming on the heels of mysterious air strikes inside Syria, not much was left to the imagination, although in accordance with longstanding policy the Israeli government refused to confirm that it was the responsible party. One day later, Lieberman doubled down on his headline-making statement, telling the Knesset Foreign Affairs and Defense Committee that Israel "will not allow the smuggling of high-quality advanced weapons and chemical weapons from Syria to Lebanon for Hezbollah."

The Netanyahu government has, since the start of the Syrian civil war, tried to keep the hellstorm to its northeast at arm's length. But one exception, as Lieberman made clear, is any attempt by Hezbollah to alter the existing balance of power. "Hezbollah holding strategic weapons is a problem not just for Israel but the region and the entire Western world," one senior Israeli military officer recently told me. "It can easily be a reason for a 'dynamic of escalation'—that is, war. If he were to give one piece of advice to Russian President Vladimir Putin, the officer added, it would be "keep an eye on Hezbollah if you want a stable Middle East, and if you want to achieve something in Syria."

The officer was speaking at an annual intelligence briefing for foreign journalists in a conference room high above the Israel Defense Forces' Tel Aviv headquarters. An overview of the major milestones of 2016—as the IDF saw it—flashed on flat-screen televisions. Interspersed between Brexit, Donald Trump, and Aleppo, one ostensibly less momentous event caught the eye: the use of chemical weapons by ISIS in Iraq.

While reports only surfaced this past year, by one estimate the group has deployed crude chemical weapons on the battlefields of Syria and Iraq [52 times](#) since 2014—including, in at least one instance, [against U.S. soldiers](#). ISIS indeed has a presence on the Syrian side of the Golan Heights bordering Israel, but not until recently has it attacked the Jewish state.

That changed in late November, when fighters from the ISIS franchise in the area (usually referred to as the Yarmouk Martyrs Brigade) [fired on](#) an IDF border patrol. Despite the fact that no Israeli soldiers were injured and the terrorists were killed by return fire, and despite the fact that it wasn't, according to the senior officer, a pre-planned attack, it did mark a watershed. The event goes some way toward explaining why the use of chemical weapons in Iraq by ISIS made it into the IDF's annual summary a few weeks later.

Israel, for its part, is taking notice—and making it clear that it is taking notice. The country's leading news website, Ynet, published an [article](#) in late December about an elite IDF engineering unit tasked, among other delicate missions, with defending Israel against the use of chemical weapons. Based on the large number of official training pictures—gas masks and all—embedded in the article, it was clear that the authorities granted Ynet special access.

"The assessment by the defense establishment is that terrorist elements are trying to get their hands on unconventional weapons, abandoned in the field by the army of Syrian President Bashar Assad on the northern border," the article stated. This was the reason for the unit's expansion and new training program. When Israel stopped distributing gas masks to its civilians three years ago, it was viewed as a small, rare positive development in the Syrian civil war. That decision may now join the gruesome conflict's expanding list of losses.

Neri Zilber is a journalist and researcher on Middle East politics and culture, an adjunct fellow of the Washington Institute for Near East Policy, and a research associate of the Rubin Center at the IDC Herzliya.



How you decontaminate a Mercedes GLE Coupe AMG 63 S? A: **Very carefully** (cost: 190.000€) !



Nanotechnology Breakthrough will Sense Hazardous Chemical Traces

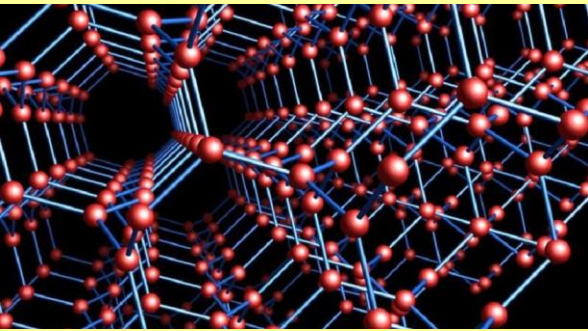
Source: <http://i-hls.com/2016/12/nanotechnology-breakthrough-will-sense-hazardous-chemical-traces/>

Dec 28 – Scientists at the US National Institute of Standards and Technology (NIST) have developed a new device that will measure the motion of small particles covering distances almost unimaginably small, shorter than the diameter of a hydrogen atom, or less than one-millionth the width of a human hair.



According to NIST's press release, It's relatively easy to measure small movements of large objects but much more difficult when the moving parts are on the scale of nanometers, or billionths of a meter. The ability to accurately measure tiny displacements of microscopic bodies has applications in **sensing trace amounts of hazardous biological or chemical agents**, perfecting the movement of miniature robots and accurately deploying airbags.

NIST physicists Brian Roxworthy and Vladimir Aksyuk researched and measured subatomic-scale motion in a gold nanoparticle. They did this by engineering a small air gap, about 15 nanometers in width, between the particle and a gold sheet. This gap is so small that laser light cannot penetrate it.



The light energized the surface causing groups of electrons to travel along the boundary between the gold surface and the air. The researchers exploited the light's wavelength, the distance between successive peaks of the light wave. With the right choice of wavelength, the laser light causes a particular frequency to go back and forth along the gap. As the nanoparticle moves, it changes the width of the gap.

To use this motion-sensing technique in a practical device, Aksyuk and Roxworthy embedded the gold nanoparticle in a microscopic-scale mechanical structure made of silicon. Even when they're not set in motion, such devices never sit perfectly still, but vibrate at high frequency, jostled by the random motion of their molecules at room temperature. Even though the amplitude of the vibration was tiny moving subatomic distances it was easy to detect with the new plasmonic technique. Similar, though typically larger, mechanical structures are commonly used for both scientific measurements and practical sensors; for example, detecting motion and orientation in cars and smartphones.

The NIST scientists hope their new way of measuring motion at the nanoscale will help to further miniaturize and improve the performance of many such micromechanical systems.

"This architecture paves the way for advances in nanomechanical sensing," the researchers write. "We can detect tiny motion more locally and precisely with these plasmonic resonators than any other way of doing it," said Aksyuk.

Decontamination tents will handle victims of disasters, outbreaks, attacks before ERs

Source: <http://www.cambridgeday.com/2016/07/01/decontamination-tents-will-handle-victims-of-disasters-outbreaks-attacks-before-ers/>

July 2016 – Two "mass decontamination unit" tents are being added to the city's supply of tools stored



away in case of disasters, disease outbreaks and attacks.

The 60-foot tents, equipped with conveyor belts, are meant to be set up outside Cambridge Hospital and Mount Auburn Hospital to intercept and decontaminate citizens before they enter an emergency room. "Hopefully at the other end of the tent they come out decontaminated and they're able to go in," fire chief Gerald Reardon told city councillors Monday.



The tents can handle “multiple threats. It could be chemical, it could be biological, it could be exposure to an airborne product.”

The so-called MDUs are cheap – \$2,000 each – and paid for with a grant from the state Department of Public Health, which has been providing funds for their purchase since around 2001 to communities such as Cambridge that train each year to handle possible disasters. There are now around 30 of the tents throughout the state, Reardon said.

They join a significant arsenal of other Cambridge resources that can handle such threats, including a self-contained 18,000-pound, 10-person armored vehicle with a base price of about \$189,000 (also bought with grant money, in this case from the Department of Homeland Security, and meant to be shared regionally in a crisis); robots built to detect hazardous materials; and more than 80 Cambridge firefighters trained as “hazmat techs” dispatched to emergency calls with filtered breathing apparatus and other tools near at hand. A [March 2015 hearing](#) of the council’s Public Safety Committee looked at the assets the city could bring to bear as security or emergency response, with some [drawing concern](#) from elected officials.

The armored “BearCat,” a retrofitted Ford F-550, is perhaps the most impressive tool, and not just because of its price. The fearsome-looking vehicle comes high-tech capabilities such as thermal imaging,



radiation detection and its own air supply, so it can be used in “any potential situations involving dangerous subjects and/or hazardous environments” said Jeremy Warnick, director of communications and media relations for Cambridge police. The city hopes to get more mass decontamination unit tents to deploy anywhere they might

be needed, including at the scene of a attack or incident, Reardon said.

Their usefulness “depends on the chemical, the time of the exposure and a whole host of things, but we have to have these arsenals at our fingertips when we need them,” Reardon said.

EDITOR’S COMMENT: To be honest, when I first collected this article I thought it was about Cambridge, UK (not USA). I thought finally they are doing something to enhance hospitals’ CBRN preparedness. But (unfortunately) it was not them! I will not comment on lack of ChemTape in the decon tent photo – it is becoming boring to write about these things again and again!

Telegram Channel Posts Instructions For Manufacturing Chemical Weapons For Lone Wolves Attacks In The U.S.

Source: <http://cjlabs.memri.org/lab-projects/tracking-jihadi-terrorist-use-of-social-media/telegram-channel-posts-instructions-for-manufacturing-chemical-weapons-for-lone-wolves-attacks-in-the-u-s/>

On January 2 and 3, 2017, a Telegram channel which frequently calls for lone wolf attacks in the West and periodically provides various methods for launching such attacks, posted



several threats to the U.S. along with instructions on building pressure cooker bombs and manufacturing chemical weapons.

On January 3, the channel published a poster that included cursory instructions on manufacturing a



chemical weapon. The channel noted that the dissemination of "disease[-inducing] and chemical gases completely paralyzes life in vital [enemy] areas."

MI5 'launch hunt for Syrian scientist posing as refugee plotting a chemical attack on a British seaside town'

Source: <http://www.dailymail.co.uk/news/article-4099248/MI5-launch-hunt-Syrian-scientist-posing-refugee-plotting-chemical-attack-British-seaside-town.html>

Jan 08 – **MI5 are understood to be hunting for a Syrian scientist posing as a refugee plotting a chemical attack on a British seaside town.**



Counter-terrorism police raided a migrant centre in Berlin the day after the Christmas market truck massacre and are said to have recovered documents detailing the planned attack.

They allegedly contained detailed of various chemical agents and included the name of two English towns.





The suspect, said to be in his early 30s, has gone off the radar and it is feared he could be in the UK, according to the Sunday Express.

It came after a raid of Tempelhof airport, which has now been closed down to house the country's largest refugee camp.

Officers visited the site on December 20, and a source told the Express the documents recovered were so serious that MI5 were immediately called in.

It is thought officers are searching both named targets, and one of them is described as a 'seaside town on the south coast'.

Potential targets could include Brighton and Hove, Dover, Bournemouth or Torquay.

US authorities have been following the man since he left Damascus, according to the Sunday Express, and it has been claimed British officials were told previously about a Syrian scientist posing as a migrant. The paper claims the scientist went rogue having been a a vital cog in President Assad's chemical attacks.

Lawmakers want to know more about **Ricin** mix-up

Source: <http://www.homelandsecuritynewswire.com/dr20170106-lawmakers-want-to-know-more-about-ricin-mixup>



Jan 06 – **Members of the Committee on Homeland Security sent a letter on 23 December to FEMA administrator Craig Fugate, demanding answers on how many years had first responders unknowingly trained with toxic Ricin at Anniston's Center for Domestic Preparedness (CDP).**

Ricinus communis plant, the source of ricin

AL.com [reports](#) that in a three-page letter, members of the committee demanded answers for twelve questions, addressing



the issue of how lethal toxin was used and the agency's response once it found out about the mix-up. The letter was signed by the chairman of the committee, Michael McCaul (R-Texas), Bennie Thompson (D-Mississippi), Dan Donovan (R-New York), and Donald Payne Jr. (D-New Jersey).

The letter demands answers in writing by 19 January. AL.com notes that its November report revealed that [almost 10,000 first responders were exposed to toxic Ricin](#) at the center over a five-year period. An investigation is on-going, as [all training has been suspended with chemical or biological agents through January](#).

FEMA said the center began its training with Ricin in 2011, and that 9,648 first responders unknowingly used the toxic form of ricin. No instructors or trainees exhibited any effects or sickness.

CDP said that in November, its officials discovered that the center had received the toxic form of the material, Ricin holotoxin, and not the less toxic, Ricin A-chain, as ordered.

The congressional panel was notified on 13 December of the Ricin mix-up and that the CDP had suspended biological training sessions. The committee's letter notes that this took place nearly a month after the mix-up was first reported.

Committee members in the letter stated they were "concerned that FEMA did not engage its Congressional oversight committees for nearly a month after it discovered that nearly 9,600 first responders and CDP staff had been exposed..."

The committee wants to know specific dates when FEMA leadership learned that the holotoxin was being used, how the toxin was procured, and any review of its procedures. In addition, the committee wants to know the role of the Centers for Disease Control and Prevention in the training activities at the CDP, and how first responders who trained there and center staff were notified of the Ricin use.

The letter also requests information on the protective gear worn by trainees and instructors.

Ricin is a toxic natural poison made from castor beans. Effects from exposure typically show up within a day, according to the Centers for Disease Control. It has been used as a poison and weaponized in war and acts of terrorism.

Chemical terrorist attack 'huge concern' says London fire chief

Source: <http://www.telegraph.co.uk/news/2017/01/06/chemical-terrorist-attack-huge-concern-says-london-fire-chief/>

Jan 06 – **Britain's most senior fire chief has warned that the potential for a terrorist chemical attack in the country is a "huge concern".**

Dany Cotton, recently appointed first female commissioner of London Fire Brigade, said she would be increasing the number of chemical attack practice drills carried out by her crews.

She also suggested the public needed more education about what to do in the event of an attack.

[Her comments came just days after the security minister warned Islamic State in Iraq and Levant \(Isil\) terrorists wanted to use chemical weapons in a mass casualty attack against Britain.](#)

Ben Wallace said: "They have no moral objection to using chemical weapons against populations and if they could, they would in this country."

Isil fighters have been accused of repeatedly using chemical weapons on the front line in Iraq and Syria and one leading expert in the field said they were becoming "the norm" for the group.

Ms Cotton told the BBC: "I think the chemical attack is a really big threat because its an unseen one, it's something you do with a relatively small amount of chemical if you can find the means to disperse it."

She said in the event of such an attack, the public would need to make sure they did not inadvertently spread deadly chemicals.

She said: "The natural reaction would be if something happens to run away and go somewhere else. But that just spreads it, which is what the terrorist wants. It's very important that people stay contained and



allow the emergency services to help them and out and to deal with the situation.”

Hamish de Bretton-Gordon, a former Army officer and chemical warfare expert, said such an attack may not kill many people, but would have a huge psychological impact. He said an attack need not use military grade chemical weapons, but could involve industrially available gases such as chlorine.

He said: “One of the challenges for Isil in this country is that actually doing an active shooter attack like in Paris is very difficult because they can’t get guns.

“For Isil that’s the preferred modus operandi and it’s not going to happen in this country. That’s why why they are keen to focus on asymmetric attacks, like chemical attacks.”

How Political Correctness About Islam Made Britain Vulnerable To Chemical Terrorism

By M.G. Oprea

Source: <https://thefederalist.com/2017/01/10/political-correctness-islam-made-britain-vulnerable-chemical-terrorism/>

Jan 10 – In an interview with [The Sunday Times](#), Britain’s minister for national security, Ben Wallace, had an ominous warning for Britons. Echoing a [Europol report](#) that came out last month, Wallace told *The Times* that **ISIS is plotting to deploy chemical weapons on the island nation.**

Although no specific plots are underway, the threat is serious enough that British security forces have carried out exercises to prepare for such a disaster, including chemical decontamination drills. So, how does Wallace suggest foiling such plots? A vigilant populace.

Unfortunately for Britain, their oversized sense of political correctness and so-called religious sensitivity toward Islam make vigilance virtually impossible. Recall that ISIS has used mustard gas in the past, both on civilians and on Kurdish soldiers fighting the Islamist group in Syria. The Islamic State is now producing its own chemical weapons, specifically mustard gas, but the group is also thought to have access to Syrian chemical weapons that were never disposed of in the disarmament deal in 2014. Now the fear is that this know-how will be used to inflict mass casualties in the United Kingdom.

The Terrorist Threat Britain Imported

Wallace is concerned, as he should be, that the attack will come from within, from British citizens, not foreign agents. “The insider threat, as we would call it, is real and it can be exploited and there are people trying to do that as we speak. If it’s hard to get in the front door, then

what you try and do is get someone on the inside.”

Around 800 Britons have gone to fight with ISIS over the past three years. In November, it was revealed that British special forces were trying to [track down 200 of these fighters](#) who had gone off-grid, possibly returning to the United Kingdom to launch attacks there. As ISIS loses territory as a result of allied offensives in Mosul and Raqqa, there is increasing concern about foreign fighters coming home and either plotting attacks or radicalizing others.

There are also several hundred men and women in Britain who were prevented from going to Iraq and Syria, and many more who hold sympathetic views toward ISIS, making the possibility of a chemical weapons, or other mass-casualty attacks, from the inside a real possibility.

In response to this impending threat, Wallace wants the British people to help by reporting anything that seems suspicious. He needs people on the street and in their jobs to keep their eyes open for the “enemy within.” But unfortunately for Wallace, and for the UK’s security, there’s not much hope of this ever happening.

PC-Mongers Make Way for Mass Rape

Wallace’s call for public vigilance is both ironic and impossible given a pervasive culture in Britain that demands absolute tolerance for all things Muslim. It has been ingrained in the **British people that any**



criticism of a person who happens also to be Muslim is an act of intolerance and aggression against the Islamic faith. So, to avoid being labeled an Islamaphobe, people just keep their mouths shut.

This fear of being seen as Islamophobic was most disgustingly on display in the [Rotherham child sex ring scandal](#). The case involved the sexual exploitation of more than 1,400 young British girls over the course of 16 years. Even though the ongoing sex-trafficking, rape, abduction, and abuse of minors was well-known to city officials and police, they did nothing. Why? Because the perpetrators were Pakistani and no one wanted to be accused of racism. The Rotherham story originally broke in 2013, much to the horror and outcry of people around the world. But this past summer, three years later, it was revealed that [little had been done to eradicate the sex-ring](#) and that it was still happening on an “industrial scale.” It seems fear of accusations of Islamophobia may still be the reason.

Rotherham isn't the only example of political correctness at the cost of human suffering. At the end of December, a British woman came out with her own story of being [held prisoner for 13 years by a Pakistani man](#) named Malik, beginning at the age of 15. She was raped almost nightly, by him or other men who paid to have sex with her. During this time, she had four children, all of whom were taken from her and sold. After particularly brutal beatings, Malik would take her to the hospital, and dress her in Muslim clothing, including a hijab, beforehand. She believes that because she was dressed as a Muslim, no health-care workers would report her obvious signs of physical abuse or ask to speak to her alone. According to her, they didn't want to appear prejudiced against Muslims by assuming that the woman's bruises were from her husband.

Perhaps most relevant to Wallace's call for public action was the case of the British counterterrorism agent, herself a Muslim, who [reported the extremist views of some of her fellow Muslim co-workers](#). Thinking this would interest her superiors, she was surprised when they told her that pursuing these complaints would damage her career and reputation. So much for “if you see something, say something.”

Multiculturalism Means Death

How can anyone expect a populace this worried about cultural sensitivity to call authorities if they see a Muslim man or woman doing something suspicious in the workplace or on a public transit line? The tragedy in this, of course, is that it's a problem of Britain's own making.

Britain, like most of Europe, has nourished ultra-sensitivity toward its Muslim population as an outgrowth of multiculturalism, one of the pillars of progressivism. This has worked in in perfect harmony with Islamist groups that understand that if they can stop all criticism of Muslims, both legitimate and illegitimate, they can avoid scrutiny when engaging in subversive acts.

Europe is ahead of the United States in this respect, but we are moving in the same direction. Every time a terrorist attack here is perpetrated by a Muslim, there is an outcry from both the mainstream media and Islamist groups like the Council on American-Islamic Relations, that insists talking about the attacker's religion will lead to Islamophobic attacks. To convince us further of what bad Islamaphobes we are, there have been numerous incidences of [faked hate crimes](#) against Muslims in recent months. Of course, there are legitimate cases of Islamophobia and hate crimes in America, and these are disgusting and unacceptable. But we are cultivating an atmosphere where, like Britain, people are afraid that anything they say or do regarding a Muslim will be interpreted as racist.

Consider the couple Syed Farook and Tashfeen Malik, who shot and killed 14 coworkers at a Christmas party in San Bernardino in 2015. After the attack, a neighbor of Malik's mother said she [thought something suspicious was happening](#) at the house but didn't say anything because of fear that people would think she was a bigot.

The threat of Islamist terrorism isn't going away anytime soon. And we've created the perfect storm by going beyond polite and reasonable cultural sensitivity toward our Muslim compatriots by carving out a special class that we're terrified to criticize.

This is going to have security repercussions in Britain, the rest of Europe, and here in the United States. In fact, it already has.



With apologies to Wallace, British law enforcement and intelligence agencies shouldn't expect ordinary Britons to be

vigilant about terrorism. They've gotten the message loud and clear: if you suspect a Muslim of wrongdoing, you must be a bigot.

M. G. Oprea is a writer based in Austin, Texas. She holds a PhD in French linguistics from the University of Texas at Austin.

US sanctions 18 Syrian officials over chemical weapons use

Source: <https://www.dawn.com/news/1308142/us-sanctions-18-syrian-officials-over-chemical-weapons-use>

Jan 13 – **The United States on Thursday censured 18 senior officials of the Syrian government and imposed sanctions on a Syrian organisation, over its use of chemical weapons and weapons of mass destruction.**

This is the first time the United States has sanctioned specific Syrian officials in connection with Syria's alleged violation of the Chemical Weapons Convention and a UN Security Council resolution prohibiting chemical weapons.

The sanctions also referred to recent reports by the Organization for the Prohibition of Chemical Weapons and United Nations Joint Investigative Mechanism, alleging the Syrian government had used chlorine as chemical weapon in 2014 and 2015. "We condemn in the strongest possible terms the Syrian regime's use of chemical weapons," said Ned Price, a spokesman for the White House National Security Council.

The use of chemicals weapons "demonstrate [the Assad government's] willingness to defy basic standards of human decency, its international obligations and longstanding global norms," he said.

Syria agreed to join the Chemical Weapons Convention after an alleged sarin chemical attack on Syrian civilians in the Ghouta area of Damascus on Aug 21, 2013, which killed more than a thousand people, many of them children, the White House official added.

In a separate statement, the US State Department announced sanctions on a Syrian entity, which, it claimed, was involved in making ballistic missiles capable of carrying weapons of mass destruction (WMD).

The announcement referred to a June 26, 2012 address of Syrian President Bashar al-Assad in which he identified the sanctioned entity — Organisation for Technological Industries (OTI) — as an agency of the Syrian Ministry of Defence.

The State Department claimed that OTI's primary mission was to import advanced strategic technologies for surface-to-surface missile and surface-to-surface rocket programmes in Syria.

OTI is also involved in furthering Syria's WMD-capable ballistic missile programme, it added.

Terrorists Use Mustard Gas, Sarin in Syria, Iraq - Russian Foreign Ministry

Source: <https://sputniknews.com/middleeast/201701131049571328-syria-terrorists-chemical-weapons/>

Jan 13 – **Daesh, Nusra Front and affiliated terrorist groups use not only industrial-grade toxic chemicals, such as chlorine, but also pure chemical warfare agents such as mustard gas and sarin, according to spokeswoman of the Russian Foreign Ministry.**

"We are seriously concerned about the recurring instances of "chemical terrorism" in the Middle East, particularly in Syria and Iraq," ministry's spokeswoman Maria Zakharova told RIA Novosti.

"Especially worrying is the fact that Islamic State [Daesh], Nusra Front and affiliated terrorist groups use not only industrial-grade toxic chemicals, such as chlorine, but also pure chemical warfare agents (mustard gas and sarin)," Zakharova stressed.



Court Acquits **Turkish** Suspects Involved in **Sarin** Gas Supply to Syria

Source: <https://sputniknews.com/middleeast/201512301032514942-turkey-court-suspects-sarin-gas/>

Dec 30, 2016 – **A Turkish court in Adana acquitted five Turkish suspects accused of procuring chemicals used in production of sarin gas**, Zaman reported. In May 2013, media reported that Turkish special service officers arrested members of Syrian opposition group who were in possession of **two kilograms of sarin**.

Moscow conducted a thorough investigation of the incident and expressed hope that Turkey would provide information regarding the detention of the militants. However, two months later, all detainees were released pending trial.

Later on when the court established that the materials they were trying to obtain could in fact be used to produce sarin, a warrant for the arrest was issued. The case sparked political controversy when the deputy of the Turkish opposition Republican People's Party (CHP) Eren Erdem said in an interview with RT that **Turkey knew about Islamic State-bound shipments of deadly sarin gas passing through its territory. Eren Erdem was accused of treason by Ankara's top**

prosecutor and criminal investigation was opened against him.

But after addressing the parliament and saying that the Turkish president had started a smear campaign against him, Erdem went even further by accusing the Turkish authorities of complicity, stating that the government pressured the prosecutor of the case into toning down the accusations and ending the trial rapidly.

The prosecutor of the case involving the five Turkish suspects recently denied Erdem's accusations in a statement, saying the Turkish suspects were released because they were not found to be in possession of the materials used for sarin production, while rejecting the idea that the justice minister pressured him into bringing the case to a close immediately. Two CHP deputies said that the Turkish government was out to get Eren Erdem and had launched a lynching campaign against the deputy. Republican People's Party (CHP) deputy Ali Şeker stated that Turkish authorities must answer questions in connection with the incident.

Syrian Troops Find Chemicals Left by Terrorists in Suburbs of Aleppo

Source: <https://sputniknews.com/middleeast/201701111049479568-aleppo-chemical-weapons-terrorists/>

Jan 11 – **A Syrian government military unit has found a depot with chemical materials left by terrorists in the eastern suburbs of Aleppo.**



back peace and security to the embattled city.

According to the SANA news agency, among the chemicals found in the storage there were sulfur and chlorine and other poisonous substances, which were used by terrorists to manufacture explosives. Aleppo was a major battleground in Syria between the government forces and militants for months.

In November, Russia's Defense Ministry found out that militants used poisonous chlorine and white phosphorus to create chemical weapons, the use of which is banned by the Chemical Weapons Convention. On December 22, the Syrian army said it had taken Aleppo under the full control, bringing



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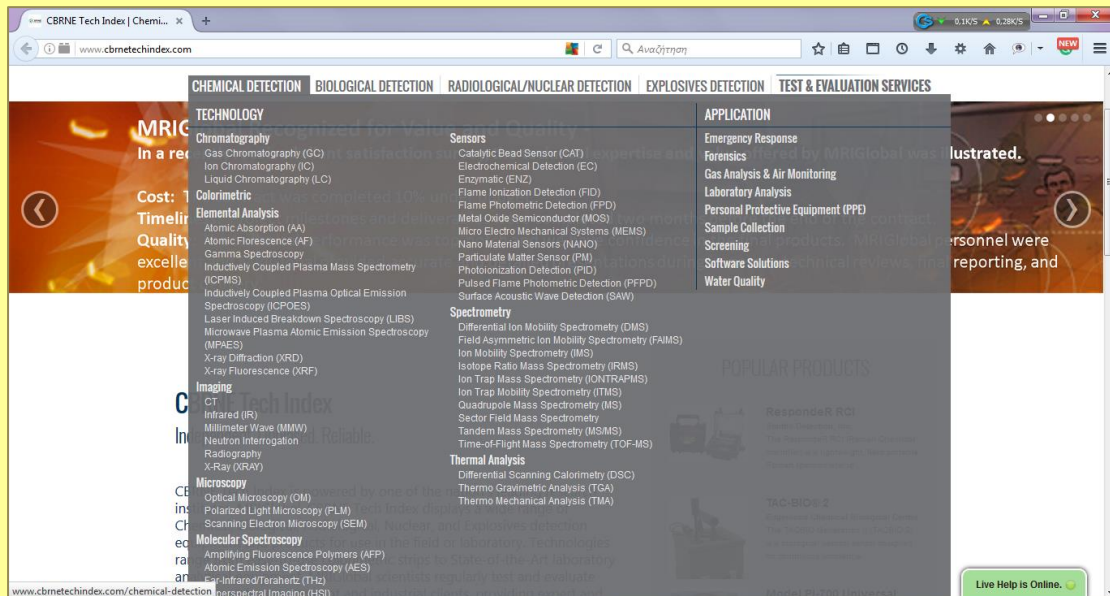
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Source: <http://www.cbrnetechindex.com/>

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Chemical Insecurity: An Overview of the Threat to the Chemical Sector

By Frank G. Rando

Source: <http://www.cbrneportal.com/chemical-insecurity-an-overview-of-the-threat-to-the-chemical-sector/>



“The nature of the chemical bond is the problem at the heart of all chemistry”

– Bryce L. Crawford, Jr.

“Basically, these facilities (hazardous chemical facilities) are stationary weapons of mass destruction spread all around the country”

– then Senator Barack Obama, 2006

July 2016 – On 12 August 2015, two powerful explosions occurred in a warehouse in the Chinese port of Tianjin, killing approximately 173 people, injuring hundreds and sending a shockwave to nearby residences. The Chinese Earthquake Networks Center reported the first blast generated shock waves equivalent to 3 tons of TNT; and the second blast generated the equivalent of 21 tons of TNT. (Rando FG. “China’s chemical dragon”, *CBNW*, 2016/01, p.38-41.)

The two fiery explosions liberated toxic plumes of Toxic Industrial Chemicals (TICs) generated from stored chemicals, including sodium cyanide, toluene diisocyanate (TDI), ammonium nitrate and potassium nitrate (highly explosive); flammables and highly reactive metals, including sodium and magnesium.

Some recent events in China also reveal the ubiquitous inadequacies of chemical sector safety and security. In April of 2015, a paraxylene (PX) plant explosion and fire in Zhangzhou resulted in casualties requiring hospitalization and medical treatment. Contaminated casualties and chemical hazards were so great that officials deployed 3,000 of the Peoples Liberation Army CBRN troops to perform chemical sampling and monitoring, decontamination, hazard mitigation duties, extensive clean-up and recovery operations. Hundreds of emergency services personnel were required to conduct fire suppression, search and rescue and emergency medical operations.

In an age of expanding globalization of commerce and industry, and with disparate safety and security standards for the chemical sector, it becomes inherently clear that the US Chemical Manufacturers’ Association motto of “Responsible Care” should be applied internationally. The US and Western nations have had ample experience with severe chemical incidents and with the looming threat of state-sponsored or non-supported chemical terrorism, chemical manufacturers and homeland security officials are striving to

improve chemical sector-specific standards, laws and countermeasures.

However, in emerging nations, and even in large industrialized nations such as China and Russia, chemical sector safety and security remain woefully inadequate, and their facilities vulnerable to terrorism and catastrophic failures. Industrial chemicals provide terrorist organizations and factions with effective and readily accessible materials to develop improvised explosives, incendiaries, and poisons. Many public and corporate emergency responders are unaware of the magnitude of the threat of terrorism to commerce and industry. At each phase of petroleum and chemical production, storage, transportation, and distribution, vulnerabilities exist which may be exploited by terrorist

The threat of cyberattacks against the chemical sector is very real and may result in catastrophic failures and releases into the environment. Addressing areas such as process safety, chemical incompatibilities, emergency response systems integrated training and exercises among stakeholders in the public and private sectors, comprehensive hazard vulnerability assessments, adequate warning and notification systems, accurate risk communication and public information, and improved cyber and physical security measures will do much to avert, mitigate, respond to, and recover from industrial chemical sector disasters and their aftermath

One such program is the US Department of Homeland Security’s Chemical Facility Anti-Terrorism Standards (CFATS). The DHS CFATS program identifies and regulates high-risk chemical facilities to ensure that they have security measures in place to reduce the risks associated with these chemicals of concern. Initially authorized by Congress in 2007, the program uses a dynamic multi-tiered risk assessment process and requires facilities identified as high-risk to meet and maintain performance-based security



standards appropriate to the facilities and the risks they pose.

DHS chemical security inspectors work in all 50 states to help ensure facilities have security measures in place to meet CFATS requirements. DHS has released an interim report final rule that imposes comprehensive federal security regulations for high risk facilities in possession of specific chemicals of interest. The rule establishes risk-based performance standards for the security of US chemical facilities. It requires covered chemical facilities to prepare Security Vulnerability Assessments

(SVAs), which identify facility security vulnerabilities, and to develop and implement Site Security Plans (SSPs), which include measures that satisfy the identified risk-based performance standards. Covered chemical facilities that have successfully implemented their approved SSP and have passed a CFATS inspection will be considered compliant with standard.

Our multinational industrial chemical sector must strive to attain the highest safety and security standards to protect life, the environment and infrastructures.

Frank G. Rando possesses over 30 years of real world experience as a public safety professional, clinician, educator, emergency and crisis manager, author and consultant in the areas of tactical, disaster and operational medicine, weapons and tactics, law enforcement /criminal investigations, counterterrorism, hazardous materials management and emergency response, toxicology, environmental safety and health, and health care and public health emergency management.

CBNW 2017 Vol 1

Published on Jan 18, 2017

Source: https://issuu.com/immags/docs/cbnw_2017_vol_1

►► Check pages 72-73-74 for an introduction to the International CBRNE Institute (Belgium).

TRAINING

The International CBRNE Institute (ICI) in Leuven, Belgium was established in 2013 as an International Non-Profit Organisation (INPO). The ICI is an independent source of CBRNE expertise and home to members from throughout the CBRNE community.

The ICI has two Knowledge Centres – the Explosive Knowledge Centre and the CBRNE Knowledge Centre – each with its own activities, experts, task forces, research and workshops. Members of each Knowledge Centre are CBRNE professionals from all backgrounds including international organisations, universities, armed forces, first responders, scientists, and equipment providers who are ready to assist, inform and advise on best practices in CBRNE matters.

The ICI operates from Rotunde Solutions' Training Centre in Belgium on its 5,000 sqm site, including the training hall, lecture training grounds, and conference facilities.

EU-funded projects
Over the past year, two EU-funded R&D projects on the development of tools for humanitarian demining operations have come to term. One was coordinated by the Royal Military Academy of Belgium (TRANDIS) 2012-2015 and the other by the Royal Defence and Space SAS (D-BOX 2012-2016). Many European partners were involved in the project, including government organisations, NGOs, universities, subject matter experts (SMEs) and industrial partners.

"These such projects come to an end – with the cooperation, in these cases, of over 50 Academy, industry, and SME expert bodies – final conclusions are made, papers written, and funding stops. The question always arises, what next? More, more than ever, we have to find ways of communicating, sharing expertise, and working together against threats that recognise no borders."

Keeping up expert momentum
After the TRANDIS and D-BOX projects Professor Emeritus

TRAINING

Training Centre for the future, training hall with fully equipped technical facilities. Learning facilities are available on site and equipment used responses are at your service to help you with your work.

Spreading knowledge is the best weapon against ignorance generating fear and panic, given the invisible nature of the new emerging threats."

BRIG GEN DAVINO GALATIS

Brigade Commander, NATO ISAF, and Managing Director of the International CBRNE Institute, Prof. Dr. Linda Nisbet.

Herlenn 2020
In August 2016 Prof. Dr. Nisbet, on behalf of the ICI members, co-ordinated and introduced a proposal for the Security section of the European Commission's Horizon 2020 – the EU Framework Programme for Research and Innovation. Horizon 2020 is the largest EU research and innovation programme ever, with nearly €80 billion of funding available over seven years (2014-2020).

Prof. Dr. Nisbet was the Executive Director of the International 'Valde' Centre at Belgium's Royal Military Academy and has extensive experience in coordinating

TRAINING

Centre for Security Studies (KEMA) in Athens, was recently called upon to assist a Belgian hospital in assessing their chemical decontamination infrastructure and processes. The newly built hospital, serving a highly industrialised area, called in the expert after completion. Decontamination best practices for any CBRNE incident at an emergency installation need to be considered at the project planning stage with the architects and civil engineers – before the foundations are set.

Brig Gen Galatis is therefore planning a series of masterclasses where architects, civil engineers, hospital representatives and health professionals meet with groups of CBRNE first responders and industry representatives to explore issues of common interest. It is essential that CBRNE preparedness is discussed with professionals throughout society to address issues relevant to CBRNE operations in an urban environment.

A pilot course on CBRNE Medicine is planned for introduction to Belgian medical and nursing schools to prepare future frontline health professionals. It will be accepted by both students and academia, these modules will be replicated in other universities Europe-wide, in collaboration with partners and supporters.

Linda Nisbet is Administrator for the International CBRNE Institute (ICI) and Rotunde Solutions Training Centre in Belgium and is on the ICI Board of Directors. As a previous business owner and marketing and events specialist, she worked in the hospitality and telecoms industries.

Knowledge is Power

ICI International Day, 12 October 2016, where 50 guests from 14 countries gathered to learn experts on the European Commission's Horizon 2020 – the EU Framework Programme for Research and Innovation. The ICI members, co-ordinated and introduced a proposal for the Security section of the European Commission's Horizon 2020 – the EU Framework Programme for Research and Innovation. Horizon 2020 is the largest EU research and innovation programme ever, with nearly €80 billion of funding available over seven years (2014-2020).

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Biological weapons of mass destruction with the ability to spread deadly diseases like Ebola and Zika 'could wipe out up to a fifth of the world's population'

Source: <http://www.dailymail.co.uk/news/article-4066952/Biological-weapons-mass-destruction-ability-spread-deadly-diseases-like-Ebola-Zika-wipe-fifth-world-s-population.html>

Dec 16 – **Biological weapons of mass destruction with the ability to spread deadly diseases like Ebola and Zika could wipe out up to a fifth of the world's population**, it has been claimed.

Ex-NATO commander James Stavridis described the prospect of advanced biological technology being used by terrorists or 'rogue nations' as 'most alarming'.

He said that it could lead to an epidemic 'not dissimilar to the Spanish influenza' a century ago.

Writing in Foreign Policy, Stavridis said: 'In that plague, by some estimates, nearly 40 percent of the world's population was infected, with a 10 to 20 percent mortality rate.

'Extrapolated to our current global population, that would equate to more than 400 million dead.'

He continued: 'Most alarming would be that either rogue nations or violent transnational groups would gain access to these technologies and use them to create biological weapons of mass destruction.'

Last year, an EU report suggested that ISIS has recruited experts to wage war on the West using chemical and biological weapons of mass destruction.

It warned: 'At present, European citizens are not seriously contemplating the possibility that extremist groups might use chemical, biological, radiological or nuclear (CBRN) materials during attacks in Europe.

'Under these circumstances, the impact of such an attack, should it occur, would be even more destabilising.'

Intelligence services were also warned to screen returning Jihadi fighters for 'specialist CBRN knowledge'.

EDITOR'S COMMENT: I am very curious how to materialize the proposal noted in the last sentence of this article! On the other hand, this post reminded me the Aesop story with the shepherd boy and the wolf.

Final trial results confirm Ebola vaccine provides high protection against disease

Source: <http://www.homelandsecuritynewswire.com/dr20161227-final-trial-results-confirm-ebola-vaccine-provides-high-protection-against-disease>

Dec 27 – Since Ebola virus was first identified in 1976, sporadic outbreaks have been reported in Africa. But the 2013-2016 West African Ebola outbreak, which resulted in more than 11,300 deaths, highlighted the need for a vaccine. An experimental Ebola vaccine was highly protective against the deadly virus in a major trial in Guinea, according to results published in The Lancet. The vaccine is the first to prevent infection from one of the most lethal known pathogens, and the findings add weight to early trial results published last year.

An experimental Ebola vaccine was highly protective against the deadly virus in a major trial in Guinea, according to results published in The Lancet. The vaccine is the first to prevent infection from one of the most lethal known pathogens, and the findings add weight to early trial results published last year.

The vaccine, called **rVSV-ZEBOV**, was studied in a trial involving 11,841 people in Guinea during 2015. Among the 5,837 people who received the vaccine, no Ebola cases were recorded ten days or more after vaccination. In comparison, there were twenty-three cases ten days or more after vaccination among those who did not receive the vaccine.



The trial was led by the World Health Organization, together with Guinea's Ministry of Health and other international partners.

"While these compelling results come too late for those who lost their lives during West Africa's Ebola epidemic, they show that when the next Ebola outbreak hits, we will not be defenceless," said Dr Marie-Paule Kieny, WHO's Assistant Director-General for Health Systems and Innovation, and the study's lead author.

The Lancet reports that the **vaccine's manufacturer, Merck, Sharpe & Dohme**, this year received Breakthrough Therapy Designation from the United States Food and Drug Administration and PRIME status from the European Medicines Agency, enabling faster regulatory review of the vaccine once it is submitted.

Since Ebola virus was first identified in 1976, sporadic outbreaks have been reported in Africa. But the 2013-2016 West African Ebola outbreak, which resulted in more than 11,300 deaths, highlighted the need for a vaccine.

The trial took place in the coastal region of Basse-Guinée, the area of Guinea still experiencing new Ebola cases when the trial started in 2015. **The trial used an innovative design, a so-called "ring vaccination" approach - the same method used to eradicate small pox.**

When a new Ebola case was diagnosed, the research team traced all people who may have been in contact with that case within the previous 3 weeks, such as people who lived in the same household, were visited by the patient, or were in close contact with the patient, their clothes or linen, as well as certain "contacts of contacts". A total of 117 clusters (or "rings") were identified, each made up of an average of 80 people.

Initially, rings were randomised to receive the vaccine either immediately or after a 3-week delay, and only adults over 18 years were offered the vaccine. After interim results were published showing the vaccine's efficacy, all rings were offered the vaccine immediately and the trial was also opened to children older than six years.

In addition to showing high efficacy among those vaccinated, the trial also shows that unvaccinated people in the rings were indirectly

protected from Ebola virus through the ring vaccination approach (so-called "herd immunity"). However, the authors note that the trial was not designed to measure this effect, so more research will be needed.

"Ebola left a devastating legacy in our country. We are proud that we have been able to contribute to developing a vaccine that will prevent other nations from enduring what we endured" said Dr. Kélta Sakoba, Coordinator of the Ebola Response and Director of the National Agency for Health Security in Guinea.

To assess safety, people who received the vaccine were observed for 30 minutes after vaccination, and at repeated home visits up to 12 weeks later. **Approximately half reported mild symptoms soon after vaccination, including headache, fatigue and muscle pain but recovered within days without long-term effects. Two serious adverse events** were judged to be related to vaccination (**a febrile reaction and one anaphylaxis**) and one was judged to be possibly related (influenza-like illness). All three recovered without any long term effects.

It was not possible to collect biological samples from people who received the vaccine in order to analyse their immune response. Other studies are looking at the immune response to the vaccine including one conducted in parallel to the ring trial among frontline Ebola workers in Guinea.

"This both historical and innovative trial was made possible thanks to exemplary international collaboration and coordination, the contribution of many experts worldwide, and strong local involvement," said Dr John-Arne Røttingen, specialist director at the Norwegian Institute of Public Health, and the chairman of the study steering group.

In January, GAVI, the Vaccine Alliance provided \$5 million to Merck towards the future procurement of the vaccine once it is approved, prequalified and recommended by WHO. As part of this agreement, Merck committed to ensure that 300,000 doses of the vaccine are available for emergency use in the interim, and to submit the vaccine for licensure by the end of 2017. Merck has also submitted the vaccine to WHO's Emergency Use



and Assessment Listing procedure, a mechanism through which experimental vaccines, medicines and diagnostics can be made available for use prior to formal licensure. Additional studies are ongoing to provide more data on the safety of the vaccine in children and other vulnerable populations such as people with HIV.

In case of Ebola flare-ups prior to approval, access to the vaccine is being made available through a procedure called “**compassionate use**” that enables use of the vaccine after informed consent. Merck and WHO’s partners are working to compile data to support license applications.

The rapid development of rVSV-EBOV contributed to the development of WHO’s R&D Blueprint, a global strategy to fast-track the

development of effective tests, vaccines and medicines during epidemics.

Also published in *The Lancet*, is a phase 2 trial of a different Ebola vaccine candidate, the recombinant adenovirus type-5 Ebola vaccine. The trial was led by the Beijing Institute of Biotechnology and was conducted in Sierra Leone in 2015. It involved 500 healthy participants, followed for 6 months – 250 were given a high dose vaccine, 125 a low-dose and 125 a placebo. The study found that the vaccine was safe and induced an immune response that peaked at 28 days, but decreased during the six months post injection. One serious adverse event was reported, in an individual with a history of asthma. Further research on this vaccine is needed in order to assess its efficacy.

— Read more in Feng-Cai Zhu et al., “Safety and immunogenicity of a recombinant adenovirus type-5 vector-based Ebola vaccine in healthy adults in Sierra Leone: a single-centre randomised, double-blind, placebo-controlled, phase 2 trial,” *The Lancet* (22 December 2016).

Scientists discover the gene editing 'off-switch' that could protect against accidents or stop it from being used for harm

Source: <http://www.dailymail.co.uk/sciencetech/article-4077518/Scientists-discover-gene-editing-switch-protect-against-accidents-stop-used-harm.html>

In recent years, the use of gene editing techniques has raised concern among both scientists and the public, with some fearing it could lead to unintended consequences, or even be used to create biological weapons.

Now, researchers have discovered a set of proteins that could act as a kill switch for the Crispr-Cas9 system, potentially blocking both of these outcomes.

Not only would the anti-Crispr proteins make the procedure more precise to prevent an accident from spilling out of control, but the scientists say it would also provide a ‘fail safe’ if the technology falls in the wrong hands.

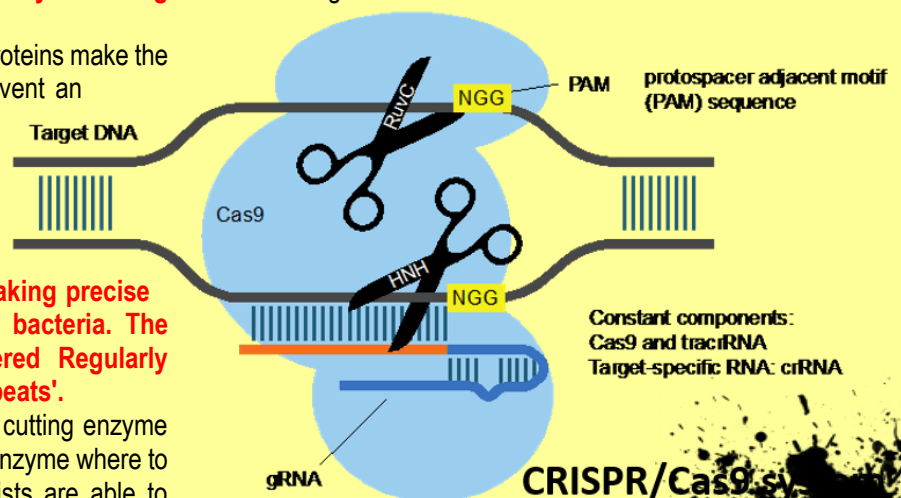
CRISPR-Cas9 is a tool for making precise edits in DNA, discovered in bacteria. The acronym stands for 'Clustered Regularly Inter-Spaced Palindromic Repeats'.

The technique involves a DNA cutting enzyme and a small tag which tells the enzyme where to cut. By editing this tag, scientists are able to

target the enzyme to specific regions of DNA and make precise cuts, wherever they like.

It has been used to ‘silence’ genes - effectively switching them off.

When cellular machinery repairs the DNA break, it removes a small snip of DNA. In this way, researchers can precisely turn off specific genes in the genome.



The approach has been used previously to edit the gene called HBB responsible for a condition called β -thalassaemia.

Researchers at the University of California, San Francisco say the 'off-switch' would work on the widely used Crispr-Cas9 gene editing system.

Among the many possible applications, it's hoped that the Crispr-Cas9 system could be used to treat genetic disorders.

It relies on a protein called SpyCas9 as its target DNA 'clippers', and to find the off-switch, the researcher investigated the same process that gave rise Crispr-Cas9 itself.

'Just as Crispr technology was developed from the natural anti-viral defense systems in bacteria, we can also take advantage of the anti-Crispr proteins that viruses have sculpted to get around those bacterial defenses,' said Benjamin Rauch, PhD, a post-doctoral researcher in the laboratory of Joseph Bondy-Denomy, PhD, and a UCSF Sandler Faculty Fellow in the Department of Microbiology and Immunology.

The researchers looked for evidence of 'self-targeting' – bacterial strains where some virus had infiltrated the Cas9 blockade and inserted its own genes into the bacterial genome.

They hypothesized that they must encode an 'anti-Crispr agent.'

If not, the researchers explained, the Cas9 would cut its own genome where the invader was detected in order to kill off the virus.

'Cas9 isn't very smart,' said Joseph Bondy-Denomy, PhD, a UCSF Sandler Faculty Fellow in the Department of Microbiology and Immunology.

'It's not able to avoid cutting the bacterium's own DNA if it is programmed to do so.

'So we looked for strains of bacteria where the Crispr-Cas9 system ought to be targeting its own genome – the fact that the cells do not self-destruct was a clue that the whole Crispr system was inactivated.'

The researchers looked at nearly 300 strains of *Listeria*, a bacterial genus linked to food-borne illness, and found this phenomenon in 3 percent of the strains.

Upon further investigation, they found four distinct anti-Crispr proteins that could block the activity of the *Listeria* Cas9 protein.

This, they say, is very similar to the SpyCas9.

In another series of experiments, they found that two of the four anti-Crispr proteins – dubbed AcrIIA2 and AcrIIA4 – worked to block SpyCas9 from targeting specific genes in other bacteria, and in engineered human cells.

According to the researchers, these results suggest these proteins are 'potent inhibitors' against the widely used Crispr-Cas9 gene editing system.

EXPERT WARNS GENE EDITING COULD WIPE OUT GENIUSES

Dr. James Kozubek says altering human genes to erase depression or Schizophrenia, for example, could stop the rise of the next Shakespeare or Einstein — as creativity and high intelligence are often associated with such disorders. Writers are 10 times more likely to have Bipolar Disorder. Poets are diagnosed with it 40 times more often than the general population. 'Thomas Edison was 'addled' and kicked out of school,' Kozubek said. 'Tennessee Williams, as a teenager on the boulevards of Paris felt afraid of the process of thought and came within a hairsbreadth of going quite mad.' 'Scientists tend to think of variations in life as problems to be solved, deviations and abnormalities outside of a normal curve. 'In reality, Darwin showed us that evolution does not progress toward an ideal concept or model, but rather is a work of tinkering toward adaptation in local niches.' Kozubek is the author of 'Modern Prometheus: Editing the Human Genome with Crispr-Cas9.' In his book, Kozubek says the gene-editing technology Crispr-Cas9 — which is being tested in the US and China to curb the spread of cancer — is not completely a positive.

'The next step is to show in human cells that using these inhibitors can actually improve the precision of gene editing by reducing off-target effects,' Rauch said.

'We also want to understand exactly how the inhibitor proteins block Cas9's gene targeting

abilities, and continue the search for more and better Crispr inhibitors in other bacteria.'

By creating an 'off switch' for SpyCas9, the researchers say the Crispr techniques could be much safer and more precise.



It would prevent unintended ‘off-target’ modifications, they say, which become more likely the longer the machinery remains active in the target cells.

This could also work for scientists using the newer techniques, including Crispr interference and Crispr activation.

The researchers say they could temporarily boost or block gene activity, or even synchronize bursts of activity from interconnected genes across the genome.

In turn, this could aid in the research and treatment of multi-gene diseases, they say.

And, the inhibitors could act as a safeguard – if the technique was applied outside of the lab, it could be used to quickly halt the work.

‘Researchers and the public are reasonably concerned about Crispr being so powerful that it potentially gets put to dangerous uses,’ Bondy-Denomy said.

“These inhibitors provide a mechanism to block nefarious or out-of-control Crispr applications, making it safer to explore all the ways this technology can be used to help people.”



Five Little-Known Diseases to Watch Out for This Year

By Derek Gatherer

Source: <https://thewire.in/91387/five-diseases-watch-year/>

Jan 03 – The phrase “emerging disease,” to describe an infectious disease that is new to humans or which is suddenly increasing its geographical range or number of cases, dates back [to the 1960s](#). But it was the realisation in the late 1970s and early 1980s that the world was in the throes of previously unrecognised pandemics of [genital herpes](#) and [AIDS](#), that really propelled the term into the mainstream.

The causative agent of genital herpes was type 2 herpes simplex virus (HSV-2), a pathogen that was reasonably well-known at the time, but whose capacity for explosive spread had been underestimated. AIDS, on the other hand, was a completely new infectious agent – one which [we now know](#) had been spreading unrecognised since the early 20th century.

Since then, emerging diseases have been appearing at an accelerating rate. Part of the

explanation for this may simply be that we are much better at detecting them now. On the other hand, population pressure, climate change and ecological degradation may be contributing to a situation where zoonosis – the movement of a disease from a vertebrate animal to a human host – is more common.

Whatever the explanation, [hepatitis C](#) (1989), [West Nile virus](#) (1999), [SARS](#) (2003), [Chikungunya](#) (2005), [swine flu](#) (2009), [MERS](#) (2012), [Ebola](#) (2014) and [Zika](#) (2015) have all since had their time in the media spotlight. A further 33 diseases have featured in the World Health Organisation’s [Disease Outbreak News](#) since its inception in 1996. Of the “big eight” listed above, six are known zoonotic diseases – and the remaining two (hepatitis C and Chikungunya) are assumed to be so, although the animal reservoir remains undiscovered.

So what other new infectious diseases are on the horizon? These are the ones to watch for in 2017.

Leishmaniasis: Historically known as “Aleppo boil”, this parasitic infection has recently, as the name suggests, become a problem [among Syrian refugees](#). Producing disfiguring skin ulcerations, and occasionally spreading to internal organs with fatal consequences, the increase of cases turning up in Europe among migrants has made it the subject of considerable [media interest](#). Leishmaniasis is spread by the bite of the sandfly, however, which means it has a northern limit to its range.

Rift Valley Fever: This virus is spread by a variety of biting insects but fortunately does not transmit from person to person. Humans appear only to be infected by mosquitoes that have previously bitten livestock. Nevertheless, RVF has been expanding its range in Africa, most recently pushing north-west into [the Sahel region](#).

It often turns up in [travellers returning from affected areas](#) and one of those could be the carrier that takes RVF out of Africa and into new continents. Beginning, as many viruses do,



with a vague fever, aches and pains, RVF can progress to internal bleeding, liver failure, brain inflammation and blindness. The death rate is only 1% but rises to 50% if bleeding occurs.

Oropouche: Another virus that has recently been [expanding its range](#) and which is spread by mosquitoes of the genus *Culex*. This is always [bad news](#) (as was previously found for West Nile virus), since *Culex* has a far wider distribution than the *Aedes* mosquitoes that spread Zika or the sandflies that spread Leishmaniasis.

Whether Oropouche's recent expansion out of its Amazonian heartland to neighbouring parts of South America is just a local fluctuation or the beginnings of a Zika-esque global tour, remains to be seen. Oropouche is normally a self-limiting fever with a loss of appetite, headaches and vomiting, but the occasional meningitis complication is more concerning.

Mayaro: Characterised by fever, aches and pains and a rash, Mayaro is the distant relative of Chikungunya, and spread by biting *Aedes* mosquitoes, Mayaro made a recent surprise [appearance in Haiti](#) and beat its Amazonian rival Oropouche to the coveted title of "[the next Zika](#)." Mayaro, like cholera, may be just another infectious disease that took advantage of the degradation of Haiti's already impoverished health infrastructure by the 2010 earthquake.

This illustrates a general point that emerging diseases tend to flourish where wars flare up or the breakdown of civil society occurs. Syria's Leishmaniasis and the expansion of Rift Valley Fever into areas of West Africa beset by decades of insurgency are probably far from coincidental.

Elizabethkingia: is the sole bacterial pathogen on the list – the only one that isn't spread by biting insects and the only one that is found worldwide. So Elizabethkingia won't be expanding its range but may be [expanding its clinical impact](#) in a world where antibiotics can no longer be relied upon to save our lives from bacterial infections.

Unlike the others, Elizabethkingia isn't in the "possibly coming soon" category but is already here. Its variety of presentations – from pneumonia to meningitis to sepsis – together with recent increases in virulence and antibiotic resistance, make it a potentially formidable adversary.

Derek Gatherer is a lecturer at Lancaster University.

CDC keeps secret its mishaps with deadly germs

By Alison Young

Source: <http://www.usatoday.com/story/news/2017/01/04/cdc-secret-lab-incidents-select-agents/95972126/>

Jan 04 – **The Centers for Disease Control and Prevention, which has faced congressional hearings and secret government sanctions over its sloppy lab safety practices, is keeping secret large swaths of information about dozens of recent incidents involving some of the world's most dangerous bacteria and viruses.**



CDC scientists apparently lost a box of deadly and highly-regulated influenza specimens and experienced multiple potential exposures involving viruses and bacteria, according to heavily-redacted laboratory incident reports obtained by USA TODAY. Several reports involve failures of safety equipment. In one, a scientist wearing full-body spacesuit-like gear to protect against lethal, often untreatable viruses like Ebola, had their purified air hose suddenly disconnect — "again" — in one of the world's most advanced biosafety level 4 labs.

After taking nearly two years to release laboratory incident reports requested by USA TODAY under the Freedom of Information Act, the CDC blacked out many details including the types of viruses and bacteria involved in the mishaps and often the entire descriptions of what happened. In several cases, clues about



the seriousness of incidents is revealed because CDC staff failed to consistently black out the same words repeated throughout a string of emails.

The CDC would not answer USA TODAY's questions about specific incidents, which occurred at the agency's laboratory facilities in Atlanta and Fort Collins, Colo., during 2013 through early 2015.

"None of the incidents described in these documents resulted in reported illness among CDC staff or the public," the CDC said in a brief emailed statement. Where incidents involved "inventory discrepancies," the agency said generally the problems were addressed without posing a risk to anybody. The CDC said incident reports cover a time period before the Atlanta-based agency created a new lab-safety office in



the wake of three high-profile incidents during 2014 with [anthrax](#), [Ebola](#) and a [deadly strain of bird flu](#).

USA TODAY's "[Biolabs in Your Backyard](#)" investigation has revealed hundreds of safety incidents at public and private research facilities nationwide and highlighted how many university, government and private labs [have fought to keep records secret about incidents and regulatory sanctions](#). The USA TODAY

investigation also exposed that more than 100 labs working with potential bioterror pathogens have faced secret federal sanctions for safety violations, [yet regulators allowed them to keep experimenting](#) while failing inspections, sometimes for years.

USA TODAY also revealed details about the operations and safety records [of more than 200 high-containment labs](#) across the nation, facilities whose identities have eluded even the Government Accountability Office.

In an effort to determine the extent of the CDC's lab-safety problems, USA TODAY filed a request on Jan. 6, 2015 under the Freedom of Information Act (FOIA) seeking copies of lab incident reports for the previous two years .

But the 503 pages of records the CDC released in many cases look like Swiss cheese when an incident involves any pathogen that is on [a federal list](#) of potential bioterror pathogens, called "select agents." They include pathogens such as those that cause anthrax, Ebola, plague or certain avian or reconstructed flu virus strains.

The CDC cites [a 2002 bioterrorism law](#) to justify its redactions. That law allows withholding from the public certain records filed with regulators or information containing specific "safeguard and security measures." However, in many cases, the CDC blacked-out information from lab incident reports that the agency often promotes when touting its capabilities and accomplishments on its website or in scientific journals, such as the fact that the [CDC operates biosafety level 4 labs](#), the highest safety level, or that [it studies specific organisms like the Ebola virus](#).

The CDC said it stands by its redactions.

The effort to keep details secret comes despite a 2015 White House memo to federal agencies [calling for greater transparency in releasing information about research and incidents](#) involving select agent pathogens. White House experts noted that withholding information often "has negligible security value" and that transparency can help improve public trust.

The CDC completely withheld 36 pages of lab incident records. In several other reports, the CDC redacted every word about what happened. In an August 2014 email with a subject line of "Lab Incident," CDC blacked out the name and title of the writer. The author started the note: "When I came in this morning." Then [the agency has blacked out about 10 lines of text](#), citing the bioterrorism law. The agency, however, did disclose the writer's final sentence: "Please let me know if you have any questions."

The CDC also redacted every word in a [lab accident report from December 2013](#) that apparently involved a dangerous strain of influenza virus. Several CDC staff copied on the email are people who were involved in the agency's controversial work in 2005 using reverse genetics to reconstruct the 1918 flu pandemic virus, which had killed as many as 50 million people worldwide. The only types of flu designated as select agents, and potentially covered



by the bioterrorism law are specimens of the 1918 influenza virus and certain deadly strains of avian influenza. The CDC did not answer USA TODAY's questions about what pathogen was involved or whether anyone was treated for potential exposure.

Some records contain more clues than others about what went wrong.

- “The air hose connector on my suit came off while I was working in [redacted] again,” a CDC scientist wrote in a May 2013 email to other agency staff, who other records show have a history of being part of the agency's Viral Special Pathogens Branch, which works with deadly viruses like Ebola. The scientist wrote that a colleague helped them “get out safely, reattaching my hose as best he could ... I live to work another day!” The CDC sought to conceal that the incident occurred in a biosafety level 4 lab, blacking out a checkbox from the top of the form that corresponds to a BSL-4 lab on the agency's main Atlanta campus. But it failed to redact the same information in some other reports. The form says the incident occurred while the scientist was working with mice infected with a virus, but the CDC blacked out the name of the virus. The CDC sent out a mass email to about 40 lab workers the same day reminding them to make sure that their protective suits are in working order and to “be sure to pay attention to your breathing air hose” and ensure that connections are tight, [the records show](#).
- In a [February 2015 string of emails](#) that involves what employment records show are multiple members of CDC's influenza division, the agency cited the bioterrorism law in blacking out the entire subject line. In one email, the first word in the short subject line remained. It says: “Missing” and is followed by a short redaction that is likely the name of a pathogen. The emails discuss whether a report will need to be filed with federal select agent lab regulators and says: “I will need a detailed summary of the search for this box from everyone involved in the search.” The only types of influenza viruses that would require reporting to select agent regulators are deadly strains of avian influenza and specimens of the resurrected 1918 flu virus. The CDC wouldn't answer any of USA TODAY's questions about what was in the missing box of pathogens or whether it was ever found.
- The missing box may not be the only influenza specimens the CDC couldn't account for. In another [email string from January 2015](#), the subject line says: “Report Additional Inventory Discrepancies — Flu Division.” However in one of the emails, the CDC blacked out the words “Inventory Discrepancies” by citing the bioterrorism law.
- There was a “possible biological exposure” at a CDC lab in Fort Collins, Colo., in May 2013, according to [a printout from the agency's Medgate tracking system](#). However the CDC blacked out all words contained in the “Long Description (What Happened)” and “Five Why Analysis” fields, citing the bioterrorism law. According to limited information released on the form, the primary source of the injury was “Insects arachnids (spiders, ticks, scorpions etc.)” and the secondary source was “Select Agent.” The field for findings says only: “The only re-training that might be necessary is to remind staff to transport tubes vertically.” The CDC wouldn't answer questions about what happened in the incident or what pathogen was involved.
- In August 2014, a CDC lab worker suffered a “potential finger puncture from a glass capillary containing” a type of select agent pathogen that has been blacked out by the CDC. “I could not find a hole in my glove. I immediately washed my hands,” the [printout from an electronic reporting system](#) says. The full description of what happened in the incident was not viewable in the electronic form when the CDC printed the page it released. Elsewhere on the form, however, limited information provides intriguing clues. One part of the form discloses: “To evaluate if vial contained vaccinia. To evaluate the condition of Vaccinia. To understand how stable” — and the rest is redacted citing the bioterrorism law. The phrase indicates the scientist was evaluating the stability of a pathogen specimen over time. Vaccinia is a type of virus used in vaccines that protect against the smallpox virus, which killed three out of every 10 people it infected before being eradicated. While vaccinia is not a select agent, the smallpox virus is. In July 2014, a few weeks before this lab incident, long-forgotten vials of vaccinia and smallpox viruses dating back to 1946-1964 were discovered in a cold-storage room at the National Institutes of Health in Bethesda, Md., and some of the vials were sent to CDC for evaluation. The CDC would not answer USA TODAY's questions about whether the specimens in lab incident came from the discovery of



forgotten vials at the NIH in July 2014 or whether the redacted pathogen name was the smallpox virus.

In addition to being a lab operator, the CDC co-runs the Federal Select Agent Program that inspects and regulates government, university, military and private labs that works with these regulated viruses, bacteria and toxins. The U.S. Department of Agriculture is CDC's partner in the regulatory program.

After winning a Freedom of Information Act appeal last year, USA TODAY revealed that the CDC is among a small group of biolab operators nationwide [that have the worst regulatory histories in the country](#), receiving repeated sanctions under secretive federal regulations. The CDC had previously cited the 2002 bioterrorism law to keep secret the names of government, public and private labs — including its own — that have been suspended or that have faced enforcement actions for violating safety and security regulations in their work with potential bioterror pathogens.

In CDC's recent document release, when incidents involved pathogens not on the select agent list, more details were sometimes available.



In **April 2014**, a mangled box filled with biological samples — at least one of them broken — arrived without any labels that it contained infectious materials by regular United Parcel Service delivery to the desk of a CDC worker, rather than to a laboratory, according to [a 40-page email string](#) about the incident. The box, from the North Carolina State Laboratory of Public Health, had been shipped in a re-used box without appropriate packing materials and arrived with a “gaping hole” in one corner, according to the CDC emails. Inside the box were specimens of bacteria that cause potentially life-threatening Typhoid fever.

“I’ve learned that there are indeed some tubes of Salmonella Typhi in this box, not sure if any are broken (don’t really want us to get our hands in the box we already know is contaminated and has broken glass in it to find out),” wrote Jean Whichard, team leader of the CDC’s National Antimicrobial Resistance Surveillance Team, in an email to other CDC staff investigating the risks posed by the shipment.

In the end, the CDC determined that only one vial broke and it contained Salmonella Newport bacteria, which has been associated with food-borne illness outbreaks. At least two CDC workers who handled the package underwent occupational health evaluations. In a later email, Whichard wrote “luckily no tubes flew out of the breach in the box during shipment, and I just gingerly lifted each tube out with forceps to confirm that none of the Typhi tubes broke.”

Officials at the North Carolina lab said they were unable to provide comment because of the recent holidays.

To read the records released by the CDC in response to USA TODAY's January 2015 Freedom of Information Act request, go to: [CDC incident reports](#). Read full coverage of USA TODAY's investigation of safety issues at the CDC and other public and private lab operators: [biolabs.usatoday.com](#).

Alison Young is a member of USA TODAY's investigative team, often examining health, environment and consumer issues.



Kitchen staple turns surgical masks into virus blasters

Source: <http://newatlas.com/salt-treated-surgical-masks-viruses/47275/>

Jan 06 – Surgical masks can do a good job of catching viral aerosols before they hit our airways. But just because they are stopped in their tracks doesn't mean they become any less infectious, leaving open the possibility of contracting things like SARS or influenza so long as the mask remains in close contact. Scientists have



come up with a way to catch and kill these harmful pathogens in one fell swoop, through a special salt treatment that "deactivates" the viruses once they are trapped by the mask.

Researchers at the University of Alberta's Department of Chemical and Materials Engineering were moved to pursue this kind of technology after realizing that a lot of people don surgical-style masks during outbreaks of influenza and other viruses under the assumption they offer more protection than they actually do. While they may trap the aerosols that carry viruses they do nothing to destroy them, meaning handling the mask can still lead to transmission.

"Surgical masks were originally designed to protect the wearer from infectious droplets in clinical settings, but it doesn't help much to prevent the spread of respiratory diseases such as SARS or MERS or influenza," says Hyo-Jick Choi, leader of the research.

Another area of Choi's research focuses on the development of oral vaccines such as pills or lozenges, where a certain roadblock actually provided the inspiration for the new bug-busting masks. The trouble with oral vaccines of this type, Choi had found, was that as they are dried out, crystals with sharp edges form that destroy the virus used in the vaccine, therefore making it ineffective.

But what if this chemical process could be used for good? Choi and his team came up with a **sodium chloride salt solution** and used it to treat the mask filters with a view to exploring this possibility. The thinking was that as the aerosol droplet carrying the virus comes into contact with the filter, the salt would dissolve and then recrystallize during drying, taking out the virus in the process.

The researchers put this theory to the test and found that when the sides of the mask were tightly sealed, the salt-coated filters showed a much higher filtration efficiency than a regular mask, and that viruses showed rapid decline. They also tested it on mice, and found that those infected with a virus through the salt-coated filters experienced a 100 percent survival rate.

Through their experiments, the team says it has optimized the salt treatment to up the effectiveness of the filters. And conveniently, because table salt is already known to be perfectly safe, it says that the road to implementation could be relatively smooth. The research was published in the journal [Scientific Reports](#).



In Search Of A Vaccine To Vanquish The Plague

Source: <http://khn.org/news/in-search-of-a-vaccine-to-vanquish-the-plague/>

Jan 10 – The plague is best known for wiping out as much as a third of Europe's population during the Black Death pandemic of the 14th century, but it's not entirely a thing of the past. It's enough of a present-day threat — either as a bioterrorism weapon or because of [antibiotic resistance](#) — that scientists are trying to develop a vaccine.

Dr. Ashok Chopra and a team of researchers at the University of Texas Medical Branch at Galveston [published a study](#) of the three newest candidates for plague vaccine in an online Nature Research journal npj Vaccines.

"So far, it looks very promising, at least in the two animal models we have tested," said Chopra, a professor of microbiology and immunology who began studying the bacteria that causes the plague, *Yersinia pestis*, around 2002.

The impetus for his work was the [anthrax attacks of 2001](#), when letters containing anthrax



were mailed to media outlets and congressional offices. Congress required the departments of Health and Human Services and Agriculture to [regulate](#) certain biological agents and toxins that could pose a severe



threat to public health. The bacteria responsible for the plague made the top section of the list — Tier 1, the microbes most at risk for bioterrorism. It's in bad company alongside anthrax, Ebola, smallpox and foot-and-mouth disease.

But 2001 wasn't the first time the plague was considered a potential bioweapon. "There has been a history of using or developing plague as a bioterrorism agent," said Dr. Paul Mead, a medical epidemiologist with the Centers for Disease Control and Prevention.

Japan [may have spread](#) plague-infected fleas in certain parts of China during World War II, and both the U.S. and the Soviet Union considered spreading the plague bacteria as an aerosol during the Cold War.

There are three types of plague infection — bubonic, septicemic and pneumonic — and all are caused by the *Yersinia pestis* bacteria.

Left untreated, the bubonic form has a 40 percent to 70 percent [mortality rate](#), and pneumonic and septicemic plague are virtually always fatal. In the pre-antibiotic era (1900-1941), the mortality among those infected with plague in the U.S. ranged from 66 percent to 93 percent. But antibiotics like [streptomycin and gentamicin](#) are used to treat all three strains now, so that mortality has been reduced to [11 percent](#).

According to the [World Health Organization](#), there were 783 cases of the plague reported worldwide in 2013, including 126 deaths.

It [affects](#) people in rural areas in central and southern Africa, central Asia and the Indian subcontinent, the northeastern part of South America, and parts of the southwestern U.S. The three most endemic countries are Madagascar, the Democratic Republic of Congo and Peru. [According to the CDC](#), the U.S. sees an average of seven human plague cases reported each year. In 2015, there were 16 cases reported, [including two teenagers](#) who

visited Yosemite National Park in California. Four of the 16 cases were fatal. As of early November, only four cases had been reported and all patients recovered, according to the CDC.

Vaccines for the plague do already exist, but they have some serious flaws. One made with dead bacteria is approved by the U.S. Food and Drug Administration but no longer manufactured. It only protected against the bubonic plague and not the more dangerous pneumonic plague.

Another vaccine is used in endemic regions such as China and the former Soviet Union, but it's not approved by the FDA because of its high likelihood to cause severe side effects such as fever, malaise and headaches.

Chopra's experimental vaccines reported on in *Nature* protect against the pneumonic plague and don't cause side effects.

The researchers deleted three genes in each of three candidate strains in order to weaken — but not kill — the bacteria. The strains could no longer cause disease and generated a robust immune response in the animals tested.

The team gave two doses of each vaccine to mice and then challenged the animals' immunity with highly virulent plague strains. The mice were protected up to four months later.

Two of the mutant strains were also successfully tested in rats.

Chopra also has a [different type of plague vaccine](#) in the works which involves the bacteria's antigens. It's been tested in non-human primates and is shown to be "highly protective."

"Everybody's immune system is different so some people could be protected and some may not be," Chopra said. "Our goal is to do parallel studies so that we have in our pipeline several vaccine candidates."

Potential evidence of lung-specific Ebola infection found in recovering patient

Source: <http://www.medicalnewstoday.com/releases/315078.php>

Jan 06 – **Scientists have found potential evidence of Ebola virus replication in the lungs of a person recovering from infection**, according to new research published in *PLOS Pathogens*. The findings could aid research into new treatment approaches and better understanding of how the virus is transmitted.



From 2013 to 2016, West Africa experienced an unprecedented outbreak of hemorrhagic Ebola. Lab studies, animal studies, and observations of evacuated patients treated in Europe and the USA have

suggested that Ebola might cause lung damage by replicating itself in lung tissue. However, no direct evidence yet exists for lung infection by the Ebola virus.

To better understand how the lungs might be involved in Ebola, Dr. Ippolito of the National Institute for Infectious Diseases "Lazzaro Spallanzani", Rome, and colleagues tracked the presence of Ebola virus genetic material in the lungs and the blood of a single patient during treatment and recovery. The patient was a healthcare worker who was evacuated from West Africa and treated in Rome.

Specifically, the scientists monitored the patient's lung levels of viral RNA fragments known to be associated with Ebola replication, and compared these with viral RNA levels in the patient's blood. They found that viral RNA and viral replication markers remained in the lungs

for about five days after it was no longer detectable in the blood.

The results suggest that Ebola virus may have been replicating in the lungs. It is possible that the lungs simply provided a protective environment that allowed RNA to linger longer than it did in the blood. However, the scientists note, the presence of RNA for both total and replication markers in the lungs supports the possibility of active replication.

"We demonstrated a long persistence EBOV replication markers within the respiratory tract, compared to plasma," the authors explain. "This suggests a major role of the respiratory tissues in the pathogenesis of Ebola virus disease."

Further research will be needed to better understand the potential role of lung infection in Ebola and whether it may be a factor in transmission of the virus from one human to another.

This work was supported by grants of Italian Ministry of Health, for "Ricerca Corrente" and "Ricerca Finalizzata", and by European Union Seventh Framework Programme, Grant n°278433-PREDEMICS. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Article: *Detection of Viral RNA in Tissues following Plasma Clearance from an Ebola Virus Infected Patient*, Biava M, Caglioti C, Bordi L, Castilletti C, Colavita F, Quartu S, et al., PLOS Pathogens, doi:10.1371/journal.ppat.1006065, published 5 January 2016.

It's alarmingly easy for terrorists to contaminate our food supply

Source: <http://nypost.com/2017/01/07/its-alarmingly-easy-for-terrorists-to-contaminate-our-food-supply/>

Jan 07 – Back in 1984, in a rural town near Portland, Ore., a woman lurked by a salad bar at a restaurant with a plastic bag in her hands. After checking that no-one was looking, she opened the bag and emptied a brownish liquid over the food.

Her act began the first — and worst — case of bioterrorism in US history. Investigators ultimately determined that the woman and her associates had contaminated 10 salad bars in the town of The Dalles with a strain of salmonella bacteria, giving 751 patrons nausea, diarrhea, bloody stools, fever and other symptoms of severe food poisoning. (Fortunately, no one died.)

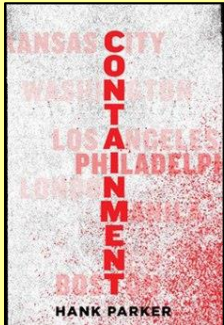
Most Americans take their nutrition for granted. Our population of 318 million largely enjoys safe, abundant and affordable food, produced on 2 million highly efficient US farms. But our food and agriculture system, which accounts for 20 percent of US jobs, is highly vulnerable to agroterrorism — deliberate acts to damage or disrupt the food supply to inflict terror, advance an ideology or cause economic havoc. Perpetrators may be rogue nations, terrorist groups



or other organizations with extremist views. The Oregon attack was carried out by a religious cult in an effort to influence local elections by keeping voters from the polls.

Agroterrorism has a long and disturbing history, dating back at least to ancient Greece and Rome.

So far, there have been very few documented large-scale incidents in the United States, but we know that organizations like al Qaeda have considered striking US agriculture — an attack that would be distressingly easy to conduct and is imagined in my new bioterror novel “Containment.” Our farms are mostly unprotected soft targets with large numbers of undocumented or transient workers presenting a challenge for close monitoring, and few vaccines are available for farm animals.



Modal Trigger “Containment: A Thriller” by Hank Parker (Touchstone)

Terrorists could employ chemicals or explosives to accomplish their goals, but our livestock, crops and foods are especially vulnerable to biological agents. Foot and mouth disease (FMD) is particularly concerning — a malefactor need only lean over an unguarded farm fence to deliberately infect livestock with a swab of the virus. This viral affliction of cloven-hoofed livestock like cattle, sheep and pigs is seldom lethal — and it doesn't harm people — but it sickens affected animals, making them unsellable, including for the lucrative export market.

The threat of FMD keeps our homeland protectors awake at night but an even more terrifying possibility looms: the deliberate infection of animals with zoonoses — diseases that can be transmitted from animals to humans, either directly or via an insect such as a mosquito or tick. Familiar examples include Lyme disease, rabies, Ebola and certain strains of influenza. What's particularly worrisome is that some zoonotic diseases don't show symptoms in infected animals but can be deadly to people.

The paucity of agroterrorism events to date suggests that the risk to the US is small. But deliberate disruption to our agriculture should concern all of us. As former Secretary of Health and Human Services Tommy Thompson said in 2004: “For the life of me, I cannot understand why the terrorists have not attacked our food supply, because it is so easy to do.”

Fortunately, since Thompson's statement, the US has made substantial progress in food defense, including beefed up security at facilities, improved employee training and new mechanisms that allow for careful tracking of animals, products, pathogens and diseases.

Such measures have significantly decreased the threat of intentional assaults on our food system and have improved our ability to respond to an incident. But we still remain vulnerable. While the probability of agroterrorism may be low, the consequences could be catastrophic. Our biggest challenge is national complacency. **We must remain vigilant and prepared.**

Hank Parker, Ph.D., is an adjunct professor at the Georgetown University Medical Center, where he teaches a course on biological threats to food and agriculture. His debut novel, “Containment” (Touchstone), is out Tuesday.



EDITOR'S COMMENT: I was in the supermarket yesterday. A tomato sauce in a glass bottle from a known company that recently was threatened for poisoning some of its product was without a safety sticker or similar. It was so easy to open the bottle, put anything inside and then put it back on the shelf. I told this to the supermarket's officials; they said that they will inform the company — I doubt this. But should these sticker be obligatory? **I was vigilant but were they prepared?**



Kenya – Anthrax Scare

Source: <http://outbreaknewstoday.com/kenya-12-hospitalized-anthrax-muranga-82891>

Nov 15, 2016 – According to local media, at least a dozen people have been hospitalized and being treated for anthrax at a Murang'a hospital (Kenya) after consuming contaminated



cow meat. The outbreak is effecting residents from Karurumo and Kanyenyaini villages in Kangemawere.

World's first malaria vaccine

Source: <http://www.africanews.com/2016/11/18/world-s-first-malaria-vaccine-to-be-tested-in-sub-saharan-africa-in-2018-who/>

Nov 18, 2016 – According to the World Health Organisation, the world's first malaria vaccine - **RTS,S** will be rolled out in pilot projects in sub-Saharan Africa in 2018. The RTS,S Phase 3 trial enrolled more than 15,000 infants and young children in 7 countries from the region.

Germany – Tularemia

Source: <http://outbreaknewstoday.com/tularemia-cases-investigated-eastern-germany-82335/>

Nov 26, 2016 – Following the reports of **6 people** being affected by an unusual infection in Mainz-Bingen, eastern Germany, the local health authority investigated several human cases of tularemia, or hare plague/rabbit fever. These cases are thought to be a rare pathogen *Francisellatularensis*, which can be transmitted by contaminated food or by direct contact with diseased animals, their organs or excretions.

Canada – Ebola

Source: <http://www.cbc.ca/news/canada/manitoba/laboratory-national-centre-foreign-animal-disease-winnipeg-1.3841662>

Nov 08, 2016 – According to officials with the Public Health Agency of Canada and the Canadian Food Inspection Agency, a man who was working with **pigs** that were **experimentally infected with Ebola** at the National Centre for Foreign Animal Disease (Winnipeg, Canada) may have been exposed to the Virus. Authorities ensured that there is no risk to the public or any other employees, although they would not say whether the infected employee took the vaccine they provided.

Report on decontamination methods in case of subway anthrax attack

Source: <https://globalbiodefense.com/2016/11/14/subway-railcar-anthrax-decontamination/>

Nov 14, 2016 – The U.S. Environmental Protection Agency has published a report focused on decontaminating railcars and related materials in the event of a biological incident in a subway system. In the event of a biological incident in a transportation hub, effective remediation of railcars, subway tunnels and stations will require the use of various decontamination approaches. One potential decontamination tool that could be used in such an event is the fogging of **sporicidal liquids**, the focus of this study.

The research was in support of the Department of Homeland Security's (DHS's) Underground Transport Restoration (UTR) Program which was established to identify potential methods for rapid characterization, cleanup, and clearance of biological contamination in an underground transit system.

As part of this UTR Project, EPA's Office of Research and Development, National Homeland Security Research Center (NHSRC) is evaluating multiple methodologies for decontamination. This study focused on the efficacy of fogging to decontaminate a variety of subway railcar materials contaminated with *Bacillus anthracis* (Ames strain) spores.

Multiple variables were investigated to assess their effect on decontamination efficacy, including spore species, railcar or tunnel material, fogger types, air temperature, sporicidal liquid, quantity of liquid fogged, and location within the test chamber.



New mutations identified in the antibiotic-resistant bioterrorism agent *Francisellatularensis*

Source: <https://globalbiodefense.com/2016/11/03/new-mutations-identified-antibiotic-resistant-bioterrorism-agent/>

Nov 03, 2016 – Researchers from Lawrence Livermore National Laboratory (LLNL – California, USA) identified new mutations of *Francisella tularensis* bacteria, which confer resistance to one of the most common antibiotic treatments, posing the greatest risk to public health and safety, such as the microbes that cause anthrax and plague.

Nevada woman killed by superbug resistant to every known antibiotic

Source: <http://www.homelandsecuritynewswire.com/dr20170113-nevada-woman-killed-by-superbug-resistant-to-every-known-antibiotic>

Jan 13 – **A 70-yr old woman in Nevada has died after a superbug which infected her proved resistant to every available type of antibiotic.**

The woman was already infected in India, where she had an extended stay, and was hospitalized there several times. She returned to Nevada in August 2016.

STAT News reports that she was admitted to a hospital shortly after her return, but died a month later after **treatment with twenty-six different antibiotics was futile.**

"It was tested against everything that's available in the United States... and was not effective," Dr

Alexander Kallen, a medical officer at the US Centers for Disease Control and Prevention (CDC), told the health news site Stat.

"I think it's concerning," he added. "We have relied for so long on just newer and newer antibiotics. But obviously the bugs can often [develop resistance] faster than we can make new ones."

Doctors said that a few years before she died, the woman had broken her right femur during her time in India.

Her femur, and part of her hip, were later infected with CRE (carbapenem-resistant enterobacteriaceae) — a bacteria commonly found in the gut, and which has developed a resistance to a strand of antibiotic often used as a last resort.

CDC reports that a specific enzyme, **New Delhi metallo-beta-lactamase (NDM)**, which makes bacteria resistant to a broad range of antibiotics, was detected in one of her wounds.

The federal agency said it considers antimicrobial resistance "one of the most serious health threats" currently facing the United States.

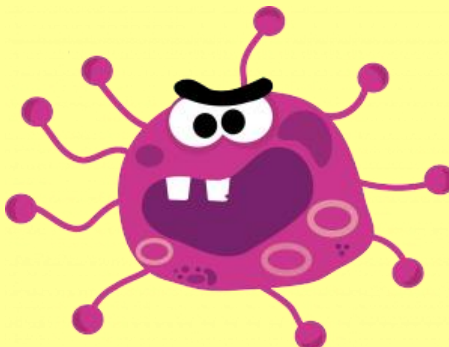
Microbiology expert Professor Laura Piddock from the University of Birmingham, told Stat: "Despite such multi-drug resistant bacteria being rare, this report is a cautionary tale of the dire outcome for some patients when potentially useful drugs are not available.

"In circumstances such as this where doctors are faced with the

inability to treat a life threatening infection they need the flexibility to use antibiotics licensed for use in other countries and shown to be active in the laboratory against the patient's infecting bacterium."

Professor Nigel Brown, a spokesperson for the Microbiology Society, said in a statement: "This sad case is a wake-up call for the isolation and development of new classes of antibiotic.

He added: "There is also a need for international agreements on the use of antibiotics, [since] too many countries allow medically-important antibiotics to be self-prescribed or to be used in agriculture."





Detecting Bioterrorism Threats Using an Enzyme-Linked Oligonucleotide Assay Approach

Source (video): <http://www.selectscience.net/SelectScience-TV/Videos/detecting-bioterrorism-threats-using-an-enzyme-linked-oligonucleotide-assay-approach/?videoID=3725>



Jan 16 – Ioanis Katakis and Ciara K. O'Sullivan, Universitat Rovira i Virgili's Interfibio Research Group, describe how they developed an enzyme-linked oligonucleotide assay (**ELONA**) approach to detect potential biowarfare agents such as *Yersinia pestis*.

Their work provides proof of concept for applying RPA in a heterogeneous format, with one primer immobilized onto a solid surface.

Mysterious white powder leaves two flight attendants sick on an Alaska Airlines plane

Source: <http://www.dailymail.co.uk/news/article-4117222/Alaska-Airlines-flight-attendants-sickened-plane-white-powder-board.html>

Jan 13 – **Three Alaska Airlines flight attendants were exposed to a white powdery substance while on board a flight from Seattle to San Jose - leaving two of the workers sick.**

The attendants were sitting in the front of the plane when they saw and smelled a white powder blowing from the vents, ABC News reported.

Two crew members then reported feeling sick about a half hour before landing.

The San Jose Fire Department and paramedics were called to the tarmac once the plane arrived at the airport at 6.54pm.

A Hazmat team met Alaska Airline flight 322 to



investigate the substance and one flight attendant was taken to the hospital in a gurney.

The person's condition is unknown, but the other attendant was treated and released.

One crew member was taken to the hospital while the other was treated and released

A passenger told the news station he noticed a crew member holding his chest and complaining about feeling 'woozy.'



The Boeing 737-900 was carrying 181 passengers and six crew members. The crew members sitting in the front galley were exposed to the substance before departure and no passengers were affected on the flight, according to Captain Mitch Matlow.

Alaska Airlines spokeswoman Ann Zaninovich said the material has still not been identified, but it is believed to residue from a **de-icing agent**.

The substance was sprayed on the plane before leaving Seattle and according to the pilot, the agent has slipped through the vents before.

The airline said the material is not toxic and the plane has been taken out of service for inspection.



Zambia anthrax outbreak **update: 17 people infected, 40 animals died**

Source: <http://outbreaknewstoday.com/zambia-anthrax-outbreak-update-17-people-infected-40-animals-died-67396/>

Jan 11 – In a [follow-up to a report earlier this week](#) concerning an anthrax outbreak affecting Western Province, Zambia, Western Province Minister Nathaniel Mubukwanu reports **at least 17 people have been hospitalized in western Zambia after consuming meat from cattle which died from anthrax.**

Fortunately, the 17 individuals are currently in a stable condition.

Mubukwanu said 40 animals died in Kalabo over the past week. 65,000 herds of cattle are currently at risk in the five districts (Limulunga, Nalolo, Kalabo, Shangombo and Sioma) in Western Province.

Quarantines, restrictions and vaccination campaigns are in the works to control the outbreak. The public has also been advised not to eat or touch animals that die suddenly as it was the main mode of transmission of the disease to humans.

Biological Time Bombs

By Frank G. Rando

Source:

<http://www.cbrneportal.com/biological-time-bombs-the-likelihood-of-bioterrorism-and-biowarfare/>

“A study of Disease – of pestilences methodically prepared and deliberately launched upon man and beast – is certainly being pursued in the laboratories of more than one great country. Blight to destroy crops, anthrax to slay horses and cattle, plague to poison not armies but whole districts – such are the lines along which military science is remorselessly advancing”



– Sir Winston Churchill

Dec 2016 – Bioweapons have often been mentioned in a historical context ranging from 6th, 12th-15th centuries BC to the “Black Death” (plague) of medieval times to intentional Variola major (smallpox) outbreaks of the 16th and 17th centuries among settlers and disaffected Native

American tribes to World Wars I and II, to the clandestine research and development programs of nation-states, such as the Biopreparat program of the former Soviet Union, and the offensive BW



programs of the West to the 1991 Persian Gulf War and beyond...

Decades of progress in the life sciences, and weapon delivery technologies, have made it possible to industrially cultivate, produce and disseminate pathogenic organisms and biological toxins as weapons of mass effect that can generate high casualty loads and cause great social disruption. The foundations of recombinant biotechnology / molecular biology have made it feasible to design and construct “designer bugs” programmed to be antibiotic or antiviral resistant, circumvent immune system surveillance and defenses, possess enhanced virulence, defy detection and confound diagnosis.

In addition, it is possible to mask an intentional infectious disease release under the guise of a naturally occurring outbreak. While weaponized, military-grade anthrax (*Bacillus anthracis*) may be the golden model, other infectious diseases, including emerging and exotic ones, such as the viral hemorrhagic fevers, e.g. Ebola, Marburg, Lassa or the Hendra and Nipah viruses may be utilized. As part of their insidious nature, bioagents can mimic common infectious diseases, such as influenza, especially in the early phases making accurate and timely diagnosis more difficult.

The global threat of the use of biological weapons to coerce and intimidate civilian populations or to achieve strategic or tactical goals in warfare remains real and serious. Commencing with the 1990s, and into our post-9/11 climate, bioweapons have been sought after by pre-existing and evolving terrorist factions and rogue nation-states such as Iran, Iraq, Syria and Libya. The dissolution of the former Soviet Union, and an allegedly defunct bioweapons R&D program has resulted in a brain trust of highly talented scientists and technicians willing to sell their expertise to rogue regimes and terrorist organizations.

While the potential for devastating casualties is high, the effective use of biological agents as weapons of terrorism and warfare is contingent on the complex interplay of a variety of factors. Among the various factors, aerosolizing to where particles are respirable and result in pulmonary deposition and retention deep into the lung via inhalation is a desirable quality in the production of a weapons grade biological

agent. The environmental stability and persistence of a biological agent are critical in the effectiveness of a dispersal. Meteorological and topographic conditions are yet another set of essential considerations. In current threat assessments, vulnerabilities and likelihood of attack by either state actors or terrorist factions are possible, and eventually, probable.

However, the stakes are high for any nation-state willing to inflict a BW attack against, say Great Britain, the U.S. or Israel, as the response would most likely be swift and devastating, including nuclear response options, once the perpetrators of the attack are identified. In the terrorist realm, low tech disseminations, such as improvised dispersal devices, and even crude contamination of fresh fruits, vegetables or other foodstuffs in marketplaces or buffets may be simple, yet effective methodologies and techniques used by terrorist factions.

The reader may remember the first recorded bioterrorism act in the U.S. as the use of *Salmonella typhirium* in salad bars in the Dalles (Antelope) Oregon in 1984 by the Rajaneesh cult group which resulted in over 400 cases of serious gastrointestinal illness. In 1994, the apocalyptic Japanese cult, Aum Shinrikyo, utilized a truck mounted dispersal device to disseminate *B. anthracis* spores in the city of Matsumoto, Japan, prior to their infamous sarin nerve agent attack in the Tokyo subway system in 1995. Fortunately, the cultist -terrorists acquired a veterinary and weak strain of the bacteria making it ineffective as a human pathogen. Aum Shinrikyo went as far as to send a scientific and medical expeditionary team to collect samples of Ebola infected blood during an outbreak to cultivate the virus as a bioweapon agent.

There are valuable lessons to be learned by the aforementioned examples. First, never underestimate the ingenuity and determination of terrorist or extremist groups. Second, the level of sophistication of terrorist organizations has been steadily on the rise, making the possibility of advanced bioweapons development, deployment and use increasingly possible. The argument that homemade explosives, incendiaries and improvised explosive devices are readily available, easy to construct, cost-



effective and generate instant and dramatic results in terror scenarios is a worthy one, however, biological agents can be derived and cultivated from just about any environmental media, such as soil, or even unprocessed medical waste. The trick is to cultivate, deliver and disseminate effectively, which meet with a variety of challenges that may be problematic, but not insurmountable. The effects will not be immediate with incubation or latency periods, as opposed to explosive and incendiary devices or even many toxic industrial chemicals or military grade chemical warfare agents, such as the cholinergic neurotoxic agents, e.g. sarin, VX. Even the effective dissemination of the purported most toxic biotoxin, *botulinum toxin* will not produce instantaneous results and is subject to rapid oxidation in air and denaturation by UV light exposure.

Other factors to consider is that many infectious diseases can be halted by effective medical countermeasures, such as vaccines and antibiotics, and early diagnosis. While, other methods and weapons of terror, such as

explosives and IEDs may be readily available, emergency managers, medical planners, first responders, health care and public health professionals must never discount the possibility of a biological or biotoxin attack. The importance of understanding that the recognition of and preparation for a bioweapons attack will be similar to that for any infectious disease outbreak.

Thus, pandemic influenza planning and preparedness principles and concepts may be extrapolated to bioterrorism events, except that BT/BW events will exhibit intense surveillance and response aspects, as well as joint criminal investigation-epidemiological efforts.

Biodefense, whether for intentional or natural occurrences of infectious diseases continues to be vital to national and international health and security. It just may be that the microscopic time bombs that exist may demonstrate their usefulness to the rogue nation-states and the exponentially growing terrorist and jihadi movements as "the poor man's atom bomb".

Frank G. Rando possesses over 30 years of real world experience as a public safety professional, clinician, educator, emergency and crisis manager, author and consultant in the areas of tactical, disaster and operational medicine, weapons and tactics, law enforcement /criminal investigations, counterterrorism, hazardous materials management and emergency response, toxicology, environmental safety and health, and health care and public health emergency management..

A Biologist's Approach to Global Affairs

By Luc De Keyser

Source: <https://www.stratfor.com/global-affairs>

Jan 18 – To say that we live in confusing times is an enormous understatement. Since the global economy took a nosedive in 2008, the world has not stopped reeling from one surprise to the next. From the Islamic State's unexpected rise to the Brexit vote and Donald Trump's startling electoral win, perplexing events in the international community are generating a torrent of analyses that all hope to explain the same thing: What is going on?

Amid the pandemonium, [Stratfor's Reva Goujon](#) rightly turned to the steady anchor that only geography can provide. From there, [Ian Morris](#) layered on the centuries-deep stability of a historical perspective. But we still must come to grips with what Goujon describes as the

behavior of "individuals [who] form but a thin film on what is already a thick body of analysis." Of course, actually doing so is easier said than done since, belonging to this thin film ourselves, we are too close to the events happening around us to see them clearly. Add to this that our brains have not evolved quickly enough to cope with the complexity of the modern world, and the prospects of understanding today's events start to look very dim indeed.

Outpaced by the Environment

As I read Goujon's essay, what most grabbed my attention was her unequivocal assertion that "the world we knew two decades ago



and the world we will see two decades from now should look very different from the one we're experiencing today." She's right: Since the Neolithic age, mankind has been dragged through one transformative period after the next, all as the human population has exploded. Though that rate of growth now appears to be slowing down, few expect the population curve to taper off before the end of the century. Even so, such curves (which are common in biology) always end in decline eventually.

As the population has skyrocketed, so has innovation, fundamentally changing mankind's access to food, shelter, materials, movement, communication and energy. Our cultures have struggled to keep up with shifts that are unfolding more and more frequently, and in the history of the world, no species has ever been subject to such rapid change and survived. It's no wonder, then, that we haven't quite caught up with the events currently confounding us. To many scientists, and to biologists in particular, grappling with overwhelming complexity is both normal and inevitable. Perhaps there is a lesson to learn from their attitude.

The Biologist's Approach

Biological systems emerge from very long evolutionary paths. They are made up of many different components of differing types that have diverse functions, all tangled together in a virtually inseparable web. Consider the structures of a cell, the organs of a body, or the flora and fauna of an ecosystem. As if they're not already complicated enough, these systems also adapt over time to the ebbs and flows of the conditions around them. Sometimes, all it takes is a tiny change in a corner of the system to trigger a cascade of effects that ripple throughout the whole.

Biologists have known from the start that fully explaining these systems is impossible, at least at this point in time. Instead they have to make do with collecting, recording and cataloguing every detail they can find, in every scenario they can study. Even then, they have to accept that their findings offer only a sliver of understanding, at only a single moment in time. If they manage to tweak the system's parameters or probe its tolerances, they feel lucky. Correlations may be translated into tentative causations only after they are diligently tested and cross-checked

with many different sources of data. Progress is painfully slow and comes as the result of an endless effort to peel away, layer by layer, the films shrouding the inner workings of nature.

Not So Simple a Problem

The biologist's approach to answering questions is different from that of the political scientist, who typically stacks facts and premises in an orderly fashion that preferably feeds into a grand overarching theory. But the principle of Occam's razor — a scientist favorite that argues for simpler theories being preferable to more complex ones — only works in areas that are simple enough to be explained by the theories put forth. Or, in the words of Albert Einstein, "Everything should be as simple as it can be, but not simpler." And when it comes to human affairs, even the simplest explanation is still dauntingly complex.

But that is not an answer that will satisfy most readers trying to rationalize the befuddling events taking place. Faced with the public's insistent demands, the media has little choice but to tailor its products to give consumers what they want: an answer, regardless of whether it is the right one. Forecasters who happened to predict an outcome that defied the reigning consensus at the time are then held in high esteem: the rare economist who foresaw the 2008 crash, the rare strategist who predicted the Islamic State's rise, or the rare pollster who forecast the Brexit and Trump triumphs. And to be sure, it's tough to argue with such success. Yet it is also important to bear in mind that a moment of accuracy, particularly in situations with only two possible outcomes, does not guarantee their continued precision in the future. Though no forecaster is omniscient, those who take a more grounded, systematic and longer-term perspective tend to beat the odds more often than not.

So what would biologists do, the day after the Brexit vote or the week after Trump was elected? I can tell you that they wouldn't try to draw broad conclusions right away. Instead, they would carefully consider the results in their proper context, trace the factual history leading up to them, and study what the ramifications might be. They would



then check and re-check the data, question the parameters and measurements used, and look for flaws in their models. They would discuss any defects found, then search for better experiments or observations to fix them, consulting with colleagues in other disciplines along the way to get a more comprehensive picture of any contributing factors. And that is the lesson to be learned from biologists: Answers should be given when they have been

verified, not when we demand them to satisfy our own curiosity.

Modesty in ambition, patience in elaboration, meticulousness in verification — these are qualities sought after in policy-making, even if the flurry and fury of modern-day politics often seem to drown them out. Still, it is comforting to know that amid the tides of change sweeping the world, we can find haven in the slow-moving undercurrents of history and geography.

Dr. Luc De Keyser currently serves as the chief medical information officer at Xperthis, the largest provider of hospital information systems solutions in Belgium. He has done pioneering work in multicenter clinical trials, medical ontologies, paleonutrition and examining human conflict from an evolutionary perspective. Dr. De Keyser was born in what is now the Democratic Republic of the Congo. He earned his medical degree from the University of Louvain and completed his clinical clerkships at Stanford's School of Medicine in 1976. He returned to California in 1979 to study for a doctorate in medical information science at the University of California at San Francisco. Dr. De Keyser currently lives in Denderleeuw and Antwerp.

Plague – Madagascar: Second cluster

Source: <http://www.voanews.com/a/plague-outbreak-hits-remote-part-of-madagascar/3681279.html>

Even for Madagascar, this is no ordinary bubonic plague outbreak. The African nation has the world's highest incidence of the bacterial infection that earned the grim name "The Black Death" after it killed an estimated 50 million people in the 14th century. The rat- and flea-borne illness hits the island nation every year from about December to April.

But 2017 is different, says the WHO's Dr. Eric Bertherat. This latest outbreak has popped up in a completely new area. The mountainous area of Befotaka in southeastern Madagascar has seen 68 cases -- of which 27 have died -- since the end of 2016, according to WHO estimates.

Bertherat said there also are unconfirmed reports of a nearby 2nd cluster of some 30 cases. "This outbreak occurred in a place where they had no plague case reported since 1950," he told VOA from Geneva, after returning from a recent visit to Madagascar to assess the situation.

Even more alarming, he says, is the fact that "it occurred in a very remote and insecure place where it's very difficult to go. And that's the main problem, for the time being. There is no one to control the outbreak, because we are still trying to organize a kind of rescue operation to go there.

Bertherat says plague is impossible to entirely eradicate. To do so, he said, would mean killing every plague-carrying wild animal, which is an impossible task, and very likely would disrupt a delicate ecological balance. Some developed nations like the USA experience plague. The CDC reported 16 cases in 2015. Four of those cases ended in death.

Bertherat says Madagascar is exceptionally susceptible, however, because of its persistent poverty. The spread of plague is often aided by poor sanitation and a lack of health care. But why, with modern medicine and new rapid tests available in Madagascar, does this 14th century affliction appear to be growing? The answer, Bertherat says, may lie in a very modern trend: deforestation. Madagascar has seen massive deforestation because of illegal logging and as subsistence farmers continue to push into wild habitats.

"Our hypothesis," he said, "is that this re-emergence in fact is due to the further extension of the natural focus of the migration of the rats, and also the fact that there is more and more contact between the local population and the forest area."

[The following paragraph is from Chanteau S, Ratsifasoamanana L, Rasoamanana B, et al:



Plague, a reemerging disease in Madagascar. *Emerg Infect Dis.* 1998;4(1):101-4, PMID: 9452403 (available at, http://wwwnc.cdc.gov/eid/article/4/1/98-0114_article.htm):

"Between 1930 and 1990, bubonic plague had "virtually disappeared" on the island due to efficient pest-control and good health management. However, since 1990, an annual 200 cases are being reported, and bubonic plague takes on epidemic form, especially in the port of Mahajanga, each year. In the capital city of Antananarivo, more cases are also being notified each year since 1990. Madagascar (pop. 13 million) has accounted for 45 percent of all the cases of plague in Africa."

Fatalities related to plague usually are caused by spread of the organism from the bubo (the very painful infected lymph node which drains the area where the flea bite occurred) to the bloodstream. The bacteremia can cause a coagulopathy, producing the purpura seen in the "black plague" and also spread to the lungs causing a hemorrhagic pneumonia. It is the pneumonia that can facilitate person-to-person transmission.

Madagascar was the location of the isolation of multi-antimicrobial resistant *Y. pestis* in 1995 (Galimand M, Guiyoule A, Gerbaud G, et al: Multidrug resistance in *Yersinia pestis* mediated by a transferable plasmid. *N Engl J Med.* 1997;337(10):677-80, PMID: 9278464; available at <http://www.nejm.org/doi/full/10.1056/NEJM199709043371004>).

The strain was resistant to chloramphenicol, streptomycin, and tetracycline but sensitive to fluoroquinolones and trimethoprim as well as other aminoglycosides. This was an ominous observation; however, it is not clear whether this naturally occurring strain has persisted or spread.

New material helps fight against hospital-acquired infections

Source: <http://www.homelandsecuritynewswire.com/dr20170119-new-material-helps-fight-against-hospitalacquired-infections>

Jan 19 – **Researchers at the Universitat Jaume I (UJI) in Castellón, Spain, have developed a new light-activated antimicrobial material for use in the fight against the most common hospital infections.** Led by professor Francisco Galindo and researcher Alicia Beltrán, the results have been published in the *Journal of Materials Chemistry*.

Specifically, the new material is a molybdenum complex that has never been used before in antimicrobial photodynamic therapy (PDT). Talking about the study, professor Galindo reports: "We studied the photochemical properties of this complex, observing that it is able to generate singlet oxygen very efficiently. We also conducted preliminary tests on the bacteria *Staphylococcus aureus*, one of the most common causes of hospital-acquired infections", explains Galindo, adding that "the tests so far have been very promising; it has been able to destroy practically all of the bacteria exposed to the new material".

RUVID notes that **currently the field is dominated by the porphyrin and phthalocyanine compounds, which tend to clump together and lose their efficiency.** This does not happen with the photosensitizer

studied. Another advantage of the molybdenum, bonded to a polystyrene-type polymer, is that it is very photostable, meaning it does not self-destruct upon contact with light, unlike other photosensitisers which tend to break down upon prolonged exposure.

Indeed, "this demonstration of the antimicrobial properties of molybdenum complexes leaves the field wide open to exploration and testing other compounds with different microstructures," Galindo says.

Applications of the research

Viruses, bacteria, and fungi are responsible for many different diseases. PDT is one of the many approaches to combatting these microorganisms. It is a form of therapy involving the use of light and a photosensitizing chemical substance – in this case, the molybdenum complex – which reacts to the light and kills off the problem cells: "Upon exposure to a light source, *reactive oxygen species* (ROS) are produced, which destroy the pathogens," says Galindo. The most frequent ROS is singlet oxygen, which has traditionally been used in PDT as treatment for skin infections and even skin cancer, where instead of



destroying the pathogens the PDT kills off cancer cells.

The most immediate applications of the new material developed by UJI will harness its antimicrobial properties. It will be used preventively, incorporating the material into objects that self-sterilise upon exposure to a light source, and therapeutically to develop dermatological treatments for skin disorders, including skin cancer.

Commenting on the study, the work's authors tell us that the "polystyrene-molybdenum is in its

chemical and microbiological lab development phase. We are also studying how other polymers (besides polystyrene-type polymers) might be used as carriers, as well as testing the efficiency and stability of other molybdenum complexes." The UJI researchers also plan to study the effect of PDT with molybdenum on other pathogens. Application in the medical context is as yet in its initial stages, though the team is already working with medical specialists to evaluate its effectiveness in real-life settings.

— Read more in Alicia Beltrán et al., "A photobleaching resistant polymer supported hexanuclear molybdenum iodide cluster for photocatalytic oxygenations and photodynamic inactivation of *Staphylococcus aureus*," *Journal of Materials Chemistry B* (2016).

Photodynamic therapy (PDT), sometimes called **photochemotherapy**, is a form of phototherapy involving light and a photosensitizing chemical substance, used in conjunction with molecular oxygen to elicit cell death (phototoxicity). PDT has proven ability to kill microbial cells, including bacteria, fungi and viruses. PDT is popularly used in treating acne. It is used clinically to treat a wide range of medical conditions, including wet age-related macular degeneration, psoriasis, atherosclerosis and has shown some efficacy in anti-viral treatments, including herpes. It also treats malignant cancers including head and neck, lung, bladder and particular skin. The technology has also been tested for treatment of prostate cancer, both in a dog model and in prostate cancer patients. It is recognised as a treatment strategy that is both minimally invasive and minimally toxic. Other light-based and laser therapies such as laser wound healing and rejuvenation, or intense pulsed light hair removal do not require a photosensitizer. Photosensitisers have been employed to sterilise blood plasma and water in order to remove blood-borne viruses and microbes and have been considered for agricultural uses, including herbicides and insecticides. Photodynamic therapy's advantages lessen the need for delicate surgery and lengthy recuperation and minimal formation of scar tissue and disfigurement. A side effect is the associated photosensitisation of skin tissue

Agricultural Bioterrorism Protection Act of 2002; Biennial Review and Republication of the Select Agent and Toxin List; Amendments to the Select Agent and Toxin Regulations

Source: <https://www.gpo.gov/fdsys/pkg/FR-2017-01-19/pdf/2017-00857.pdf>

Jan 17 – In accordance with the Agricultural Bioterrorism Protection Act of 2002, we are amending and republishing the list of select agents and toxins that have the potential to pose a severe threat to animal or plant health, or to animal or plant products. The Act Start Printed Page 6198 requires the biennial review and republication of the list of select agents and toxins and the revision of the list as necessary. This action will amend the regulations in several ways, including the addition of provisions to address the inactivation of select agents, provisions addressing biocontainment and biosafety, and clarification of regulatory language concerning security, training, incident response, and records. These changes will increase the usability of the select agent regulations as well as providing for enhanced program oversight. After carefully considering the technical input of subject matter experts and recommendations from Federal advisory groups, we have decided not to finalize the proposed changes to the contents of the list of select agents and toxins at this time. In a companion document published in this issue of the Federal Register, the Centers for Disease Control and Prevention has made parallel regulatory changes.



Bioterrorism damage could be 'very huge' if it happens, Bill Gates warns

Source: <http://www.cnn.com/2017/01/19/bill-gates-bioterrorism-damage-could-be-very-huge.html>

Jan 19 – **Billionaire Bill Gates urged governments and private organizations on Thursday to make "substantial investments" to prepare for a potentially damaging bioterrorism attack.**



The Microsoft co-founder said organizations involved in prevention need to discuss what to do in the event of such an attack.

"It's very hard to rate the probability of bioterrorism but the potential damage is very huge," Gates said during a panel at the World Economic Forum in Davos, Switzerland.

"I'm hoping over the next few years there's some substantial investments."

Gates helped launch the Coalition for Epidemic Preparedness Innovations — an organization working to prevent epidemics. CEPI has received an initial investment of \$460 million from the governments of Germany, Japan and Norway, the Bill and Melinda Gates Foundation, and the Wellcome Trust.

Gates has raised these concerns before.

"I am concerned about biological tools that could be used by a bioterrorist. However, the same tools can be used for good things as well," Gates said in a Reddit "Ask Me Anything" session last year.

Gates has been focused for years on fighting epidemics. He warned in December that the world is "vulnerable" to flu epidemics.

Tears in Heaven: Religiously and Culturally Sensitive Laws for Preventing the Next Pandemic

By Eloisa C. Rodriguez-Dod, Aileen M. Marty & Elena M. Marty-Nelson

Tears in Heaven: Religiously and Culturally Sensitive Laws for Preventing the Next Pandemic, 66 *Cath. U. L. Rev.* 117 (2017).

Source: <http://scholarship.law.edu/lawreview/vol66/iss1/8/>

This article argues that laws created to curtail the spread of deadly contagious diseases need to be drafted and implemented in ways that maximize acceptance of an affected communities' cultural and religious beliefs. When laws are put in place that are inconsistent with community mores, the overall goal of stopping an epidemic is threatened. Communities often distrust government and other relief organizations who mandate rules and regulations that impinge their religious and cultural beliefs; thus, these regulations geared at helping communities can paradoxically undermine the goal of preventing the spread of infectious disease.

This article focuses on the need for public health officials to accommodate the religious and cultural practices of communities impacted by serious health epidemics when developing effective emergency procedures. The authors explore the role of governmental authorities in preventing the spread of contagious diseases during public health emergencies by reviewing constitutional, state, and international laws and regulations that may apply during infectious disease threats. It also addresses how religious and cultural practices should be accommodated in light of the West Africa Ebola crisis and the Sin Nombre outbreak in the United States. It describes survivors' legal rights regarding human remains and the importance of religious and cultural death rituals. Further, this Article sets forth a proposal, taking into account ethical and policy considerations, and ultimately proposes an interdisciplinary and proactive approach to development of laws and regulations to create a system that is adaptable, acceptable to the community, and scientifically sound.



Greece: 'Suspicious' envelope sets off alarm bells at SYRIZA HQ

Source: <http://www.ekathimerini.com/215414/article/ekathimerini/news/suspicious-envelope-sets-off-alarm-bells-at-syriza-hq>

Jan 19 – Alarm bells went off at the main offices of the ruling SYRIZA party in downtown Athens on Thursday morning, after an envelope containing a “suspicious” white powder was discovered in the mail.



Police and the fire service were summoned to the offices on Koumoundourou Square to take delivery of the envelope, which was discovered just a few hours before Prime Minister Alexis Tsipras was due to visit his party's central headquarters.

The envelope and its contents are being examined by experts at the Dimokritos research center.

