

# BEHOLD, JOHN BRENNAN'S SCARY MEMO!

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a long  
time  
about  
the  
"Scary  
Memos"



the government used to justify its dragnet.

As the Joint IG Report described, they started in tandem with George Bush's illegal wiretap program, and were written before each 45-day reauthorization to argue the threat to the US was serious enough to dismiss any Fourth Amendment concerns that the President was wiretapping Americans domestically.

Jack Goldsmith relied on one for his May 6, 2004 memo reauthorizing some – but not all – of the dragnet.

Yesterday, James Clapper's office released the Scary Memo included in the FISA Court application to authorize the Internet dragnet just two months later, on July 14, 2004.

ODNI calls it the Tenet Declaration – indeed it is signed by him (which, given that he left government on July 11, 2004 and that final FISC applications tend to be submitted days before their approval, may suggest signing this Scary Memo was among the very last things he did as CIA Director).

Yet the Memo would have been written by the Terrorist Threat Integration Center, then headed by John Brennan.

Much of the Scary Memo describes a "possible

imminent threat” that DOJ plans to counter by,

seeking authority from this Court [redacted] to install and use pen register and trap and trace devices to support FBI investigations to identify [redacted], in the United States and abroad, by obtaining the metadata regarding their electronic communications.

There is no mention of NSA. There is no mention that the program operated without legal basis for the previous 2.5 years. And there’s a very curious redaction after “this Court;” perhaps CIA also made a show of having the President authorize it, so as to sustain a claim that all this could be conducted exclusively on Presidential authority?

After dropping mention of WMD – anthrax! fissile material! chemical weapons! – the Scary Memo admits it has no real details about this “possible imminent threat.”

[W]e have no specific information regarding the exact times, targets, or tactics for those planned attacks, we have gathered and continue to gather intelligence that leads us to believe that the next terrorist attack or attacks on US soil could be imminent.

[snip]

Reporting [redacted] does not provide specific information on the targets to be hit or methods to be used in the US attack or attacks.

But based on “detainee statements and [redacted] public statements since 9/11,” the Scary Memo lays out, CIA believes al Qaeda (curiously, sometimes they redact al Qaeda, sometimes they don’t) wants to target symbols of US power that would negatively impact the US economy and cause mass casualties and spread fear.

It took an “intelligence” agency to come up with that.

Based on that “intelligence,” it appears, but not on any solid evidence, CIA concludes that the Presidential conventions would make juicy targets for al Qaeda.

Attacks against or in the host cities for the Democratic and Republican Party conventions would be especially attractive to [redacted].

And because of that – because CIA’s “intelligence” has decided a terrorist group likes to launch attacks that cause terror and therefore must be targeting the Presidential conventions – the FBI (though of course it’s really the NSA) needs to hunt out “sleeper cells.”

Identifying and disrupting the North American-based cells involved in tactical planning offers the most direct path to stopping an attack or attacks against the US homeland. Numerous credible intelligence reports since 9/11 indicate [redacted] has “sleepers” in North America. We judge that these “sleepers” have been in North American, and the US in general, for much of the past two years. We base our judgment, in part, [redacted] as well as on information [redacted] that [redacted] had operatives here.

Before we get to what led CIA to suggest the US was targeted, step back and look at this intelligence for a moment. This report mentions detainee reporting twice. It redacts the name of what are probably detainees in several places. Indeed, several of the claims in this report appear to match those from the exactly contemporaneous document CIA did on Khalid Sheikh Mohammed to justify its torture program, thus must come from him.

Yet, over a year after KSM had been allegedly rendered completely cooperative via waterboarding, CIA still did not know the answer to a question that KSM was probably one of the only people alive who could answer.

We continue to investigate whether the August 2001 arrest of Zacarias Moussaoui may have accelerated the timetable for the 9/11 attacks because he knew of al-Qa'ida's intention to use commercial aircraft as weapons.

Nevertheless, they believed KSM was being totally straight up and forthcoming.

Note, too, the CIA relied on claims of sleeper cells that were then two years old, dating back to the time they were torturing Abu Zubaydah, whom we know did give "intelligence" about sleeper cells.

To be sure, we know CIA's claims of a "possible imminent threat" in the US do not derive exclusively from CIA's earlier torture (though CIA had claimed, just months earlier, that their best intelligence came from that source for the Inspector General's report).

Less than 3 weeks after this Scary Memo was written, we'd begin to see public notice of this "possible imminent threat," when Tom Ridge raised the threat level on August 1, 2004 because of an election year plot, purportedly in response to the capture of Muhammad Naeem Noor Khan in Pakistan on July 13 (which could only have been included in "the Tenet declaration" if Khan were secretly arrested and flipped earlier, because Tenet was no longer CIA Director on July 13). But what little basis the election year plot had in any reality dated back to the December 2003 British arrest and beating of Khan's cousin, Babar Ahmed, which would lead to both Khan's eventual capture as well as the British surveillance of Dhiren Barot as early as June 10 and the latter's premature arrest on August 3. KSM's nephew, Musaad Aruchi, was also

handed over by Pakistan to CIA on June 12; best as I know, he remains among those permanently disappeared in CIA's torture program. This would also lead to a new round of torture memos reauthorizing everything that had been approved in the August 1, 2002 Bybee Memo plus some.

The claims the US was a target derive, based on the reporting in the NYT, from Dhiren Barot. Barot apparently did want to launch a terrorist attack. Both KSM and Hambali had identified Barot during interrogations in 2003, and he had scouted out attack sites in the US in 2000 and 2001. But his active plots in 2004 were all focused on the UK. In 2007 the Brits reduced his sentence because his plots weren't really all that active or realistic.

Which is to say this election plot – the Scary Plot that drives the Scary Memo that provided the excuse for rolling out (or rather, giving judicial approval for continuing) an Internet dragnet that would one day encompass all Americans – arose in significant part from 2003 torture-influenced interrogations that led to the real world detention of men who had contemplated attacking the US in 2000, but by 2004 were aspirationally plotting to attack the UK, not the US, as well as men who may have been plotting in Pakistan but were not in the US.

That, plus vague references to claims that surely were torture derived, is what John Brennan appears to have laid out in his case for legally justifying a US dragnet.

You see, it's actually John Brennan's dragnet – it all goes back to his Scary Memo – and his role in it is presumably one of the reasons he doesn't want us to know how many lies went into the CIA torture program.

Brennan's Scary Memo provides yet more evidence how closely linked are torture and the surveillance of every American.

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# MIKE FLYNN INVOKES OUR ANTHRAX AND CALLS THEM THE TERRORISTS

In an interview to mark his departure from the Defense Intelligence Agency, General Mike Flynn talks about the increased threats facing the United States.

Here's one:

For instance, we're doing all we can to understand the outflow of foreign fighters from Syria and Iraq, many of them with Western passports, because another threat I've warned about is [Islamic terrorists in Syria](#) acquiring chemical or biological weapons. We know they are trying to get their hands on chemical weapons and use what they already have to create a chemical weapons capability.

Remember anthrax was used in 2001 [\[killing five people\]](#) and pretty much paralyzed Capitol Hill. If that anthrax had been dispersed more efficiently, it could have killed a quarter million people.

That is, Flynn points to an anthrax terror attack officially blamed on a defense lab employee, not actually solved convincingly at all, but almost certainly carried out by a US government employee or contractor, and says that's proof terrorists are more dangerous than they used to be.

And he does so to make sure we're scared. He uses political violence to make sure we treat

what is admittedly expanding crises as war.

But he says the mindset of jihadists fighting perpetual wars is something the US cannot understand.

*JK: You also said recently that terrorist leaders like Osama bin Laden represent the leadership of al-Qaeda, but that "core al-Qaeda" is its ideology of perpetual jihad.*

Flynn: Yes, and unfortunately the core ideology and belief system is spreading, not shrinking. Look at the unbelievably violent videos [of beheadings, executions and the destruction of religious places] coming out of Iraq just in recent days. I've physically interrogated some of these guys, and I've had the opportunity to hear them talking about their organizations and beliefs. These are people who have a very deeply-rooted belief system that is just difficult for Americans to comprehend. Just think about the mindset of a suicide bomber.

Nowhere besides America's domestic anthrax attacker does Flynn mention our own actions, not even in his discussion of Ukraine – unless you count extremist adaptation to our attacks.

*JK: When the Islamic State of Iraq and Syria routed the Iraqi Army recently, the terrorists also appeared to have become much better organized, disciplined and led.*

Flynn: These various groups have learned from fighting the U.S. military for a decade, and they have created adaptive organizations as a means to survive.

Which Flynn immediately follows with this observation about how crafty those Islamic extremists are:

They write about and share 'Lessons Learned' all the time. That was something Bin Laden taught them before he died.

Those crafty terrorists. Actually learning lessons!

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## USA FREEDOM DOES NOT REIN IN THE SPIES

Honest. I started writing about this David Cole column asking, "Can Congress rein in the spies?" before John Brennan admitted that, contrary to his earlier assurances, his spooks actually had been spying on their Congressional overseers and also before President Obama announced that, nevertheless, he still has confidence in Brennan.

Cole's column isn't about the the Senate Intelligence Committee's struggles to be able to document CIA torture, however. It's about how Patrick Leahy introduced his version of USA Freedom Act "not a moment too soon."

I don't want to gripe with the column's presentation of Leahy's version of Freedom; with a few notable exceptions (one which I'll get to), it accurately describes how Leahy's bill improves on the bill the spies gutted in the House.

I first wanted to point to why Cole says Leahy's bill comes not a moment too soon.

Leahy's bill comes not a moment too soon. Two reports issued on Monday bring into full view the costs of a system that allows its government to conduct dragnet surveillance without specific suspicions of wrongdoing. In *With*

*Liberty to Monitor All*, Human Rights Watch and the ACLU make a powerful case that mass surveillance has already had a devastating effect on journalists' ability to monitor and report on national security measures, and on lawyers' ability to represent victims of government overreaching. And the same day, the New America Foundation issued *Surveillance Costs*, a report noting the widespread economic harm to US tech companies that NSA surveillance has inflicted, as potential customers around the world take their business elsewhere.

Together, these reports make concrete the damaging effects of out-of-control surveillance, even to those with "nothing to hide." Our democracy has long rested on a vibrant and vigorous press and open legal system. On matters of national security, journalists probably serve as a more important check on the executive than even the courts or Congress.

[snip]

And, it turns out, tech companies also need to be able to promise confidentiality. Customers of Internet services or cloud computing storage programs, for example, expect and need to be certain that their messages and stored data will be private. Snowden's revelations that the NSA has been collecting vast amounts of computer data, and has exploited vulnerabilities in corporate encryption programs, have caused many to lose confidence in the security of American tech companies in particular.

Cole describes the great costs out-of-control surveillance imposes on journalists, lawyers, and cloud providers, and implies we cannot wait

to reverse those costs.

Then he embraces a bill that would not protect journalists' conversations with whistleblowers (Leahy's Freedom still permits the traditional access of metadata for counterintelligence purposes as well as the Internet dragnet conducted overseas) or alleged terrorists, would not protect lawyers' discussions with their clients (the known attorney-client protected collections happened under traditional FISA, EO 12333, and possibly Section 702, none of which get changed in this bill), and would expose American companies' clouds even further to assisted government access under the new Call Detail Record provision.

Cole does admit the bill does not address Section 702; he doesn't mention EO 12333 at all, even though both the HRW and NAF reports did.

Senator Leahy's bill is not a cure-all. It is primarily addressed to the collection of data within the United States, and does little to reform **Section 702**, the statute that authorizes the PRISM program and allows the government to collect the content of electronic communications of noncitizens abroad, even if they are communicating with US citizens here. And it says nothing about the NSA's deeply troubling practice of inserting vulnerabilities into encryption programs that can be exploited by any hacker. It won't, therefore, solve all the problems that the HRW and New American Foundation reports identify. But it would mark an important and consequential first step.

But he doesn't admit the bill does little to address the specific sources of the costs identified in the two reports. It's not a minute too soon to address these costs, he says, but then embraces a bill that doesn't really address the actual sources of the costs identified in the reports.

That is mostly besides the point of whether Leahy's bill is a fair apples-to-oranges trade-off with the status quo as to represent an improvement – an answer to which I can't yet give, given some of the obvious unanswered questions about the bill. It is, however, a testament to how some of its supporters are overselling this bill and with it anyone's ability to rein in the intelligence community.

But it's one testament to that that bugs me most about Cole's column. As I noted, he does mention Leahy's failure to do anything about Section 702. Nowhere in his discussion of 702, however, does he mention that it permits warrantless access to Americans' content, one which FBI uses when conducting mere assessments of Americans. Which of course means Cole doesn't mention the most inexcusable part of the bill – its exemption on already soft reporting requirements to provide the numbers for how many Americans get exposed to these back door searches.

I'm not a fancy Georgetown lawyer, but I strongly believe the back door searches – conducted as they are with no notice to anyone ultimately prosecuted based off such information – are illegal, and probably unconstitutional. When retired DC Circuit Court judge Patricia Wald raised these problems with the practice, Director of National Intelligence Counsel Bob Litt simply said it would be "impracticable" to add greater oversight to back door searches. And in spite of the fact that both the President's Review Group and PCLOB advised significant controls on this practice (which implicates the costs identified in both the HRW and NAF reports), the version of USA Freedom Act crafted by the head of the Senate Judiciary Committee – the Committee that's supposed to ensure the government follows the law – not only doesn't rein in the practice, but it exempts the most egregious part of the practice from the transparency applauded by people like Cole, thereby tacitly endorsing the worst part of the practice.

And all that's before you consider that the IC also conducts back door searches of E.O. 12333 collected information – as first reported by me, but recently largely confirmed by John Napier Tye. And before you consider the IC's explicit threat – issued during the passage of the Protect America Act – that if they don't like any regulation Congress passes, they'll just move the program to E.O. 12333.

The point is, Congress *can't* rein in the IC, and that's only partly because (what I expect drives the Senate's unwillingness to deal with back door searches) many members of Congress choose not to. They have not asserted their authority over the IC, up to and including insisting that the protections for US persons under FISA Amendments Act actually get delivered.

In response to the news that Brennan's spies had been spying on its Senate overseers, Patrick Leahy (who of course got targeted during the original PATRIOT debate with a terrorist anthrax attack) issued a statement insisting on the importance of Congressional oversight.

Congressional oversight of the executive branch, without fear of interference or intimidation, is fundamental to our Nation's founding principle of the separation of powers.

Yet his bill – which is definitely an improvement over USA Freedom but not clearly, in my opinion, an improvement on the status quo – tacitly endorses the notion that FBI can conduct warrantless searches on US person communications without even having real basis for an investigation.

That's not reining in the spies. That's blessing them.

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# THE “CONSPIRACY THEORY” THAT PROMPTED KEVIN CURTIS’ EARLIER LETTERS TO POLITICIANS

Yesterday, charges against Paul Kevin Curtis that he sent letters testing positive for ricin to Senator Lowell Wicker and the White House were dropped. It is quite encouraging that the FBI would this time choose not to continue harassing Curtis once they realized they had no evidence against him, unlike their behavior in the Amerithrax case where they pursued Steven Hatfill for years (until paying out a \$2.8 million dollar settlement) and drove Bruce Ivins to his grave on the basis of evidence that couldn’t withstand scrutiny.

Curtis was true to his quirky and colorful character yesterday after being released, and the New York Times reported how he explained at a subsequent press conference that he had no idea what ricin is:

Mr. Curtis, a party entertainer who dresses and sings as Elvis, Prince, Johnny Cash, Bon Jovi and others, had been in jail since Wednesday. He said he had never even heard of ricin. “I thought they said rice,” he said. “I said I don’t even eat rice.”

Curtis was already known to local officials when the tainted letters surfaced and most press coverage of his arrest provided details about why he wrote so many letters before the tainted ones emerged. From a Washington Post article on his arrest:

But a darker world apparently also

existed for Curtis, according to frequent writings on social media Web sites, legal records and a lengthy trail of letters sent previously to lawmakers from Mississippi to Capitol Hill.

The man the FBI says unnerved much of official Washington this week, leaving mail handlers, staffers and aides seeing danger in any crinkled or unmarked envelope, was also a well-practiced conspiracy theorist. He wrote online that Elvis-impersonating contests had become rigged and politicized.

Many of his diatribes revolved around conspiracy theories, on which he blamed many of the malignancies in his life. The broken relationships, the financial duress, the increasing isolation he perceived – all grew out of an episode when he was working in a morgue as a contract cleaner, according to an online post on ripoffreport.com, which was signed, “I am Kevin Curtis and I approve this message.”

According to the long, detailed post, Curtis accidentally discovered bags of body parts in the morgue and reported his finding to authorities, who immediately made him a “person of interest where my every move was watched and video taped.” He described cameras zooming in on him and said he was followed by agents.

So the picture painted when he was arrested and charged was that Curtis was a disturbed person who was so crazy he believed that there is a black market in human body parts and that he was being persecuted for exposing a portion of that market. Interestingly, now that the charges against him have been dropped, the New York Times piece linked above makes no mention of the conspiracy theory while today’s Washington Post story makes only a very brief reference to it in

a list of other portions of his life story:

Curtis is known for detailed Internet diatribes, his long-held conspiracy theory about underground trafficking in human body parts – which he has turned into a novel-in-progress called “Missing Pieces” – and his work as an Elvis impersonator. The Corinth, Miss., man has been arrested four times since 2000 on charges that include cyber-harassment.

Curtis’ account of discovering evidence of illegal body part trafficking stood out to me because I knew that such illegal trafficking in fact exists. A local firm here in Gainesville has been in the middle of an ugly story unfolding around the difficult legal and ethical issues relating to how tremendous advances in medical science have driven a huge demand for human tissue and bone.

Most people are quite aware of the process of organ transplantation and how organ donation either through advance planning or by surviving family members signing off on donation saves many lives. But there also are many medical procedures that rely on human bone or tissue that has been processed.

Back in July of 2012, the International Consortium of Investigative Journalists posted a long article that goes into the details of the black market for human tissue and bones and how this market is driven by the huge profits to be made:

An investigation by the International Consortium of Investigative Journalists (ICIJ) shows that the evidence in the case – and in other body-stealing scandals across the globe – also raises larger questions about the conduct of an industry that recycles more than 30,000 human bodies each year.

Police in places

including Hungary and Ukraine, and North Carolina and Alabama in the U.S., have alleged that tissue suppliers stole tissue, committed fraud and forgery, or took kickbacks to pad their pockets. These cases suggest that Michael Mastromarino wasn't the only body wrangler who has bent or broken the rules in the drive to supply the industry with flesh and bone.

The laws surrounding the recovery, processing and reimplantation of tissue and bone have resulted in a dizzying array of companies working at different steps in the process:

More than 2,500 companies registered with the U.S. government rely to varying degrees on the fees they charge for crafting implants made from human tissue.

The world's largest human-tissue bank, Musculoskeletal Transplant Foundation, took in nearly \$400 million in revenues in 2010.

MTF is set up as a tax-exempt nonprofit, like most organizations that recover the tissue from donors located through hospitals, funeral homes and morgues. Most recovery outfits supply processing companies like RTI, which clean the pieces and mill them into usable implants. The processing companies in turn distribute them directly to hospitals or use an outside vendor such as medical device giant Zimmer to ship them around the world.

Players bid for exclusive access to U.S. donors. For example, medical device company Bacterin announced last year that it "successfully secured rights of first refusal of human tissue with multiple recovery agencies."

/snip/

The University of Texas Health Science Center at San Antonio has also recovered tissue for RTI. Its contract includes a fee chart – attaching different prices to the same tissue based on the donor’s age. RTI reimburses the recovery bank \$1,755 for a 20-year-old femur; but \$553 for the same bone from an 80-year-old.

In 1984 Congress passed the National Organ Transplant Act, making it illegal to buy and sell human organs and other human tissues. But it allowed charging “reasonable” fees for recovering, cleaning and distributing those parts.

Younger tissue is stronger and can be more lucrative for tissue processors because it can be used for higher-value grafts. Neither RTI nor the University of Texas responded to repeated requests for clarification about why the same tissues would carry such varying fees.

RTI Biologics, referred to above as RTI, is the local Gainesville-area company that prompted my interest in these issues. In September of 2012, RTI severed its ties with the Ukrainian suppliers that were at the center of many of the problems that have been highlighted in illegal trafficking.

At least in all of the major media stories I have read, nowhere in the discussions of Curtis’ “conspiracy theory” on body part trafficking was it ever mentioned that such an illegal market does in fact exist and that hundreds of millions of dollars in annual revenue are at least in part behind the drive to obtain body parts both legally and illegally. The scene described by Curtis when he opened the wrong refrigerator while cleaning the floor in a hospital morgue is not too different from the photos at the top of the ICIJ article linked above:

About 4 hour into the job after I laid down the first coat of sealer, I became

very thirsty. I was unable to exit the morgue due to floor finish not drying as fast as I had anticipated with the humidity level, so I opened the door to a small refrigerator located to the right of the autopsy table. I assumed I might find some water or anything to drink as I was dehydrated.

What I discovered, changed my life forever! There were dismembered body parts & organs wrapped in plastic. A leg, an arm, a hand, a foot, hearts, lungs, tissue, eyes and even a severed human head!

I have no idea whether the morgue Curtis was cleaning was harvesting the body parts legally or illegally, but his description of what he saw should not be dismissed as delusional. His subsequent behavior may well have been influenced by mental illness that has been described, but there are elements of truth in the life-changing event Curtis describes despite the failure of the media to understand or explain those bits of truth.

Oh, and if you want a truly crazy conspiracy theory on tissue trafficking, try Iran's claims of a Zionist plot selling kidneys from Syria.

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## **BIOWATCH: EVEN STUPIDER THAN REAGAN'S "STAR WARS" SYSTEM**

On July 31 of this year, President Barack Obama signed a cover letter attached to the White House release of the National Strategy for Biosurveillance (pdf). The misguided premise on

which this strategy (and the underlying boondoggle of the program known as BioWatch) rests stands out clearly in the President's opening sentence:

There is no higher priority than the security and safety of the American people.

The mass delusion that total safety is both achievable and worth the tremendous sacrifices of resources and liberties that would be needed to even get close to such a state got a huge boost in President Ronald Reagan's watershed "Star Wars" speech of March 23, 1983, giving birth to the Strategic Defense Initiative. It was clear from the start that this program had no chance of working as Reagan dreamed it, but massive amounts of money went into the program anyway, as William Broad described last month (emphasis added):

Since the 1980s, when President Ronald Reagan began the modern hunt for defenses against long-range missiles, Washington has spent more than **\$200 billion** devising ways to hit incoming enemy warheads that move at speeds in excess of four miles per second. Critics have long faulted the goal as delusional, saying that **any country smart enough to make intercontinental ballistic missiles could also make simple countermeasures sure to foil any defense.**

President George W. Bush announced the program that would become BioWatch as a part of his larger Project Bioshield in his 2003 State of the Union address (again, emphasis added):

We've intensified security at the borders and ports of entry, posted more than 50,000 newly trained federal screeners in airports, begun inoculating troops and first responders against

smallpox, and are deploying the **nation's first early warning network of sensors to detect biological attack.**

/snip/

I thank the Congress for supporting these measures. I ask you tonight to add to our future security with a major research and production effort to guard our people against bio-terrorism, called Project Bioshield.

The budget I send you will propose almost \$6 billion to quickly make available effective vaccines and treatments against agents like anthrax, botulinum toxin, ebola and plague. We must assume that our enemies would use these diseases as weapons, and we must act before the dangers are upon us.

(APPLAUSE)

The monitoring system that is now BioWatch is rife with problems. David Willman of the Los Angeles Times has continuously documented the many problems with and failings of BioWatch. He has informed us of the extremely high false positive rate from the currently deployed version of the system and has followed in real time the failures as DHS has forged ahead in purchasing the next generation of the technology before it is ready.

Willman's latest article, carried by McClatchy, reveals jaw-dropping failures by the BioWatch system along with a cynical cover-up by the Department of Homeland Security:

For two years, the nationwide BioWatch system, intended to protect Americans against a biological attack, operated with defective components that left it unable to detect lethal germs, according to scientists with direct knowledge of the matter.

The federal official who oversaw

installation of the components was quietly shifted to a position with no responsibility for BioWatch, and the entire episode was kept out of public view.

Willman continues:

The Los Angeles Times reported in July that BioWatch has been unable to distinguish between dangerous and benign organisms, and that as of 2008, federal agencies had documented 56 false alarms.

/snip/

Not once have public health officials had enough confidence in a BioWatch alarm to evacuate an area, dispense antibiotics or take any other emergency action.

After considering the potential disruption from false alarms, federal aviation officials shelved plans to install air-sampling units inside the nation's major airports.

To go a bit further into the science of BioWatch, consider this patent application from Lawrence Livermore National Laboratory. Here is a description of the underlying science of a candidate next generation device developed at Livermore:

Particles are drawn into the system that is designed to only allow the collection of particles of a pre-set size. The pre-set size can be selected as desired. The system is designed to only collect particles that are desired. The accepted particles continue on into a separator section that returns all the particles that are not of the desired size back into the environment. The remaining particles, are known as the product, flow. The product flow continues into

the detection sections.

/snip/

The present invention provides an Autonomous Pathogen Detection System (APDS) for monitoring the environment to protect the public from the release of hazardous biological agents. The Autonomous Pathogen Detection System is a countermeasure to bioterrorism, one of the most serious threats to the safety of United States citizens, citizens of other countries, and the military.

The APDS program was initiated to fill the requirement of a distributed environmental monitoring system for civilian applications. Multiplexed assays are used to reduce reagent costs, making long term monitoring operations possible (e.g., U.S. Postal Service mail screening). A unique, orthogonal detection approach that combines antibody-based and nucleic acid-based assays reduces false positives to a very low level. Antibody assays allow the detector to respond to all types of bioagents, including those without nucleic acids such as protein toxins. Nucleic acid assays allow much more sensitive detection, reducing the number of sensors needed to protect a given area. The fully autonomous aerosol collection and sample preparation capabilities limit maintenance requirements and makes integration into a central security or monitoring network possible.

The detection system is designed to sample particles from the air and select only particles that are of an appropriate size to be biological weapon agents. The system then looks for specific chemical structures on the outsides of the particles using antibodies and specific DNA sequences inside the particles using the highly

sensitive process of polymerase chain reaction, or PCR.

This system is only as good as the set of antibodies used for looking at the outside of the particles and the set of DNA primers used to look for specific DNA sequences inside the particles. Even if this system can be made to function perfectly within its design parameters, the very same critique bolded above about the Strategic Defense Initiative comes into play. Most terrorists capable of producing a biological agent would also be capable of altering the agent to render it invisible to the BioWatch system.

Even this patent application itself plays into the security theater which enabled such large amounts of money to be wasted in this pointless exercise (emphasis added):

**Terrorists sending anthrax-contaminated packages.** Militant organizations obtaining potassium cyanide. Religious cult members poisoning local residents to fix an election. Sadly, these scenarios are not the plots of the three latest bestsellers, but rather, very real incidents with a very real danger. By the mid-1990s, the U.S. Congress began to assess the vulnerability of the U.S. civilian population to biological terrorism and found us considerably lacking in our ability to cope with even a small-scale biological event. Initial thinking was that Department of Defense technology could be readily transferred to the civilian arena. However, upon further reflection, it was concluded that although there was overlap between military and civilian defense needs, in the case of a biological threat, there are marked differences: (1) the soldier is trained and equipped with protective gear so he may respond to a threat quickly enough to prevent a lethal dose; (2) military intelligence usually

reduces the potential threat to a relatively small number of biological agents; and, (3) military battlefield tactics are designed to minimize the density of soldiers. The civilian population, however, is neither trained nor equipped, is vulnerable to any conceivable pathogen and often gathers in large crowds (special events, sporting venues, etc.) where a small release could potentially infect thousands. In response to these differences, federal agencies, including Department of Energy, have recently begun funding directed research efforts to reduce civilian biological terrorist vulnerabilities.

At present there are more than 30 pathogens and toxins on various agency threat lists. Public health personnel rarely see most, of the pathogens so they have difficulty identifying them quickly. In addition, many pathogenic infections aren't immediately symptomatic, with delays as long as several days, limiting options to control the disease and treat the patients. The lack of a practical monitoring network capable of rapidly detecting and identifying multiple pathogens or toxins on current threat lists translates into a major deficiency in the United States ability to counter biological terrorism.

Despite playing up the fears of biological attacks on the population, this passage in the patent application demonstrates the failings of the idea of developing a comprehensive monitoring system. Only those participating in the delusional DHS gravy-train associated with BioWatch would believe that by monitoring only 30 agents we are providing any kind of realistic safety to the population. And look how this fear-mongering passage starts by referencing the

anthrax attacks of 2001. The only site at which monitoring of air would have given any sort of warning on those attacks would have been the letter sorting facilities where some anthrax spores were released as the letters went through the system. Even then, the monitors would have needed to be at just the right position near the proper part of the system that squeezed the spores out of the pores of the paper envelopes. A next generation anthrax attacker will be fully aware of what happened in 2001 and can take very simple steps to assure that spores from any package would not be released until the intended recipient opens the package.

Willman also points us to a recent GAO report (pdf) outlining deep flaws within the DHS process of funding the next generation of BioWatch:

DHS approved the Generation-3 (Gen-3) acquisition in October 2009, but it did not fully engage its acquisition framework to ensure that the acquisition was grounded in a justified mission need and that it pursued an optimal solution. The performance, schedule, and cost expectations presented in required documents when DHS approved the acquisition were not developed in accordance with DHS guidance and good acquisition practices—like accounting for risk in schedule and cost estimates. Since October 2009, the estimated date for full deployment has been delayed from fiscal year 2016 to fiscal year 2022. The 2009 life-cycle cost estimate—a point estimate unadjusted for risk—was \$2.1 billion. In June 2011, DHS provided a risk-adjusted estimate at the 80 percent confidence level of \$5.8 billion. Several steps remain before DHS can fully deploy Gen-3 including additional performance testing, operational testing, and developing location specific deployment plans.

In short, the desire to detect biological weapons when released in aerosol form is admirable, but even short reflection on the idea would suggest that monitoring all of the air all citizens breathe for all possible biological agents that could be used as weapons simply is not feasible. Relying instead on the existing public health system and increasing real time data monitoring to detect outbreaks of unexpected symptoms and combinations of symptoms remains the primary tool that should be relied on in monitoring both for the emergence of bioweapon attacks and for the emergence of new versions of existing pathogens. Note that because it only detects known pathogens, BioWatch is essentially useless for the important function of monitoring for the emergence of new pathogens such as SARS.

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## **NEW ANTHRAX SCARE: THIS TIME LEAHY'S LETTER TESTS NEGATIVE**

With the war drums on Iran beating loudly, homeland security theater is ratcheting up yet another level as a wave of letters containing a powdery substance have been mailed again to media and political figures. This time, unlike the October-November 2001 episode, all letters tested so far have been negative for anthrax or other harmful substances, but the mailer has threatened that ten percent of the large number of letters mailed will be deadly. Most notable in this current series is that a letter was received at the Burlington, Vermont office of Senator Patrick Leahy. Recall that Senator Leahy was one of those targeted with the most deadly version of the anthrax mailed in 2001.

Details on this latest episode were first reported by Reuters on Wednesday:

Several members of the Congress received mail threatening a biological attack and containing a suspicious powder later found to be harmless as law enforcement officials warned on Wednesday that more letters could be on their way.

A number of media organizations and TV shows, including the New York Times and The Daily Show with Jon Stewart, received mail postmarked Oregon warning that letters had been sent to the Washington or local offices of all 100 U.S. senators and that 10 contained a deadly pathogen, a law enforcement source said.

House of Representatives Speaker John Boehner, the top Republican in Congress, received a letter containing a powdery substance at one of his offices in his home state of Ohio, a Republican aide said, adding that the powder was harmless.

/snip/

In a notice to Senate staffers titled "Urgent: Suspicious Mail Alert," [Senate Sergeant at Arms Terrance] Gainer warned that the sender of the letters had "indicated that additional letters containing a powdery substance will be arriving at more Senate offices and that some of these letters may contain actual harmful material."

More details have since come out:

The letters make vague complaints about too much money in politics and had a Portland, Oregon return address from an organization listed as "The MIB, LLC," a law enforcement official told CBS News.

In addition to the letters to the lawmakers, officials said television comedians Jon Stewart and Stephen

Colbert received letters mentioning the letters to senators.

The author told the comedians he would send letters to all 100 senators and ten percent of them would contain "lethal pathogens," an official told CBS News.

The author wanted an end to corporate money and lobbying, an end to "corporate personhood," and called for a new constitutional convention to rewrite the constitution.

The author also told the comedians he would tell the senators they are "working for the wrong side" and there is a ten percent chance they have been exposed to a lethal pathogen. The author also said he "randomized" which letters would contain the pathogen and even he did not know who would get which letter.

Because of the advance notice, the letter received at Leahy's office was spotted and the authorities were called:

The senator's staff noticed one address on an incoming letter and contacted the authorities just after noon.

The entire building at the corner of Main Street and South Winooski Avenue was evacuated. Authorities X-rayed the letter, a bomb squad checked it and hazmat teams inspected it.

"The main focus has been the substance that was inside that letter," said Deputy Chief Andi Higbee of the Burlington police.

Hazmat investigators said that the letter tested negative for anthrax, though it did contain a powdery substance.

A functional Congress would use the occasion of

this latest flurry of harmless threats to demand that the Department of Justice reopen its failed Amerithrax investigation into the 2001 anthrax attacks. The continued insistence that Bruce Ivins carried out the 2001 attacks entirely on his own diminishes the credibility of the FBI and the Justice Department in general. But don't hold your breath, despite the fact that the real culprit from 2001 has not been found, Congress is showing no inclination to nudge DOJ into action.

Should any of these letters in the latest attack turn out to have anthrax, would the FBI have the courage to compare the DNA in those samples to the DNA from the 2001 attacks?

**Postscript:** There does appear to be one unrelated active outbreak of anthrax that has killed at least one cow in Mississippi. Although rare, such cases in livestock occur naturally.

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## **ANTHRAX SENT TO PAKISTAN'S PM BEGS QUESTION OF WHETHER FBI INVESTIGATED PRESUMED ANTHRAX SENT TO US PAK EMBASSY IN 2001**

Yesterday's revelation by Pakistan that a package containing anthrax had been sent to Prime Minister Yousuf Raza Gilani has both shocked Gilani's security staff and provoked memories that anthrax was sent to multiple targets in Pakistan in late 2001 while the US was enduring its own deadly anthrax attacks. Thinking on these issues raises the question of

why the FBI had in its possession a sample of presumed anthrax sent to the US embassy in Pakistan in late 2001 but we have not seen a comparison of its DNA to the DNA of the anthrax used in the US attacks of 2001.

Although initial reports suggested that the parcel was received at the Prime Minister's residence about 20 days ago, the consensus now is that the package was received last October. Multiple reports are claiming the package was sent by a "female professor" in Jamshoro, just north of Karachi. So far, only the New York Times has provided a portion of the suspect's name. I have found a faculty listing for a female associate professor whose name includes the portion printed in the Times, but since her field of work as listed does not overlap at all with the biological and microbiological skills that would be needed to produce anthrax, I will not repeat the name, since there is a distinct possibility her name was chosen randomly.

One of the more detailed reports comes from The News:

The Secretariat sources told The News that Deputy Secretary Abdul Hafiz, in his written complaint said: "The Secretariat received a registered envelop (Registered No 209) from Sindh University, Campus Colony, Jamshoroo, in the name of Prime Minister of Pakistan Yusuf Raza Gilani through the Post Office in the inner CR Section of this Secretariat on October 18, 2011, at 3:20pm. There was also a plastic envelop inside the outer paper envelop, containing some type of powder or chemical. On receipt of the envelop, the security officer of the Secretariat sent the envelop, along with the material, to Dr Shaukat Pervaiz, PCSIR, Islamabad, for its examination and submission of report.

We also learn from the Daily Times that the

anthrax may have been weaponized:

A senior police official, on the condition of anonymity, told Daily Times that the packet was received by a security official at the main gate of the secretariat. The security official found that the packet was filled with a suspicious powder and sent it to the PCSIR laboratories for test. "The PCSIR report confirmed that the packet was filled with anthrax, which could also contain silica or other sophisticated additives to make it float more easily in the air," the police official maintained.

Given that the anthrax was real and possibly even weaponized accounts for the fear shown by Gilani's security staff:

The security staff members of Prime Minister Yousuf Raza Gilani on Wednesday went into a state of shock over the revelation that a parcel received at their boss's official residence in October last year carried deadly anthrax.

It would appear that the anthrax was meant as a warning, considering that it was sealed inside plastic within the paper envelope in which it was mailed. Recall that in the US anthrax attacks, many spores escaped the paper envelopes during shipment, contaminating the mailbox from which they were sent and even killing postal service employees who came into contact with spores that escaped the envelopes. No information has been released concerning any message included in the package along with the anthrax, but considering that care was taken to prevent spore leakage in shipment, inclusion of some sort of warning that anthrax was enclosed seems likely and would fit with the concern shown by the security staff.

The timing for this shipment is very interesting. The story from The News says that the package was received on October 18. The initial column written by Mansoor Ijaz that started the Memogate controversy in which the military/ISI and civilian government were set against one another first appeared in the Financial Times on October 10 (that column is behind a paywall but reproduced by GeoTV here).

The parallel between anthrax being sent to Gilani early in the Memogate controversy and the anthrax sent to Tom Daschle and Pat Leahy while they were holding out against passage of the PATRIOT Act in the US is striking. But that is not the only parallel between anthrax events in Pakistan and the US. In its article on yesterday's revelation, the New York Times noted:

In November 2001, suspicious letters containing anthrax spores were sent to three private businesses, including the country's largest Urdu-language daily, Jang, in the southern port city of Karachi. No motive was ever determined.

But the list of targets noted by the Times is not complete. Fresh off hosting the Firedoglake Book Salon for Nada Prouty's book "Uncompromised" Marcy has provided me with excerpts from Prouty's book. First, from the Book Salon post itself is the quick bio of Prouty:

The book describes how she escaped the Lebanese civil war by enrolling in college in the US. To gain the ability to work her way through school, she entered into a "Green Card marriage." A number of years, several accounting degrees, and a "real" marriage later, she joined the FBI as one of its rare recruits with native Arab fluency and the sangfroid acquired from surviving a civil war. While at the FBI—and, later, at the CIA—she investigated a range of

al Qaeda and Hezbollah attacks, including the Cole bombing and 9/11.

Yet none of her efforts in the war on terror put her, an Arab-American (though not a Muslim), beyond the suspicions of Detroit-based FBI agents investigating her Lebanese-American brother-in-law. When they failed to make a tax evasion investigation against him into a terrorism charge, they turned to trumping up a case against Prouty, ultimately using her “Green Card marriage”—which she had disclosed to the FBI—to get her to plea to a charge of unauthorized computer access and immigration fraud, which DOJ then spun publicly as a terrorism charge.

This book is Prouty’s attempt to tell what really happened—partly in hopes to regain her American citizenship.

The book describes one assignment Prouty was given: she was to courier a package from Pakistan to the US, using commercial flights. The package was believed to be anthrax that had been sent to the US embassy in Pakistan. The timing for this event is intentionally nebulous to prevent disclosing classified information, but is clearly in late 2001, fitting well with the November, 2001 dates for the other anthrax packages in Pakistan reported in the New York Times. From the book:

The task was not complicated, but it had a potential for being fatal. As a diplomatic courier, I was to transport the white powder on a commercial airline flight from Pakistan to the United States, with a plane change in Europe. The powder, I was told, might be anthrax. It would be “secured” inside a medical box placed in a bright-orange diplomatic pouch. In the post-September 11 environment, where all packages were searched, the diplomatic pouch would

provide high assurance that its contents would not be disturbed.

/snip/

The new courier seemed hesitant and appeared anxious to transport the package to its next location, a relatively short distance compared to its journey from Paksitan. Perhaps agitated by the contents of the package and in a rush to deliver the pouch to the next team, the receiving courier got into a spectacular accident and flipped his car. He was unconscious when the police arrived on the scene, and officers very nearly opened the pouch before realizing they were in possession of something they had to be cautious with. They called in the FBI and the unconscious courier was transported to a local hospital. The pouch then disappeared into the maze of evidence and international accusations swirling about everywhere in those weeks immediately after the AQ attack on our homeland.

/snip/

The powder in the pouch, touted to me as "suspected anthrax" had first been discovered in a letter addressed to the US embassy in Islamabad. The letter had been opened by a secretary, and a white powder had fallen on her hands and on her desk. She was immediately sent to a local hospital for treatment.

Remarkably, despite Prouty documenting that this presumed anthrax sample was given to the FBI, I can find no discussion of it in the volumes of information released by the FBI in its Amerithrax investigation. It is possible that the powder sent to the embassy was not really anthrax, but considering that other targets in Pakistan were sent real anthrax around the same

time, it seems more likely the powder was real. The only foreign samples discussed in the Amerithrax investigation appear in the National Academy of Sciences report, where we learn of analysis in 2004 a number of environmental samples "from an undisclosed site outside the continental United States" that was searched "because of information about efforts by Al Qaeda to develop an 'anthrax program'". Why has the FBI not discussed analysis of DNA from the anthrax sent to the US embassy in Pakistan? Has that DNA been compared to the anthrax in the US attacks?

And while we are asking such questions, will the FBI request a sample of the spores sent to Gilani in order to analyze their DNA? Does the FBI fear a result that would tell them Bruce Ivins sent the package to Gilani from the grave?

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## **DID IVINS MOVE THE REFRIGERATOR? NEW COLD FACTS CAST FURTHER DOUBT ON AMERITHRAX CONCLUSIONS**

The top-notch Frontline/ProPublica/McClatchy group that has been continuing to investigate the anthrax attacks of 2001 and the subsequent Amerithrax investigation by the FBI posted some photos on Monday that they obtained through FOIA requests. They are here. Mouse over the first photo and then you can click through the slideshow. The most important photo is the one of the lyophilizer. The FBI is claiming Bruce Ivins used this to dry the spores used in the attacks. That is not two pieces of equipment in

the photo; here's a clearer shot of what looks like the same model available on the used market. The thing is huge! The problem is that it is NOT in Ivins' "hot suite", so using it in its place would have put spores all over the place in area where at least some of the personnel probably weren't vaccinated (and thus would have died). This would have been an obvious contamination event Ivins could not have hidden. Technically, the lyophilizer is "mobile", but as you can see, it's the size of a refrigerator and it would have been obviously missing if Ivins wheeled it into the hot suite. Also, it uses 220V (see the wiring that obviously was put in so the lyophilizer could be used in this spot), so Ivins might not have had an outlet available in the hot lab. Also notice the piece of paper on the top part; that's most likely a sign-up sheet to reserve it since this thing is used for drying down large amounts of liquid and these runs take a number of hours. You can bet if Ivins had signed into the log during the critical period we would know about it. There is only one sheet there, though, so the sheet from the appropriate time period might not have survived until the time USAMRIID was being looked at carefully.

Here is the photo of the lyophilizer, slightly enlarged from the PBS website:



The caption supplied by the Frontline/ProPublica/McClatchy team reads:

The lyophilizer, or freeze dryer, which the FBI says Ivins could have used to make the attack anthrax. Stored outside of the secure BSL-3 hot suite, the lyophilizer was a central focus of the investigation; however, the FBI was never able to definitively link it to the attack anthrax, and some of Ivins' colleagues are skeptical that he would have risked drying anthrax outside of the secure suite.

The FBI's claim that this lyophilizer was used by Ivins came about in a very embarrassing way for the Department of Justice. DOJ had submitted a document in the wrongful death suit filed by the widow of Robert Stevens, who was the first fatality in the attacks. The initial filing stated flatly that Bruce Ivins did not have

access to the equipment needed to dry the anthrax spores used in the attacks. After the FBI went ballistic over that filing, a judge allowed DOJ to submit an amended document (see page 3) where DOJ referred to the “refrigerator sized” lyophilizer in the BSL-2 containment area, where DOJ also noted that no work with live anthrax was carried out.

For those of you who want more details on the science behind the reasoning that Ivins could not have used this lyophilizer in this spot to dry the spores used in the attack, keep reading after the jump.

The image posted by the Frontline/ProPublica/McClatchy group is not sharp enough to enable identifying information on the lyophilizer to be read, but I believe that what we are seeing is virtually identical to this used lyophilizer I found for sale on an internet listing. The lyophilizer being offered for sale is described as a “Virtis 25EL Freeze Dryer with Virtis Unitop1000L Shelf Freez”. Although the lyophilizer looks like two pieces of equipment stacked on top of one another, it takes both pieces to make a functional laboratory device. The lower section is called the condenser and is the “25EL Freeze Dryer” portion. Some of the technical specifications for this portion of the device can be found here, where clicking on the “25EL” information shows that this piece of equipment can weigh between 280 and 495 pounds and requires a 220V power supply.

But note that the top half of the machine at the specifications link above differs from that in the FBI’s photo from USAMRIID. That is because lyophilizers can be configured in many different ways. See, for example, some of the many different manifolds that can be found as the top portion on some lyophilizers. The manifolds on the webpage at that link are more in line with what I expected to see as the top part of any lyophilizer that Ivins would have used to dry anthrax spores while working outside his

containment lab.

Note especially that with some of these manifolds, scientists purchase portable torches that can be used to seal glass ampules in which material has been dried. These ampules would be dangling off the multi-port manifolds. This can be done while the ampules containing the dried powder are still under vacuum, thus cutting down on the amount of powder that would be released outside the instrument once the vacuum is released. Similarly, some of the manifolds have the ability to put stoppers into vials while the material remains under vacuum.

The unit at USAMRIID, however, appears to be a shelf dryer on the top half, where the material to be dried is placed into open pans that slide into the unit on shelves prior to drying. It is possible that the USAMRIID unit may only accept two shelves as opposed to the five shelf setup in the used unit I found on the internet listing, but it's hard to conclude that the USAMRIID device is anything other than a shelf dryer based on the overall shape of the top portion of the lyophilizer when compared to the known shelf dryer. It is very hard to imagine how anthrax spores could be dried in a shelf dryer and then removed from the dryer without a lot of spores being released into the room in which the lyophilizer is located.

Note especially that the lyophilizer is not in Ivins' "hot lab" which was maintained at Biological Safety Level 3 (BSL-3, see this CDC discussion (pdf) of the various biosafety levels for laboratories) but is in an area maintained at BSL-2. Procedures at USAMRIID required that all work with live anthrax be carried out at BSL-3, so it is likely that at least some of the personnel who could have come into contact with the lyophilizer did not routinely handle live anthrax and thus were not vaccinated. That means that Ivins would have had to be extremely diligent in decontaminating both the lyophilizer and the surrounding area to prevent an anthrax outbreak among his coworkers or visitors to the

BSL-2 area.

It is routinely acknowledged that lyophilizers are at risk of spreading the material that has been dried in them. This guidance document (pdf) prepared for researchers at Columbia University has this to say about use of lyophilizers for infectious material:

Lyophilizers produce a dry solid that is very easily dispersed. They should be fitted with a HEPA filter or vented to a BSC when used for drying suspensions of infectious material. Disinfect chamber surfaces and any material collected in the vapor trap. Ampoules should be opened only in a BSC; place a disinfectant-moistened pad over the scored line when opening the ampoule.

It is undoubtedly this general knowledge that lyophilizers produce easily dispersed solids, combined with the fact that this particular lyophilizer is a shelf dryer rather than one on which ampoules can be sealed (even though the Columbia document even refers to powder being dispersed from systems where ampoules can be sealed), that led the workers at USAMRIID to doubt the FBI claim that this particular lyophilizer could have been used to produce the attack material.

It is possible that the lyophilizer pictured at USAMRIID has been connected to a HEPA filter as suggested in the Columbia document. Just to the left of the lyophilizer, above the hanging lab clothing, it is possible that the grey metal object about a foot tall on top of the black metal frame could be part of a HEPA air filtration unit. It is unlikely that this is a HEPA filter attached to a typical biological safety cabinet (BSC in the Columbia excerpt), as such cabinets are built so that workers sit in front of them in chairs that can roll up to the front edge of the cabinet. Note that the black metal frame here has a bar at floor level, so a chair could not be rolled up into working

position. However, the shiny object on the top of the shelf dryer could well be a bit of aftermarket ductwork connecting the lyophilizer to a HEPA unit.

If the lyophilizer is connected to a HEPA unit, then that means it would have been impossible for Ivins to wheel the unit into his BSL-3 lab area. That means, in turn, that Ivins would have had to thoroughly decontaminate both the condenser chamber area and the shelf dryer area of the lyophilizer after use. More importantly, some anthrax spores would have been trapped in the HEPA filter unit. These units are changed out every few years and it is possible spores would have survived on the HEPA unit, only to infect the poor worker who removed the old filter. Remember that this is in a BSL-2 area, so there would have been a presumption of no live anthrax, increasing the chance of infecting someone long after the anthrax was dried.

Another indication that if the lyophilizer were contaminated coworkers would have been at risk can be seen in the surroundings of the unit in its normal spot. What appear to be lab coats or other lab clothing are hanging to the left, there is a small trash can to the right and a box of supplies, most likely sterile disposable pipettes, from the look of the packages, sits on the "table top" extending from the condenser unit next to the shelf dryer.

One more thing stands out in looking at the photo of the lyophilizer at USAMRIID. Note that there is a single sheet of paper on the right side of the shelf dryer. Although this could have instructions for those less familiar with the operation of the lyophilizer, I think it is more likely to be a sign-up sheet for reserving use of the lyophilizer. When used with the large volumes of liquid that this particular lyophilizer is built to dry, each use of the device would be expected to require several hours. Scientists who share equipment like this use sign-up sheets as a matter of courtesy to let others know when they intend to monopolize

the device for a long period. You can bet that if the FBI had a copy of a sign-up sheet on which Ivins reserved use of the lyophilizer during the time they accuse him of preparing the attack, that would have been used as a virtual “smoking gun”. However, the fact that only one sheet appears to be attached might also suggest that old logs were not kept, and so there might not have been records going back to the time at which the attack spores would have been prepared once the FBI got to the point of investigating USAMRIID.

At any rate, the bottom line is that this photo of the lyophilizer the FBI wants us to believe Bruce Ivins used defies all scientific sense. Although it is large enough (unlike the “speed-vac” they note as being present in his BSL-3 area) to handle the volume of liquid that would have been needed to be dried to produce the attack spores, it is configured in a way that would have virtually guaranteed that highly infectious spores would have been spread in a work area where live anthrax is not handled. As such, this contamination likely would have caused an anthrax outbreak in unvaccinated coworkers or visitors. Alternatively, if the device remained portable, it also defies logic that no workers would have recalled the lyophilizer being missing for the extended period Ivins would have needed to dry down the spores and then decontaminate the device after using it in his very small BSL-3 space.

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**IN FERRETING OUT  
SCIENCE’S SECRETS,  
THERE IS NO ROOM FOR**

# CENSORSHIP

On Tuesday afternoon, the Washington Post announced that the National Science Advisory Board for Biosecurity (NSABB) has officially asked two scientific journals to censor portions of manuscripts that are pending for publication:

The federal government on Tuesday asked two science journals to censor parts of two papers describing how researchers produced what appears to be a far more dangerous version of the “bird flu” virus that has circulated in Asia for more than a decade.

/snip/

After weeks of reviewing the manuscripts the board recommended their “general conclusions” be published but “not include the methodological and other details that could enable replication of the experiments by those who would seek to do harm.”

The board – 23 scientists and public-health experts from outside the government, and 18 from within – cannot stop publication. Its advice goes to the Department of Health and Human Services, whose leaders will ask the journals – Science, published in Washington, and Nature, published in London – to comply.

The folly of the board’s request is monumental. First of all, it’s already too late for the workers to “not include the methodological and other details that could enable replication of the experiments”. Key portions of this work were described in a November 23 ScienceInsider article that summarized even earlier publications:

The virus is an H5N1 avian influenza strain that has been genetically altered and is now easily transmissible between

ferrets, the animals that most closely mimic the human response to flu. Scientists believe it's likely that the pathogen, if it emerged in nature or were released, would trigger an influenza pandemic, quite possibly with many millions of deaths.

/snip/

Although he declined to discuss details of the research because the paper is still under review, Fouchier confirmed the details given in news stories in *New Scientist* and *Scientific American* about a September meeting in Malta where he first presented the study. Those stories describe how Fouchier initially tried to make the virus more transmissible by making specific changes to its genome, using a process called reverse genetics; when that failed, he passed the virus from one ferret to another multiple times, a low-tech and time-honored method of making a pathogen adapt to a new host.

After 10 generations, the virus had become "airborne": Healthy ferrets became infected simply by being housed in a cage next to a sick one. The airborne strain had five mutations in two genes, each of which have already been found in nature, Fouchier says; just never all at once in the same strain.

At this point, if the details of just which precise mutations occur in the pathogenic virus that was developed are published, it should make no difference, because press reports have already confirmed that the most basic approach one could take, involving a simple genetic selection experiment, gives the result of the more pathogenic virus. It's even likely there are other combinations of mutations that would make an extremely pathogenic virus if the

selection process were repeated in a new experiment.

But the folly of the NSABB decision goes much deeper and is just another aspect of the hysteria that has gripped the United States since the al Qaeda attack on 9/11 and the anthrax attack just a few weeks later. One aspect of this hysteria has been an attempt to make far too many things secret. Much attention has been paid to the over-classification of intelligence information, but the over-classification of scientific information is just as insidious.

No matter how many bits of intelligence or scientific information are made secret, the fact remains that determined terrorists have a multitude of fully described weapons systems to employ in an attack. By stifling publication of basic scientific research into materials that could have weapons potential, the opportunity to develop useful countermeasures becomes significantly diminished.

A real-world example from around the time of the 2001 attacks provides a perfect demonstration of the value of publication of basic information.

In his book *The Demon in the Freezer*, Richard Preston describes how an Australian scientist, Ronald J. Jackson, was conducting experiments aimed at developing new methods to control mouse populations by rendering them sterile.

Jackson's group worked with the mousepox virus, which is very closely related to the deadly human smallpox virus. From another description:

It was a classic purely scientific experiment. Australian researchers were interested in, of all things, mouse contraceptives. To this end they modified a mousepox virus to contain the gene for interleukin-4 (IL-4) as well as the mouse egg shell protein (ZP3). The egg shell protein was there to encourage a contraceptive response against the mouse's own eggs. The IL-4 gene was there to increase the immune response

against ZP3 protein, so as to make the contraceptive response more effective. The mousepox itself was a relatively benign virus, of little threat to the health of the mice themselves.

The results were, to put it mildly, unexpected. When the genetically engineered mousepox was put into mice the mice simply died. The supposedly benign mousepox virus was discovered to have become a killer. And not only a killer, but a super-killer: *100% of the mice died*. The scientists thought they might learn something useful about mouse contraception, but instead they had learned how to create a universally fatal virus. And this killer virus had been created via a very simple genetic manipulation, accessible to every country with a few PhD microbiologists. Imagine their surprise.

The same controversy now facing the bird flu researchers faced Jackson and his group. They first described their results in a poster at a meeting in Montpellier, France in September, 2000. The publication question was discussed by BBC in January, 2001:

The potential for abuse of this discovery is real but virus expert, Professor [John] Oxford, argues that to prevent all similar research would hinder efforts to tackle disease. Similarly concerns have been raised concerning publishing such findings and the freedom of the scientific press.

Before publishing their study the mousepox researchers consulted the Australian Department of Defence. The researchers reasons for wanting to publish were found to be justified when they explained that they wanted to make the scientific community aware that creating severe organisms can happen by

accident. A full report is due to appear in the Journal of Virology in February.

One aspect of the Jackson virus noted in Preston's book is that the engineered virus even killed most mice that had been vaccinated against the unchanged mousepox virus. This work was extended in 2009 and then used to develop a treatment plan that defeats the souped-up virus:

A research team backed by a federal grant has created a genetically engineered mousepox virus designed to evade vaccines, underscoring biotechnology's deadly potential and stirring debate over whether such research plays into the hands of terrorists.

The team at Saint Louis University, led by Mark Buller, created the superbug to figure out how to defeat it, a key goal of the government's anti-terrorism plan.

The researchers designed a two-drug cocktail that promises to defeat their exceptionally deadly virus. They hope to publish their work soon in a peer review journal.

/snip/

Some feared that publication of such information, regardless of whether scientists' intentions are altruistic, could help terrorists create biological weapons laced with genetically modified superbugs. Such germs are created by splicing drug-resistant genes in viruses normally defeated by vaccines.

/snip/

Buller counters that publicizing such work will deter terrorists by showing that scientists can build defenses against souped-up bioweapons. Buller also believes scientists must genetically engineer pathogens to

understand how to defeat them.

If Jackson's work had been suppressed, Buller wouldn't have known where to start in developing his virus for which he was able to develop an effective treatment. Development of an enhanced smallpox virus using Jackson's discovery seems highly unlikely, since smallpox has been eradicated from nature and it is believed that very few laboratory samples remain viable, so it seems virtually impossible for terrorists to get access to the virus in order to make the simple changes Jackson discovered.

However, in the case of the bird flu version of influenza virus, the basic flu virus is found worldwide and undergoes rapid changes. The fact that flu virus changes rapidly suggests that, as mentioned in the snippet above from ScienceInsider, a version similar that developed in the controversial experiment could even arise naturally. Those who would suppress publication of details on how Fouchier's group developed the pathogenic virus would prevent responsible researchers repeating the work in order to develop an effective treatment for the virus.

Since the virus could arise naturally, preventing work on a treatment is completely irresponsible.

No killer virus was produced and unleashed on the world because of publication of the Australian mouse virus work. And partly because the work was published, there now is a model treatment plan that could be used even if an engineered smallpox virus were released or evolved unexpectedly from an unknown reservoir.

Full publication of the bird flu virus work is essential for us to have the best possible chance for effective treatment if and when such a pathogenic version evolves in the wild.

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# WHY DIDN'T DOJ LOOK MORE CLOSELY AT DTRA'S ROLE IN 2001 ANTHRAX ATTACKS?

*[Note: This post has been updated to correct an error regarding the location of the Project BACUS facility. Erroneous material has not been deleted but has been put into strikethrough font.]*

In following up on yesterday's announcement that the family of Robert Stevens, the first victim in the 2001 anthrax attacks, has settled their wrongful death suit with the US Government for \$2.5 million, Marcy came across a number of documents recently released through the case. One of those documents got my attention from its title: "Integrated Capabilities Assessment of the U.S. Army Medical Research Institute of Infectious Diseases" (USAMRIID Capabilities pdf). I had anticipated that the document would be a technical assessment that would be relevant to the question of whether the facilities and equipment available to Bruce Ivins would have been appropriate for production of the anthrax spores used in the 2001 attacks. However, it turns out that the document was a report on a 1996 security assessment of the USAMRIID facility where Ivins worked. I almost moved on to other documents, but then I saw the list of agencies that conducted the review:

## (U) ASSESSMENT TEAM

(U) The assessment was conducted by an inter-agency team of engineers, analysts, and medical doctors with fourteen participants from the following organizations:

Argonne National Laboratory (ANL)  
Armed Forces Radiobiology Research Institute (AFRRI)  
U.S. Army Corps of Engineers, Omaha District (COE)  
Industrial Analysis Support Office (IASO)  
National Naval Medical Center, Infectious Disease Center  
National Security Agency (NSA)  
Defense Special Weapons Agency\Springfield Research Facility (DSWA\SRF)

The last entry on the list is what stands out. The Defense Special Weapons Agency was folded into the newly formed Defense Threat Reduction Agency, or DTRA, in late 1998. And DTRA was

important to me because they were the agency that carried out Project BACUS, first reported by Judy Miller on September 4, 2001. Miller's Times article described DTRA building a facility at the ~~Dugway Proving Grounds in Utah~~ Nevada Test Site with a 50 liter fermenter capable of producing bioweapons microbes. The project was an exercise to determine how difficult it would be for authorities to spot a bioweapons production facility built by terrorists. Later, I found that in her bioweapons book published in 2001, Miller disclosed that the BACUS facility also is capable of weaponizing bacterial spores.

With those bits of history in mind, some of the findings from the 1996 assessment stand out. From the introductory material, we find this summary:

■ Although some very good points are made throughout the assessment, there are a few issues that may require some additional attention. USAMRIID is at risk from a terrorist attack, especially with the growing role of biological weapons. It is believed that USAMRIID underestimates this risk. To safely operate in the new threat environment, USAMRIID must evolve to the next level of security.

It was noted that theft of biological agents from USAMRIID was a significant part of the threat to USAMRIID:

(U) Another issue that should be seriously considered is the consequences should agents be stolen. Agents that end up in the possession of either domestic terrorists or foreign terrorist states could easily become biological warfare capable. The results of such an incident could not only cause national level disaster but potential international havoc.

As if that warning didn't anticipate 2001 enough, they go further and point out that theft of a biological agent most likely would be by insiders:

■ Thefts of agents by insiders or outsiders. Although not very probable, it is believed that a theft would most likely occur from an insider simple from accessibility.

The report also makes a point about there being an inventory of biological agents at USAMRIID:

- **An inventory of agents is maintained and updated**
  - **Type, location and principal investigation**
  - **List is maintained in a single location**

A second document describes an assessment by the Defense Special Weapons Agency acting alone this time in a vulnerability assessment of the Fort Detrick area as a whole. This assessment was

conducted in early 1998 and USAMRIID was included among the facilities assessed. (USAMRIID Vulnerability 1998 pdf). This document is more heavily redacted than the 1996 document and appears to be more focused on the physical aspects of the facilities, but sabotage, criminal activity and terrorism were listed among the threats evaluated, so it seems likely that at least part of the 1998 work addressed the issues from 1996 listed above.

These new bits of information from the two documents reinforced my thinking about the possibility of the Project BACUS facility at Dugway the Nevada Test Site being the true source of the anthrax attack material. In the post cited above where I discussed the weaponization capability of BACUS, I also provided this explanation from McClatchy Reporter Greg Gordon on how the FBI eliminated Dugway personnel as suspects:

At Dugway, which unlike USAMRIID did make anthrax powder, the FBI examined who was present at work and during what hours on the days before the anthrax was postmarked. The bureau concluded that none of Dugway's researchers could have flown to New Jersey and back during their windows of opportunity.

So Dugway personnel were excluded as suspects because they could not have acted alone. If we instead allow for a small group within DTRA acting in concert, we can build the following hypothetical on how DTRA could have been involved in the attacks:

The BACUS facility was built by DTRA, and now we have DTRA personnel visiting USAMRIID in 1996 and 1998 to assess its security weaknesses. In 1996, they brought up the possibility of an internal theft of biological materials that could be grown into weapon material. They also noted that there is a central list with an inventory of material that could turn into threats. By the time they returned in 1998,

Bruce Ivins' RMR-1029 flask would have been on that list, as RMR-1029 was produced in 1997 (see this post for details).

In the case of DTRA, however, it likely was not necessary to steal material directly from RMR-1029 (even though it is possible that such an opportunity presented itself during visits for the 1998 assessment), because most of the material in RMR-1029 had been produced in a ~~different~~ fermenter at Dugway in the first place. It seems highly likely that at the time Project BACUS was getting underway at ~~Dugway~~ the Nevada Test Site materials from this work for Ivins still would have been present at Dugway from which the 2001 attack material could have been cultured. For example, old Petri dishes of cultures used to inoculate the production fermenter or reference samples retained when the spores were shipped to Ivins might have been present at Dugway and available to Project BACUS personnel. [Correction: the earlier version of this article mis-stated that the BACUS facility was at Dugway, when it in fact was constructed at the Nevada Test Site. We now must account for Project BACUS personnel visiting Dugway to get inoculum, getting it directly from USAMRIID during the 1998 security assesment, or getting it in a less direct manner.]

So now we have Project BACUS personnel with the appropriate facility for producing and weaponizing the material used in the attacks and likely with access to inoculum that would result in the genetic signature seen in the actual attack material.

That takes care of means and opportunity. How about motive? Take a look at the photo at the top of this post showing the huge facility that DTRA was able to build in 2005. Although the 9/11 attacks likely would be seen as the primary force behind this sort of investment in DTRA in this time period, the importance of the anthrax attacks for the ascendance of DTRA shouldn't be overlooked.

Once we get into the concept of a Defense agency

being involved, we then see the logic of the targeting. Tom Daschle and Pat Leahy were outspoken critics of the Patriot Act and their mailings went out just after publication of their criticism. Robert Stevens becomes an interesting early target because he was involved in publication of an unflattering photo of Jenna Bush in the National Enquirer.

The location of DTRA in suburban Washington places a large number of DTRA personnel within the same distance of the critical Princeton mailbox as Bruce Ivins. At least some DTRA personnel in the DC area have enough knowledge of anthrax that this 2008 conference (pdf) on the impact of an anthrax "event" had five DTRA attendees. It is not difficult to envision how the attack letters could have been prepared at the Project BACUS site at ~~Dugway~~ the Nevada Test Site and then sealed into a non-permeable pouches for transport to Princeton, where the pouches could have been slit with the letters sliding into the mailbox.

Of course, all of this "evidence" against DTRA is merely circumstantial. But to me, it is a circumstantial case that is far stronger than the FBI's circumstantial case against Bruce Ivins.