

# Bio Terror Bible

## EXPOSING THE COMING BIO-TERROR PANDEMIC

**BIOTERRORBIBLE.COM:** Despite the number of high-profile bio-terror plots and patsies, the historical record indicates that 99% of all bio-terror plots, attacks, "tests", "accidents" and drills are conducted by the government who has the means, the motive and the opportunity.

**Title:** 2001 Anthrax Attacks

**Date:** 2012

**Source:** [Wikipedia](#)

**Abstract:** The 2001 anthrax attacks in the United States, also known as Amerithrax from its [Federal Bureau of Investigation](#) (FBI) case name, occurred over the course of several weeks beginning on Tuesday, September 18, 2001, one week after the [September 11 attacks](#).

Letters containing [anthrax spores](#) were mailed to several news media offices and two [Democratic U.S. Senators](#), killing five people and infecting 17 others. According to the FBI, the ensuing investigation became "one of the largest and most complex in the history of law enforcement."

A major focus in the early years of the investigation was a [bio-weapons](#) expert named [Steven Hatfill](#), who was eventually exonerated. Another suspect, [Bruce Edwards Ivins](#), became a focus of investigation around April 4, 2005. Ivins was a scientist who worked at the government's biodefense labs at [Fort Detrick](#) in [Frederick, Maryland](#). On April 11, 2007, Ivins was put under periodic surveillance and an FBI document stated that "Bruce Edwards Ivins is an extremely sensitive suspect in the 2001 anthrax attacks". On July 27, 2008, Ivins killed himself with an overdose of [acetaminophen](#).

On August 6, 2008, despite having no direct evidence of his involvement, federal prosecutors declared Ivins to be the sole culprit of the crime. Two days later, Senator [Charles Grassley](#) and Rep. [Rush Holt](#) called for hearings into the DOJ and FBI's handling of the investigation. On February 19, 2010, the FBI formally closed its investigation. A review of the scientific methods used in the investigation at the [National Academy of Sciences](#), published in February 2011, cast doubt on the US government's conclusion that Ivins was the perpetrator. The review found that, although the type of anthrax used in the letters was correctly identified as the [Ames strain](#) of the bacterium, there was insufficient scientific evidence for the FBI's assertion that it originated from Ivins' laboratory. The FBI responded by pointing out that the review panel asserted that it would not be possible to reach a definite conclusion based on science alone, and said that a combination of factors led the FBI to conclude that Ivins would have been the perpetrator. Some information about the case related to Ivins' mental problems is still "under seal." Lawsuits filed by the widow of victim Bob Stevens have not yet been settled ([Wikipedia, 2012](#)).

### Overview

The attacks followed a week after the [September 11 terror attacks](#) which had caused the destruction of the [World Trade Center](#) in [New York City](#), damage to [The Pentagon](#) in [Arlington, Virginia](#) and the crash of an airliner in [Shanksville, Pennsylvania](#). The anthrax attacks came in two waves. The first set of [anthrax](#) letters had a [Trenton, New Jersey postmark](#) dated September 18, 2001. Five letters are believed to have been mailed at this time to: [ABC News](#), [CBS News](#), [NBC News](#) and the [New York Post](#), all located in New York City and to the [National Enquirer](#) at [American Media, Inc.](#) (AMI) in [Boca Raton, Florida](#).<sup>[15]</sup> [Robert Stevens](#), the first person who died from the mailings, worked at a tabloid called [Sun](#), also published by AMI, died on October 6, 2001, four days after entering a Florida hospital with an undiagnosed illness that caused him to vomit and be short of breath. Only the [New York Post](#) and [NBC News](#) letters were found; the existence of the other three letters is inferred because

individuals at ABC, CBS and AMI became infected with anthrax. Scientists examining the anthrax from the New York Post letter said it appeared as a coarse brown granular material looking like [Purina Dog Chow](#).

Two more anthrax letters, bearing the same Trenton postmark, were dated October 9, three weeks after the first mailing. The letters were addressed to two Democratic Senators, [Tom Daschle](#) of South Dakota and [Patrick Leahy](#) of Vermont. At the time, Daschle was the Senate Majority leader and Leahy was head of the Senate Judiciary Committee. The Daschle letter was opened by an aide, Grant Leslie, on October 15, and the government mail service was shut down. The unopened Leahy letter was discovered in an impounded mail bag on November 16. The Leahy letter had been misdirected to the State Department mail annex in [Sterling, Virginia](#), due to a misread [ZIP code](#); a postal worker there, David Hose, contracted inhalational anthrax.

More potent than the first anthrax letters, the material in the Senate letters was a highly refined dry powder consisting of about one gram of nearly pure spores. USAMRIID scientists' lack of familiarity with powdered anthrax resulted in initial reports that the powders had been "weaponized" with [silica](#). [19] Bioweapons experts who later viewed images of the attack anthrax saw no indication of "weaponization." Tests by Sandia National Laboratories in early 2002 confirmed that the attack powders were not weaponized.

At least 22 people developed anthrax infections, with 11 of the especially life-threatening inhalational variety. Five died of inhalational anthrax: Stevens; two employees of the Brentwood mail facility in Washington, D.C., Thomas Morris Jr. and Joseph Curseen; and two whose source of exposure to the bacteria is still unknown: Kathy Nguyen, a [Vietnamese](#) immigrant resident in the borough of the Bronx who worked in New York City, and Otilie Lundgren, a 94-year old widow of a prominent judge from [Oxford, Connecticut](#), who was the last known victim.

Because it took so long to identify a culprit, the 2001 anthrax attacks have been compared to the [Unabomber](#) attacks which took place from 1978 to 1995.

### **The Letters**

The anthrax letters are believed to have been mailed from [Princeton, New Jersey](#). [24] In August 2002, investigators found anthrax spores in a city street mailbox located at 10 [Nassau Street](#) near the [Princeton University](#) campus. About 600 mailboxes that could have been used to mail the letters were tested for anthrax, and the Nassau Street box was the only one to test positive.

The [New York Post](#) and [NBC News](#) letters contained the following note:

09-11-01  
THIS IS NEXT  
TAKE PENACILIN NOW  
DEATH TO AMERICA  
DEATH TO ISRAEL  
ALLAH IS GREAT

The second note that was addressed to Senators [Daschle](#) and [Leahy](#) read:

09-11-01  
YOU CAN NOT STOP US.  
WE HAVE THIS ANTHRAX.  
YOU DIE NOW.  
ARE YOU AFRAID?  
DEATH TO AMERICA.  
DEATH TO ISRAEL.  
ALLAH IS GREAT.

All the letters were copies made by a copy machine. The originals were never found. Each letter was trimmed to a slightly different size. The senate letter uses punctuation. The media letter does not. The

handwriting on the media letter (and envelopes) is roughly twice the size of the handwriting on the senate letter (and envelopes).

The envelopes addressed to Senators Daschle and Leahy had the return address:

4th Grade  
Greendale School  
Franklin Park NJ 08852

The address is fictitious. [Franklin Park, New Jersey](#), exists, but the [ZIP code](#) 08852 is for nearby [Monmouth Junction, New Jersey](#). There is no Greendale School in Franklin Park or Monmouth Junction, New Jersey, though there is a Greenbrook Elementary School in adjacent [South Brunswick Township, New Jersey](#), of which Monmouth Junction is a part.

### Hidden Message

In the letters sent to the media, the characters 'A' and 'T' were sometimes bolded or highlighted by tracing over, suggesting that the letters contained a hidden code.

The letters to The New York Post and Tom Brokaw contained a "hidden message" in such highlighted characters. Below is the media text with the highlighted A's and T's:

09-11-01  
THIS IS NEXT  
TAKE PENACILIN NOW  
DEATH TO AMERICA  
DEATH TO ISRAEL  
ALLAH IS GREAT

According to the [FBI](#) Summary Report issued on February 19, 2010, following the search of Ivins' home, cars, and office on November 1, 2007, investigators began examining his trash. A week later, just after 1 a.m. on the morning of November 8, Ivins was observed throwing away a copy of "a book entitled [Gödel, Escher, Bach: An Eternal Golden Braid](#), published by Douglas Hofstadter in 1979" and "a 1992 issue of American Scientist Journal which contained an article entitled 'The Linguistics of DNA,' and discussed, among other things, [codons](#) and hidden messages."

The book Gödel, Escher, Bach contains a lengthy description of the encoding/decoding procedures, including an illustration of hiding a message within a message by bolding certain characters. According to the FBI Summary Report, "[w]hen they lifted out just the bolded letters, investigators got TTT AAT TAT – an apparent hidden message." The 3-letter groups are codons, "meaning that each sequence of three nucleic acids will code for a specific amino acid."

TTT = Phenylalanine (single-letter designator **F**)  
AAT = Asparagine (single-letter designator **N**)  
TAT = Tyrosine (single-letter designator **Y**)

The FBI Summary Report proceeds to say: "From this analysis, two possible hidden meanings emerged: (1) 'FNY' – a verbal assault on New York, and (2) PAT – the nickname of [Dr. Ivins'] Former Colleague #2." Ivins was known to have a dislike for New York City, and four of the media letters had been sent to New York. The report states that it "was obviously impossible for the Task Force to determine with certainty that either of these two translations was correct," however, "the key point to the investigative analysis is that there is a hidden message, not so much what that message is." Ivins showed a fascination with codes and also had an interest in secrets and hidden messages. He also was familiar with biochemical codons.

### White House Precautions

On September 11, the president and [White House](#) staff began taking a regimen of [Cipro](#), a powerful antibiotic. The public interest group [Judicial Watch](#) filed lawsuits in June 2002 against federal agencies to obtain information about how, what and when the White House knew on 9/11 about the danger of anthrax weeks before the first known victim of the anthrax attacks. The issue, therefore, is

on what grounds governmental officials were alerted to prepare for the coming anthrax attacks, which were later traced to a U.S. army medical research institute.

### **Other Letters Reported in the Media**

The Amerithrax investigation involved many leads which took time to evaluate and resolve. Among them were numerous letters which initially appeared to be related to the anthrax attacks but were never directly linked to the anthrax attacks.

For example, before the New York letters were found, [hoax](#) letters mailed from St. Petersburg, Florida, were thought to be the anthrax letters or related to them. A letter received at the Microsoft offices in Reno, NV, after the discovery of the Daschle letters gave a [false positive](#) in a test for anthrax. Later, because the letter had been sent from Malaysia, Marilyn Thompson of the Washington Post connected the letter to [Steven Hatfill](#), whose girlfriend was from Malaysia. The letter merely contained a check and some pornography, and was neither a threat nor a hoax.

Also unconnected to the anthrax attacks was a large envelope received at [American Media, Inc.](#) in Boca Raton, Florida (which was among the victims of the attacks) in September 2001. It was addressed "Please forward to Jennifer Lopez c/o The Sun", containing a metal cigar tube with a cheap cigar inside, an empty can of chewing tobacco, a small detergent carton, pink powder, a Star of David pendant, and "a handwritten letter to Jennifer Lopez. The writer said how much he loved her and asked her to marry him." In his book "Amerithrax: The Hunt For The Anthrax Killer," Robert Graysmith suggested it was the "holy grail" for solving the case. Yet another letter, which mimicked the original anthrax letter to Senator Daschle, was mailed to Daschle from London in November 2001, at a time when Hatfill was in England, not far from London. Shortly before the discovery of the anthrax letters, someone sent a letter to authorities stating, "Dr. Assaad is a potential biological terrorist." No connection to the actual anthrax letters was ever found.

During the first years of the FBI's investigation, Don Foster, a professor of English at Vassar College, attempted to connect the anthrax letters and various hoax letters from the same period to Steven Hatfill. Foster's beliefs were published in Vanity Fair and Readers' Digest. Hatfill sued and was later exonerated. The lawsuit was settled out of court.

### **Anthrax Letter to Chile**

Shortly after the anthrax attacks in the United States, another letter containing traces of a second strain of anthrax was mailed to a pediatrician in Santiago, Chile. The letter was postmarked in Switzerland and sent via DHL, which used a Swiss bulk mail shipper in New York. This letter had an Orlando, Florida return address. No one is known to have been infected from it.

### **Anthrax Material**

The letters sent to the media contained a coarse brown material, while the letters sent to the two U.S. Senators contained a fine powder. The brown granular anthrax mostly caused skin infections, cutaneous [anthrax](#), although Kathy Nguyen's case of inhalation anthrax occurred at the same time and in the same general area as two cutaneous cases and several other exposures. The AMI letter which caused inhalation cases in Florida appears to have been mailed at the same time as the other media letters. The fine powder anthrax sent to the senators mostly caused the more dangerous form of infection known as inhalational anthrax. Postal worker Patrick O'Donnell and accountant Linda Burch contracted cutaneous anthrax from the Senate letters.

All of the material was derived from the same bacterial [strain](#) known as the [Ames strain](#). Prior to the attacks, the Ames strain was believed to be a common strain isolated from a cow in Iowa. After the attacks, the investigation discovered that it was a relatively rare strain isolated from a cow in Texas in 1981 - a critical fact in the investigation. First researched at the [United States Army Medical Research Institute of Infectious Diseases](#) (USAMRIID), Fort Detrick, Maryland, the Ames strain was then distributed to sixteen bio-research labs within the U.S. and three other locations (Canada, Sweden and the United Kingdom).

DNA sequencing of the anthrax taken from Robert Stevens (the first victim) was conducted at [The Institute for Genomic Research](#) (TIGR) beginning in December 2001. Sequencing was finished within a month and the analysis was published in the journal Science in early 2002.

[Radiocarbon dating](#) conducted by the [Lawrence Livermore National Laboratory](#) in June 2002 established that the anthrax was [cultured](#) no more than two years before the mailings. In October 2006 it was reported that the water used to process the anthrax spores came from a source in the northeastern United States.

### **Mutations**

Early in 2002, it was noted that there were variants or mutations in the anthrax powders from the attacks. Once the mutations were identified as Ames, TIGR became involved to help further identify the mutations. Most of their work was completed between 2002 and late 2003. Other experts in biodefense were contracted to assist in developing the assays. The assays were validated over the many years of the investigation, and the repository of Ames samples was also being built. From roughly 2003 to 2006 the repository and the screening of the 1,070 Ames samples in that repository were completed.

Based on the testing, the FBI concluded that flask RMR-1029 was the parent material of the anthrax spore powder. Ivins had sole control over that flask.

### **Controversy over coatings and additives**

On October 24, 2001, USAMRIID scientist Peter Jahrling was summoned to the White House after he reported signs that silicon had been added to anthrax recovered from the letter addressed to Daschle. Silicon would make the anthrax more capable of penetrating the lungs. Seven years later, Jahrling told the Los Angeles Times on September 17, 2008, "I believe I made an honest mistake," adding that he had been "overly impressed" by what he thought he saw under the microscope.

Richard Preston's book provides details of conversations and events at USAMRIID during the period from October 16, 2001 to October 25, 2001. Key scientists described to Preston what they were thinking during that period. When the Daschle spores first arrived at USAMRIID, the key concern was that smallpox viruses might be mixed with the spores. "Jahrling met [John] Ezzell in a hallway and said, in a loud voice, 'Goddamn it, John, we need to know if the powder is laced with smallpox.'" Thus, the initial search was for signs of smallpox viruses. On October 16, USAMRIID scientists began by examining spores that had been "in a milky white liquid" from "a field test done by the FBI's Hazardous Materials Response Unit." Liquid chemicals were then used to deactivate the spores. When scientists turned up the power on the electron beam of the Transmission Electron Microscope (TEM), "The spores began to ooze." According to Preston,

"'Whoa,' Jahrling muttered, hunched over the eyepieces. Something was boiling off the spores. 'This is clearly bad stuff,' he said. This was not your mother's anthrax. The spores had something in them, an additive, perhaps. Could this material have come from a national bioweapons program? From Iraq? Did al-Qaeda have anthrax capability that was this good?"

On October 25, 2001, the day after senior officials at the White House were informed that "additives" had been found in the anthrax, USAMRIID scientist Tom Geisbert took a different, irradiated sample of the Daschle anthrax to the Armed Forces Institute of Pathology (AFIP) to "find out if the powder contained any metals or elements." AFIP's energy dispersive X-ray spectrometer found "that there were two extra elements in the spores: silicon and oxygen. Silicon dioxide is glass. The anthrax terrorist or terrorists had put powdered glass, or silica, into the anthrax. The silica was powdered so finely that under Geisbert's electron microscope it had looked like fried-egg gunk dripping off the spores."

The "goop" Peter Jahrling had seen oozing from the spores was not seen when AFIP examined different spores killed with radiation.

The controversy began the day after the White House meeting. The New York Times reported, "Contradicting Some U.S. Officials, 3 Scientists Call Anthrax Powder High-Grade - Two Experts say the anthrax was altered to produce a more deadly weapon," and The Washington Post reported, "Additive Made Spores Deadlier." Countless news stories discussed the "additives" for the next eight years, continuing into 2010.

Later, the FBI claimed a "lone individual" could have created the anthrax spores for as little as \$2,500,



using a makeshift basement laboratory.

A number of press reports appeared suggesting the Senate anthrax had coatings and additives. [Newsweek](#) reported the anthrax sent to Senator Leahy had been coated with a chemical compound previously unknown to bioweapons experts. On October 28, 2002, The Washington Post reported, "FBI's Theory on Anthrax is Doubted" suggesting that the senate spores were coated with fumed silica. Two bioweapons experts utilized as consultants by the FBI, [Kenneth Alibek](#) and [Matthew Meselson](#), were shown electron micrographs of the anthrax from the Daschle letter. In a November 5, 2002 letter to the editors of the [Washington Post](#) they stated that they saw no evidence the anthrax spores had been coated with fumed silica.

The November 28, 2003, issue of Science magazine contained an article by Gary Mastumoto titled, "Anthrax Powder: State of the Art?" It suggests that the senate anthrax "was a diabolical advance in biological weapons technology." The article describes "a technique used to anchor silica nanoparticles to the surface of spores" using "polymerized glass." According to Stuart Jacobsen, "polymerized glass" is "a silane or siloxane compound that's been dissolved in an alcohol- based solvent like ethanol." It leaves a thin glassy coating that helps bind the silica to particle surfaces.

The August 2006 issue of Applied and Environmental Microbiology contained an article written by Douglas Beecher of the FBI labs in Quantico, VA. The article, titled "Forensic Application of Microbiological Culture Analysis to Identify Mail Intentionally Contaminated with Bacillus anthracis spores," states "Individuals familiar with the compositions of the powders in the letters have indicated that they were comprised simply of spores purified to different extents." The article also specifically criticizes "a widely circulated misconception" "that the spores were produced using additives and sophisticated engineering supposedly akin to military weapon production." The harm done by this misconception is described this way: "This idea is usually the basis for implying that the powders were inordinately dangerous compared to spores alone. The persistent credence given to this impression fosters erroneous preconceptions, which may misguide research and preparedness efforts and generally detract from the magnitude of hazards posed by simple spore preparations." Critics of the article complained that it did not provide supporting references.

### **False Report of Bentonite**

In late October 2001, [ABC](#) chief investigative correspondent [Brian Ross](#) linked the anthrax sample to [Saddam Hussein](#) because of its purportedly containing the unusual additive [bentonite](#). On October 26, Ross said, "sources tell ABCNEWS the anthrax in the tainted letter sent to Senate Majority Leader Tom Daschle was laced with [bentonite](#). The potent additive is known to have been used by only one country in producing biochemical weapons — Iraq. . . . [I]t is a trademark of Iraqi leader Saddam Hussein's biological weapons program . . . The discovery of bentonite came in an urgent series of tests conducted at Fort Detrick, Maryland, and elsewhere." On October 28, Ross said that "despite continued White House denials, four well-placed and separate sources have told ABC News that initial tests on the anthrax by the US Army at Fort Detrick, Maryland, have detected trace amounts of the chemical additives bentonite and silica", a charge that was repeated several times on October 28 and 29.

On October 29, 2001, White House spokesman Scott Stanzel "disputed reports that the anthrax sent to the Senate contained bentonite, an additive that ha[d] been used in Iraqi President Saddam Hussein's biological weapons program." Stanzel said, "Based on the test results we have, no bentonite has been found." The same day, Major General John Parker at a White House briefing stated, "We do know that we found silica in the samples. Now, we don't know what that motive would be, or why it would be there, or anything. But there is silica in the samples. And that led us to be absolutely sure that there was no aluminum in the sample, because the combination of a silicate, plus aluminum, is sort of the major ingredients of bentonite." Just over a week later, [Homeland Security](#) Director [Tom Ridge](#) in a White House press conference on November 7, 2001 stated, "The ingredient that we talked about before was silicon." Neither Ross at ABC nor anyone else publicly pursued any further claims about bentonite, despite Ross's original claim that "four well-placed and separate sources" had confirmed its detection.

### **Dispute over Silicon Content**

Some of the anthrax spores (65% - 75%) in the anthrax attack letters contained silicon inside their spore coats. Silicon was even found inside the natural spore coat of a spore that was still inside the

"mother germ," confirming that the element was not added after the spores were formed and purified, i.e., the spores were not "weaponized."

In 2010, a Japanese study reported, "silicon (Si) is considered to be a "quasiessential" element for most living organisms. However, silicate uptake in bacteria and its physiological functions have remained obscure." The study showed that spores from some species can contain as much as 6.3% dry weight of silicates. "For more than 20 years, significant levels of silicon had been reported in spores of at least some *Bacillus* species, including those of *Bacillus cereus*, a close relative of *B. anthracis*." According to spore expert Peter Setlow, "Since silicate accumulation in other organisms can impart structural rigidity, perhaps silicate plays such a role for spores as well."

The FBI lab concluded that 1.4% of the powder in the Leahy letter was silicon. Stuart Jacobson, a small-particle chemistry expert stated that:

"This is a shockingly high proportion [of silicon]. It is a number one would expect from the deliberate weaponization of anthrax, but not from any conceivable accidental contamination."

Scientists at the [Lawrence Livermore National Labs](#) conducted experiments in an attempt to determine if the amount of silicon in the growth medium was the controlling factor which caused silicon to accumulate inside a spore's natural coat. The Livermore scientists tried 56 different experiments, adding increasingly high amounts of silicon to the media. All of their results were far below the 1.4% level of the actual attack anthrax, some as low as .001%. The conclusion was that something other than the level of silicon controlled how much silicon was absorbed by the spores.

[Richard O. Spertzel](#), a microbiologist who led the United Nations' biological weapons inspections of Iraq, wrote that the anthrax used could not have come from the lab where Ivins worked. Spertzel said he remained skeptical of the Bureau's argument despite the new evidence presented on August 18, 2008 in an unusual FBI briefing for reporters. He questioned the FBI's claim that the powder was less than military grade, in part because of the presence of high levels of silica. The FBI had been unable to reproduce the attack spores with the high levels of silica. The FBI attributed the presence of high silica levels to "natural variability." This conclusion of the FBI contradicted its statements at an earlier point in the investigation, when the FBI had stated, based on the silicon content, that the anthrax was "weaponized," a step that made the powder more airy and required special scientific know-how.

"If there is that much silicon, it had to have been added," stated Jeffrey Adamovicz, who supervised Ivins's work at Fort Detrick. Adamovicz explained that the silicon in the attack anthrax could have been added via a large fermentor, which [Battelle](#) and some other facilities use" but "we did not use a fermentor to grow anthrax at USAMRIID . . . [and] We did not have the capability to add silicon compounds to anthrax spores." Ivins had neither the skills nor the means to attach silicon to anthrax spores. Richard Spertzel explained that the Fort Detrick facility did not handle anthrax in powdered form. "I don't think there's anyone there who would have the foggiest idea how to do it."

### **Investigation**

Authorities traveled to six different continents, interviewed over nine thousand people, conducted 67 searches and issued over 6,000 subpoenas. "Hundreds of FBI personnel worked the case at the outset, struggling to discern whether the Sept. 11 al-Qaida attacks and the anthrax murders were connected before eventually concluding that they were not." In September 2006, there were still 17 FBI agents and 10 [postal inspectors](#) assigned to the case, including FBI Special Agent [C. Frank Figliuzzi](#) who was the on-scene commander of the evidence recovery efforts.

### **Anthrax Archive Destroyed**

The FBI and Centers for Disease Control and Prevention both gave permission for Iowa State University to destroy the Iowa anthrax archive, and the archive was destroyed on October 10 and 11, 2001.

The FBI and [Centers for Disease Control and Prevention](#) (CDC) investigation has been hampered by the destruction of a large collection of anthrax spores collected over more than seven decades and kept in more than 100 vials at [Iowa State University](#), Ames, IA. Many scientists claim that the quick destruction of the anthrax spores collection in Iowa have eliminated crucial evidence useful for the investigation. A precise match between the strain of anthrax used in the attacks and a strain in the

collection would have offered hints as to when bacteria had been isolated and, perhaps, as to how widely it had been distributed to researchers. Such genetic clues could have given investigators the evidence necessary to identify the perpetrators.

### **Al Qaeda and Iraq Blamed for Attacks**

Immediately after the anthrax attacks, [White House](#) officials repeatedly pressured [FBI Director Robert Mueller](#) to prove that they were a second-wave assault by [Al Qaeda](#) following the [September 11 attacks](#). During the president's morning intelligence briefings, Mueller was "beaten up" for not producing proof that the killer spores were the handiwork of terrorist mastermind [Osama Bin Laden](#), according to a former aide. "They really wanted to blame somebody in the Middle East," the retired senior FBI official stated. The FBI knew early on that the anthrax used was of a consistency requiring sophisticated equipment and was unlikely to have been produced in some "cave". At the same time, both President Bush and Vice President Cheney in public statements speculated about the possibility of a link between the anthrax attacks and Al Qaeda. [The Guardian](#) reported in early October that American scientists had implicated Iraq as the source of the anthrax, and the next day the [Wall St. Journal](#) editorialized that Al Qaeda perpetrated the mailings, with Iraq the source of the anthrax. A few days later, [John McCain](#) suggested on the [David Letterman Show](#) that the anthrax may have come from Iraq, and the next week [ABC News](#) did a series of reports stating that three or four (depending on the report) sources had identified [bentonite](#) as an ingredient in the anthrax preparations, implicating Iraq.

Statements by the White House and public officials quickly proved that there was no bentonite in the attack anthrax. "No tests ever found or even suggested the presence of bentonite. The claim was just concocted from the start. It just never happened." But, a few journalists repeated ABC's bentonite report for several years, even after the invasion of Iraq, as evidence that Saddam not only possessed ["weapons of mass destruction"](#), but had used them in attacks on the United States.

### **"Person of interest" - Steven Jay Hatfill**

In October 2001, as soon as it became known that the Ames strain of anthrax had been used in the attacks, [Barbara Hatch Rosenberg](#) and others began suggesting that the attack might be the work of a "rogue CIA agent," and they provided the name of the "most likely" person to the FBI. On November 21, 2001, she made similar statements to the Biological and Toxic Weapons convention in Geneva. In December 2001, she published "A Compilation of Evidence and Comments on the Source of the Mailed Anthrax" via the web site of [The Federation of American Scientists](#) (FAS) suggesting the attacks were "perpetrated with the unwitting assistance of a sophisticated government program." She discussed the case with reporters from the [New York Times](#). On January 4, 2002, [Nicholas Kristof](#) of the New York Times published a column titled "Profile of a Killer" stating "I think I know who sent out the anthrax last fall." For months, Rosenberg gives speeches and states her beliefs to many reporters from around the world. She posted "Analysis of the Anthrax Attacks" to the FAS web site on January 17, 2002. On February 5, 2002 she published "Is the FBI Dragging Its Feet?" In response, the FBI stated, "There is no prime suspect in this case at this time." The Washington Post reported, "FBI officials over the last week have flatly discounted Dr. Rosenberg's claims." On June 13, 2002, Rosenberg posted "The Anthrax Case: What the FBI Knows" to the FAS site. On June 18, 2002, Rosenberg presented her theories to senate staffers working for Senators Daschle and Leahy. One week later, on June 25, the FBI publicly searched Hatfill's apartment. He becomes a household name. "The FBI also pointed out that Hatfill had agreed to the search and is not considered a suspect." American Prospect and Salon.com report, "Hatfill is not a suspect in the anthrax case, the FBI says." On August 3, 2002, Rosenberg tells the media that the FBI asked her if "a team of government scientists could be trying to [frame](#) Steven J. Hatfill." In August 2002, [Attorney General John Ashcroft](#) labeled [Steven Hatfill](#) a "person of interest" in a press conference, no charges were brought against him. Hatfill, a [virologist](#), vehemently denied he had anything to do with the anthrax (bacteria) mailings and sued the FBI, the Justice Department, John Ashcroft, [Alberto Gonzales](#), and others for violating his [constitutional](#) rights and for violating the [Privacy Act](#). On June 27, 2008, the Department of Justice announced it would settle Hatfill's case for \$5.8 million.

He has also sued [The New York Times](#) and its columnist [Nicholas D. Kristof](#) and, separately, [Donald Foster](#), [Vanity Fair](#), [Reader's Digest](#), and [Vassar College](#), for [defamation](#). The case against The New York Times was initially dismissed, but it was reinstated on appeal. The dismissal was upheld by the appeals court on July 14, 2008 on the basis that Hatfill was a "public figure" and malice had not been proven. The case was appealed to the U.S. Supreme Court and was rejected by the Supreme Court



on December 15, 2008. Hatfill's lawsuit against [Vanity Fair](#) and [Reader's Digest](#) was settled out of court in February 2007. No details of the financial settlement were made public. The statement released by Hatfill's lawyers only says "Dr. Hatfill's lawsuit has now been resolved to the mutual satisfaction of all the parties."

### **Bruce Edwards Ivins**

On August 1, 2008 the Associated Press reported that [Bruce E. Ivins](#), 62, who worked for the past 18 years at the government's bio defense labs at [Fort Detrick](#), had apparently committed suicide. Ivins was a top U.S. biodefense researcher who worked at Ft. Detrick. It was widely reported the FBI was about to lay charges on him, but the evidence was largely circumstantial and the grand jury in Washington reported it was not ready to issue an indictment. Rep. [Rush Holt](#), who represents the district where the anthrax letters were mailed, said circumstantial evidence was not enough and asked FBI Director [Robert S. Mueller](#) to appear before Congress to provide an account of the investigation. Ivins's death leaves two unanswered puzzles. Scientists familiar with germ warfare said there was no evidence that he had the skills to turn anthrax into an inhalable powder. According to Alan Zelicoff who aided the F.B.I. investigation "I don't think a vaccine specialist could do it . . . This is aerosol physics, not biology".

W. Russell Byrne, a colleague who worked in the bacteriology division of the Fort Detrick research facility, said Ivins was "hounded" by FBI agents who raided his home twice, and he was hospitalized for depression during that time. According to Byrne and local police, Ivins was removed from his workplace out of fears that he might harm himself or others. "I think he was just psychologically exhausted by the whole process," Byrne said. "There are people who you just know are ticking bombs," Byrne said. "He was not one of them."

On August 6, 2008, federal prosecutors declared Ivins to be the sole culprit of the crime when [Jeffrey Taylor](#), the U.S. attorney for the [District of Columbia](#) laid out the case against Ivins to the public. The main evidence is already in dispute. Taylor stated "The genetically unique parent material of the anthrax spores . . . was created and solely maintained by Dr. Ivins." But other experts disagree, including biological warfare and anthrax expert, [Meryl Nass](#), who stated: "Let me reiterate: No matter how good the microbial forensics may be, they can only, at best, link the anthrax to a particular strain and lab. They cannot link it to any individual." At least 10 scientists had regular access to the laboratory and its anthrax stock, and possibly quite a few more, counting visitors from other institutions, and workers at laboratories in Ohio and New Mexico that had received anthrax samples from the flask.

### **Mental Health Issues**

More than a year before the anthrax attacks of 2001 that killed five people, Bruce E. Ivins told a mental health counselor that he was interested in a young woman who lived out of town and that he had "mixed poison" that he took with him when he went to watch her play in a soccer match.

"If she lost, he was going to poison her," said the counselor, who treated Ivins at a Frederick clinic four or five times during the summer of 2000. She said Ivins emphasized that he was a skillful scientist who "knew how to do things without people finding out."

The counselor "was so alarmed by her client's emotionless description of a specific, homicidal plan that she immediately alerted the head of her clinic and a psychiatrist who had treated Ivins, as well as the Frederick Police Department. She said the police told her that nothing could be done because she did not have the woman's address or last name."

Nine years later, when Ivins told a different therapist that he planned to kill his co-workers and "go out in a blaze of glory," that therapist stated in an application for a restraining order that Ivins had a "history dating to his graduate days of homicidal threats, actions, plans, threats & actions towards therapist [sic]. Dr. David Irwin his psychiatrist called him homicidal, sociopathic with clear intentions".

### **Evidence of Consciousness of Guilt**

According to the report on the Amerithrax investigation published by the Department of Justice, Ivins engaged in actions and made statements that indicate a consciousness of guilt. He took environmental samples in his laboratory without authorization and decontaminated areas in which he had worked without reporting his activities. He also threw away a book about secret codes, which

described methods similar to those used in the anthrax letters. Ivins threatened other scientists, made equivocal statements about his possible involvement in a conversation with an acquaintance, and put together outlandish theories in an effort to shift the blame for the anthrax mailings to people close to him.

The FBI found that Ivins' justifications for his actions after the environmental sampling, as well as his explanations for a subsequent sampling, contradicted his explanation for the motives for the sampling.

According to the Department of Justice, flask RMR-1029, which was created and controlled by Ivins, was used to create "the murder weapon."[\[](#)

When Ivins was first asked to provide samples from flask RMR-1029 in February 2002, he submitted samples which were improperly prepared and which would therefore not be usable as evidence in court. When this was realized by the FBI in April 2002, they subpoenaed him for new samples from flask RMR-1029 and provided instructions on how the samples were to be prepared. The new samples submitted by Ivins in April did not contain the mutations that were known to be in flask RMR-1029 due to the testing of samples from RMR-1029 that had been submitted from another lab. "Thus, the evidence suggested that Dr. Ivins obstructed the investigation either by providing a submission which was not in compliance with the subpoena, or worse, that he deliberately submitted a false sample."

"At a group therapy session on July 9, 2008, Dr. Ivins was particularly upset. He revealed to the counselor and psychologist leading the group, and other members of the group, that he was a suspect in the anthrax investigation and that he was angry at the investigators, the government, and the system in general. He said he was not going to face the death penalty, but instead had a plan to 'take out' co-workers and other individuals who had wronged him. He noted that it was possible, with a plan, to commit murder and not make a mess. He stated that he had a bullet-proof vest, and a list of co-workers who had wronged him, and said that he was going to obtain a Glock firearm from his son within the next day, because federal agents were watching him and he could not obtain a weapon on his own. He added that he was going to 'go out in a blaze of glory.'"

While in a mental hospital, Ivins made menacing phone calls to his social worker Jean Duley on July 11 and 12. Intimidation of witnesses is another example of "consciousness of guilt."

#### Ivins's "Non-Denial Denials"

"The letters accompanying the anthrax read like the work of a jihadist, suggesting that their author was an Arab extremist—or someone masquerading as one — yet also advised recipients to take antibiotics, implying that whoever had mailed them never really intended to harm anyone." Experts have suggested that the anthrax mailings included a number of indications that the mailer was trying to avoid harming anyone with his warning letters. Examples: (1) None of the intended recipients of the letters were infected. (2) The seams on the backs of the envelopes were taped over as if to make certain the powders couldn't escape through open seams. (3) The letters were folded with the "pharmaceutical fold," which was used for centuries to safely contain and transport doses of powdered medicines (and currently to safely hold trace evidence). (4) The media letters provided "medical advice": "TAKE PENACILIN NOW." (5) The senate letters informed the recipient that the powder was anthrax: "WE HAVE THIS ANTHRAX." And, (6) at the time of the mailings, it was generally believed that such powders could not escape from a sealed envelope - except through the two open corners where a letter opener is inserted, and those corners had been taped shut.

"On June 5, 2008, Dr. Ivins had a conversation with a witness, during which he made a series of statements about the anthrax mailings that could best be characterized as '[non-denial denials](#).'" When asked about the anthrax attacks and whether he could have had anything to do with them, here are parts of some of Ivins' responses:

"I can tell you I don't have it in my heart to kill anybody"  
"I do not have any recollection of ever have doing anything like that"  
"I can tell you, I am not a killer at heart"  
"If I found out I was involved in some way, and, and . . ."  
"I don't think of myself as a vicious, a, a nasty evil person."

"I don't like to hurt people, accidentally, in, in any way. And [several scientists at USAMRIID] wouldn't do that. And I, in my right mind wouldn't do it [laughs] . . . But it's still, but I still feel responsibility because it [RMR-1029] wasn't locked up at the time . . ."

In an interview with a Confidential Human Resource (CHR) which took place on January 8, 2008, the CHR told FBI agents that since Ivins' last interview with the FBI (on November 1, 2007), Ivins has "on occasion spontaneously declared at work, "I could never intentionally kill or hurt someone."

### **Doubts about FBI Conclusions**

After the [FBI](#) announced that Ivins acted alone, many people with a broad range of political views, some of whom were colleagues of Ivins, expressed doubts. Reasons cited for these doubts include that Ivins was only one of 100 people who could have worked with the vial used in the attacks, and that the FBI was unable either to find any anthrax spores at Ivins' house or on his other belongings nor place him near the New Jersey mailbox from which the anthrax was mailed.

Alternative theories proposed include FBI incompetence, that [Syria](#) or [Iraq](#) directed the attacks, or that similar to some [9/11 conspiracy theories](#) the U.S. government knew in advance that the attacks would occur. [Senator Patrick Leahy](#) who is Senate Judiciary Committee chairman and who had received an anthrax-tainted letter, said the FBI has not produced convincing evidence in the case. [The Washington Post](#) called for an independent investigation in the case saying that reporters and scientists were poking holes in the case.

On September 17, 2008, Senator Patrick Leahy told FBI Director Robert Mueller during testimony before his the Judiciary Committee Leahy chairs, that he did not believe Army scientist Bruce Ivins acted alone in the 2001 anthrax attacks, stating:

"I believe there are others involved, either as accessories before or accessories after the fact. I believe that there are others out there. I believe there are others who could be charged with murder."

Tom Daschle, the other Democratic senator targeted, believes Ivins was the sole culprit.

Although the FBI matched the genetic origin of the attack spores to the spores in Ivins' flask RMR-1029, the spores within flask RMR-1029 did not have same silicon chemical "fingerprint" as the spores in the attack letters. The implication is that spores taken out of flask RMR-1029 had been used to grow new spores for the mailings.

On April 22, 2010, the National Academy of Sciences review committee heard testimony from Henry Heine, a microbiologist who was formerly employed at the Army's biodefense laboratory in Maryland where Ivins had worked. Heine told the panel that it was impossible that the deadly spores had been produced undetected in Ivins's laboratory, as maintained by the F.B.I. He testified that using the equipment at the army lab, at least a year of intensive work would have been required to produce the quantity of spores contained in the letters, and that such an intensive effort could not have escaped the attention of colleagues. Heine also told the panel that lab technicians who worked closely with Ivins have told him they saw no such work. He stated further that where Ivins worked biological containment measures were inadequate to prevent the Anthrax spores from floating out of the laboratory into animal cages and offices. "You'd have had dead animals or dead people," Heine said. According to Science Magazine, "Heine caveated his remarks by saying that he himself had no experience making anthrax stocks." Science magazine provides additional comments by Adam Driks of Loyola who stated that the amount of anthrax in the letters could be made in "a number of days." Emails by Ivins state, "We can presently make  $1 \times 10^{12}$  [one trillion] spores per week." And The New York Times reported on May 7, 2002, that the Leahy letter contained .871 grams of anthrax powder [equivalent to 871 billion spores]

In a technical article to be published in the [Journal of Bioterrorism & Biodefense](#) in 2011, three scientists argued that the preparation of the spores did require a high level of sophistication, contrary to the position taken by federal authorities that the material would have been unsophisticated. The paper is largely based on the high level of [tin](#) found in the anthrax mailed, and the tin may have been used to encapsulate the spores, which required processing not possible in laboratories to which Ivins had access. According to the scientific article, this raises the possibility that Ivins was not the perpetrator or did not act alone. Earlier in the investigation, the FBI had named tin as a substance "of

interest" but the final report makes no mention of it and fails to address the high tin content. The chairwoman of the [National Academy of Science](#) panel that reviewed the FBI's scientific work and the director of a separate review by the [Government Accountability Office](#) said that the issues raised by the paper should be addressed. Other scientists, such as Johnathan L. Kiel, a retired Air Force scientist who worked on anthrax for many years, did not agree with the authors' assessments – saying that the tin might be a random contaminant rather than a clue to complex processing. Kiel said that tin might simply be picked up by the spores as a result of the use of metal lab containers, although he had not tested that idea. A spokesman for the Justice Department said that the investigators continue to believe that Ivins acted alone.

### **Evidence of 9/11 Link to Anthrax**

Experts at the [Johns Hopkins Center for Civilian Biodefense Strategies](#) (CCBS) concluded that one of the nineteen 9/11 hijackers, [Ahmed al-Haznawi](#), likely had been exposed to anthrax. Alhaznawi and another man arrived in the emergency room of a Fort Lauderdale, Florida, hospital presenting an ugly, dark lesion on his leg that he said he developed after bumping into a suitcase two months earlier. Christos Tsonas thought the injury was curious, cleaned it and prescribed an antibiotic. After September 11 federal investigators found the medicine prescribed by Tsonas among the possessions of Alhaznawi.

Tsonas came to believe that Alhaznawi's lesion "was consistent with cutaneous anthrax," a disease that causes skin lesions. The experts at the Johns Hopkins Center for Civilian Biodefense Strategies interviewed Tsonas and prepared a memorandum that was circulated among top government officials. The memorandum found that the diagnosis of cutaneous anthrax was "the most probable and coherent interpretation of the data available" and that "such a conclusion of course raises the possibility that the hijackers were handling anthrax and were the perpetrators of the anthrax letter attacks."

Several 9/11 hijackers, including Alhaznawi, lived in Boca Raton, Florida, near American Media Inc. workplace of the first victim of the anthrax attacks. They also attended flight school there. Some of the hijackers rented apartments from a real estate agent who was the wife of an editor of The Sun, a publication of American Media. Further, a pharmacist in Delray Beach, Florida, stated he had told the F.B.I. that two of the 9/11 hijackers, [Mohamed Atta](#) and [Marwan al-Shehhi](#), entered the pharmacy seeking medicine to treat irritations on Mr. Atta's hands.

If the 9/11 hijackers were involved in the anthrax attacks they would probably have needed an accomplice to mail the tainted letters since the four recovered anthrax letters were postmarked on September 18 and October 9.

### **Congressional Oversight**

Congressman Rush Holt, whose district in New Jersey includes a mailbox from which anthrax letters are believed to have been mailed, called for an investigation of the anthrax attacks by Congress or by an independent commission he proposed in a bill entitled the Anthrax Attacks Investigation Act (H.R. 1248). Other members of Congress have also called for an independent investigation.

An official of the U.S. administration said in March 2010 that President Barack Obama probably would veto legislation authorizing the next budget for U.S. intelligence agencies if it called for a new investigation into the 2001 anthrax attacks, as such an investigation "would undermine public confidence" in an FBI probe. In a letter to congressional leaders, [Peter Orszag](#), the director of the [Office of Management and Budget](#) at the time, wrote that an investigation would be "duplicative", and expressed concern about the appearance and precedent involved when Congress commissions an agency Inspector General to replicate a criminal investigation, but did not list the anthrax investigation as an issue that was serious enough to advise the President to veto the entire bill.

### **National Academy of Sciences Review**

In what appears to have been a response to lingering skepticism, on September 16, 2008, the FBI asked the [National Academy of Sciences](#) (NAS) to conduct an independent review of the scientific evidence that led the agency to implicate U.S. Army researcher Bruce Ivins in the anthrax letter attacks of 2001. However, despite taking this action, Director Mueller said that the scientific methods applied in the investigation had already been vetted by the research community through the involvement of several dozen nonagency scientists.

The NAS review officially got underway on April 24, 2009. While the scope of the project included the consideration of facts and data surrounding the investigation of the 2001 *Bacillus anthracis* mailings, as well as a review of the principles and methods used by the FBI, the NAS committee was not given the task to "undertake an assessment of the probative value of the scientific evidence in any specific component of the investigation, prosecution, or civil litigation," nor to offer any view on the guilt or innocence of any of the involved people.

In mid-2009, the NAS committee held public sessions, in which presentations were made by scientists, including scientists from the FBI laboratories. In September 2009, scientists, including [Paul Keim](#) of Northern Arizona University, Joseph Michael of Sandia National Laboratory and Peter Weber of Lawrence Livermore National Laboratory, presented their findings. In one of the presentations, scientists reported that they did not find any silica particles on the outside of the spores (i.e., there was no "weaponization"[\[citation needed\]](#)), and only that only some of the spores in the anthrax letters contained [silicon](#) inside their spore coats. One of the spores was still inside the "mother germ", yet it already had silicon inside its spore coat.

The NAS committee released its report on February 15, 2011, concluding that it was "impossible to reach any definitive conclusion about the origins of the anthrax in the letters, based solely on the available scientific evidence". The report also challenged the FBI and U.S. Justice Department's conclusion that a single-spore batch of anthrax maintained by Ivins at his laboratory at Fort Detrick in Maryland was the parent material for the spores in the anthrax letters.

## **Aftermath**

### **Contamination and Cleanup**

Dozens of buildings were contaminated with anthrax as a result of the mailings. AMI moved to a different building. The decontamination of the Brentwood postal facility took 26 months and cost \$130 million. The [Hamilton, New Jersey postal facility](#)[\[172\]](#) remained closed until March 2005; its cleanup cost \$65 million. The [United States Environmental Protection Agency](#) spent \$41.7 million to clean up government buildings in Washington, D.C. One FBI document said the total damage exceeded \$1 billion.

The principal means of decontamination is [fumigation](#) with [chlorine dioxide](#) gas. This was done by an Albany, NY-based company called Sabre.

### **Political Effects**

The anthrax attacks, as well as the September 11, 2001 attacks, have spurred significant increases in U.S. government funding for biological warfare research and preparedness. For example, biowarfare-related funding at the [National Institute of Allergy and Infectious Diseases](#) (NIAID) increased by \$1.5 billion in 2003. In 2004, Congress passed the [Project Bioshield Act](#), which provides \$5.6 billion over ten years for the purchase of new vaccines and drugs.

A theory that Iraq was behind the attacks, based upon the evidence that the powder was weaponized and some reports of alleged meetings between 9/11 conspirators and Iraqi officials, may have contributed to the momentum which ultimately led to the 2003 war.

After the 9/11 attacks and the subsequent anthrax mailings, lawmakers were pressed for legislation to combat further terrorist acts. Under heavy pressure from then [Attorney General John D. Ashcroft](#), a bipartisan compromise in the House Judiciary Committee allowed legislation for the [Patriot Act](#) to move forward for full consideration later that month.

### **Health**

Years after the attack, several anthrax victims reported lingering health problems including fatigue, shortness of breath and memory loss. The cause of the reported symptoms is unknown.

A 2004 study proposed that the total number of people harmed by the anthrax attacks of 2001 should be raised to 68.

A [postal inspector](#), William Paliscak, became severely ill and disabled after removing an anthrax-



contaminated air filter from the [Brentwood](#) mail facility on October 19, 2001. Although his doctors, [Tyler Cymet](#) and [Gary Kerkvliet](#), believe that the illness was caused by anthrax exposure, blood tests did not find anthrax bacteria or [antibodies](#), and therefore the [CDC](#) does not recognize it as a case of inhalational anthrax ([Wikipedia, 2012](#)).

**Title:** Anthrax Hits White House Annex

**Date:** October 23, 2001

**Source:** [Wired](#)

**Abstract:** The nation's anthrax scare hit the White House on Tuesday with the discovery of a small concentration of spores at an offsite mail processing center. ``We're working hard at finding out who's doing this," President Bush said as bioterrorism claimed fresh victims along the East Coast.

Bush said the executive mansion was safe - and twice said ``I don't have anthrax"- despite the discovery of spores on a machine at the mail site a few miles from the White House. Spokesman Ari Fleischer said all employees at the site as well as mailroom workers in the White House itself were being ``swabbed and tested" for the disease.

The startling disclosure capped a rapidly unfolding series of events in which officials announced additional confirmed and suspected cases of inhalation anthrax, Congress returned to work, and the administration pledged a more aggressive testing and treatment program if additional tainted letters are discovered.

Before the current outbreak, ``We had had no cases of inhalation anthrax in a mail sorting facility," said Jeffrey Koplan, head of the Centers for Disease Control and Prevention. ``There was no reason to think this was a possibility."

For his part, Health and Human Services Secretary Tommy Thompson pushed Bayer Corp. to lower its price for Cipro, a front-line anti-anthrax drug.

Outside the White House, House Democratic Leader Dick Gephardt said ``weapons-grade material" was responsible for spreading infections. And overseas, the State Department issued a worldwide alert warning U.S. citizens to be mindful of the risk of anthrax or other biological or chemical agents.

Six weeks after terrorists killed thousands in Washington and New York, administration officials drew a rhetorical connection to the outbreak of anthrax. The FBI released the text of three anthrax-tainted letters - each of them dated Sept. 11, the date that hijackers flew planes into the World Trade Center in New York and the Pentagon.

Bush believes the spread of anthrax ``is another example of how this is a two-front war: that there are people who would seek to do evil to this country; that there are people who mean us harm," Fleischer said. ``And they have mailed letters, obviously, to high impact places - the news media, to Majority Leader (Tom) Daschle, perhaps, in this case, to the White House."

The administration has been buffeted by criticism for waiting several days after the discovery of the letter addressed to Daschle before ordering testing at the central postal facility for the nation's capital. Without acknowledging any shortcomings, several officials pointed to changes in their outlook.

``We're going to err on the side of caution in making sure people are protected," said Thompson.

``When a case of anthrax does emerge we will immediately move in at any and all postal facilities that might have handled that piece of mail," he said. He spoke as the U.S. Postal Service offered antibiotics as a precaution to 7,000 employees of six Manhattan post offices that may have been in the path of anthrax-contaminated letters.

Koplan, appearing before a separate panel, said, ``the public health system of the United States is severely challenged at this moment."

The latest evidence of that was in the Washington area and New Jersey, at postal facilities known to have processed one or more anthrax-tainted letters in the past few weeks. Both were closed after the presence of anthrax was detected.

Postal Service Vice President Deborah Willhite said of the Washington facility: ``It's a crime scene because someone has been murdered."

There, officials confirmed two postal worker deaths due to anthrax, and said the disease had sent more to the hospital. Thousands more mail employees were undoing tests and taking antibiotics.

District of Columbia Mayor Anthony Williams said final laboratory results confirmed inhalation anthrax as the cause of death of two men who worked at the city's main Brentwood postal facility. Other officials said two more employees remain hospitalized with the disease, and said anthrax was suspected in an additional four cases. Anthrax-laced mail delivered last week to Daschle's office was postmarked in Trenton, N.J., and went through the Brentwood facility.

``We do not need further testing," said Dr. Ivan Walks, the city's top health official. ``But we need to treat. And we need to treat quickly." He urged anyone who visited the back area of the central mail facility to come in for antibiotics.

Earlier, New Jersey officials announced that a woman had been hospitalized in the Trenton area and was presumed to be suffering from the inhalation form of the disease. ``She's holding her own," said Dr. Eddy Bresnitz, the state epidemiologist.

The woman, whose name was not released, works at a Trenton-area postal facility believed to have processed at least three anthrax-laced letters - one to Daschle, the second to NBC News anchorman Tom Brokaw and the third to the New York Post.

Still later, officials in Montgomery County, Md., said they suspected anthrax in the case of two postal workers from Brentwood, both of whom were being treated at a local hospital. and state officials in Towson, Md., said one patient at a separate hospital is suspected to have the disease.

The FBI released copies of the spiked letters mailed to Daschle, Brokaw and the New York Post. All three contained anti-American and anti-Israeli messages.

``You can not stop us. We have this anthrax. You die now. Are you afraid? Death to America. Death to Israel. Allah is great," said the letter to Daschle.

The discovery of that letter last week touched off the anthrax scare on Capitol Hill that has yet to abate.

The House and Senate reopened for business Tuesday, but the office buildings that house lawmakers and their aides were shut, some of them possibly for days.

``I think we have to assume there is a possibility that other mail could be contaminated," said Daschle, D-S.D. He said some of the mail that has been piling up since last Monday may have to be destroyed.

At day's end, Senate leaders announced plans to reopen one of the three office buildings on their side of the Capitol on Wednesday. Two sources, speaking on condition of anonymity, said the decision overruled an initial recommendation from scientists and health officials who wanted it to remain closed while decontamination proceeded in nearby buildings ([Wired, 2001](#)).

**Title:** Anthrax Vaccine To Go To 'High Risk Workers'

**Date:** October 28, 2001

**Source:** [CNN](#)

**Abstract:** The Centers for Disease Control and Prevention will administer anthrax vaccine to "high

risk" laboratory workers and decontamination specialists and may later expand the program to some postal workers, the federal agency said Friday.

Dr. David Fleming, the CDC's deputy director of science and public health, said the agency decided to vaccinate those involved in the anthrax investigation because they were "constant exposure" to the anthrax bacteria.

He also said a CDC task force is assessing whether some postal workers and others should also be vaccinated, and expects to announce a decision within two weeks.

Traces of anthrax found at a CIA mail sorting facility are "medically insignificant," an official said, but the building in Langley, Virginia, has joined other federal buildings, such as the U.S. Supreme Court, that have been closed for environmental testing and cleaning.

The CIA, like many U.S. agencies, gets its mail from Washington's main processing center on Brentwood Road, where two postal workers have died from inhalation anthrax and a number of others are being treated in hospitals.

How the contamination is being handled at postal facilities appears headed for court. The New York metro postal union has given officials until Monday to close the contaminated Manhattan processing center. The Miami, Florida-area union said it plans to ask a federal judge for "expedited arbitration" with the Postal Service. The union wants to address grievances stemming from the three-week series of anthrax-in-the-mail investigations and reports, according to a union representative and an attorney for the union.

### **Case History**

Florida -- Robert Stevens, dead of inhalation anthrax

Washington -- Two postal workers from the Brentwood facility, dead from inhalation anthrax.

Washington -- Two Capitol Hill postal workers, inhalation anthrax

Washington area -- U.S. State Department mailroom employee, inhalation anthrax

Florida -- Ernesto Blanco, diagnosed with inhaled anthrax infection, was released from the hospital on October 24

New Jersey -- A Hamilton Township postal worker, inhalation anthrax

New Jersey, New York -- five cases of cutaneous anthrax

Exposures -- 32

Washington -- 28 people in the Hart Senate Office Building

Florida -- Stephanie Dailey, an American Media Inc. employee

New York -- One police officer, two lab technicians who were investigating NBC News facility

### **Bottom Line**

As the anthrax contamination spreads, health officials are changing the way they are handling the investigation and treatment of the bacterial threat. Weeks after the probe of anthrax threats began, those on the front lines of the investigation will get the anthrax vaccine. With anthrax spreading through the mail, some postal workers are angry that more has not been done to protect them from the potentially deadly bacteria ([CNN, 2001](#)).

**Title:** New York Hospital Worker Dies From Anthrax

**Date:** October 31, 2001

**Source:** [Guardian](#)

**Abstract:** A 61-year-old New York hospital worker today became the fourth person in the US to die of inhalation anthrax, and the first death not connected with the postal service, government or media.

Kathy Nguyen worked in a storage supply room in the basement of the Manhattan Eye, Ear and Throat Hospital, which was located next to the mailroom until a few days ago, but no suspicious letter has been found in the hospital.

Only one other case, a 51-year-old accountant from New Jersey suffering from skin anthrax, has had no connection to the obvious "targets": large news organisations, the government or the postal workers who sort and carry infected mail. Both cases raised the possibility that anthrax letters are contaminating other mail or that the spores are reaching people by means other than the mail.

Hundreds of the Ms Nguyen's fellow hospital workers were being given antibiotics as a precaution.

Dr Anthony Fauci of the National Institutes of Health said worries about "cross-contamination" - anthrax spores sticking to pieces of mail at postal facilities - have grown with the new cases.

Dr Fauci said investigators are now wondering if people have been infected from a piece of mail that went to their home.

Dr Fauci added that preliminary tests show no anthrax at the hospital where she works and "that's part of the mystery".

"So all bets are off and we - the public health officials, the forensic group - have to do a real full court press on trying to track this down. This is critical," he told NBC television.

Officials were trying to retrace the woman's movements but the process was "somewhat limited because she cannot participate in this discussion", the surgeon general, David Satcher, told CBS television.

The spread of the disease - from mail carriers in New Jersey and Washington to media employees in New York and Florida and now to apparently unrelated people - is giving investigators and researchers a painful real-world case study. Contamination of postal facilities in Washington, New Jersey and Florida has altered investigators' assumptions about how easily the spores can be spread. Postal service equipment and procedures, too, are under re-examination.

"It's been an eye-opener, to me at least, the amount of contamination possible from these letters," said Martin Hugh-Jones, an epidemiologist at Louisiana State University.

Officials at the Centres for Disease Control and Prevention nationwide are now keeping an open mind about cross-contamination, a spokesman said - a stark change from a week earlier.

Last week, Dr Jeffrey Koplan, the CDC director, said cross-contamination was "highly unlikely to virtually impossible". Yesterday he described it as a "possibility".

The latest victims raised the number of confirmed anthrax cases to 16 in the US since the outbreak began in early October. Ten of the victims have the inhaled form, and four have died. Six others have less severe skin infections.

\* Meanwhile two Northwest Airlines flights from Tokyo's Narita airport were this evening grounded in Seattle and San Francisco over fears that someone carrying anthrax could be on board.

Two passengers on the plane held at Seattle were detained and questioned, while the aircraft were both given the all clear after searches showed no evidence of anthrax or other biohazards ([Guardian, 2001](#)).

**Title:** Anthrax Attack Bug "Identical" To Army Strain

**Date:** May 9, 2002

**Source:** [New Scientist](#)

**Abstract:** The DNA sequence of the anthrax sent through the US mail in 2001 has been revealed and confirms suspicions that the bacteria originally came from a US military laboratory.

The data released uses codenames for the reference strains against which the attack strain was compared. But **New Scientist** can reveal that the two reference strains that appear identical to the attack strain most likely originated at the US Army Medical Research Institute for Infectious Diseases at Fort Detrick (USAMRIID), Maryland.

The new work also shows that substantial genetic differences can emerge in two samples of an anthrax culture separated for only three years. This means the attacker's anthrax was not separated from its ancestors at USAMRIID for many generations.

The new genetic sequencing work was done by the Institute for Genomic Research in Rockville, Maryland (TIGR), and Paul Keim's team at the University of Northern Arizona at Flagstaff. Before the attacks, TIGR had started sequencing a non-pathogenic derivative of the "Ames" strain of anthrax from the UK biodefence establishment at Porton Down.

It happened that the anthrax attacker used a pathogenic Ames strain. So in January, TIGR added the bacteria isolated from the first victim of the attack, Florida journalist Robert Stevens, to its sequencing effort.

### **Incriminating Evidence**

The idea was to tease out subtle differences between the two genomes that might identify the source of the attack strain. Full-blown sequencing seemed necessary, as genetic differences in anthrax are notoriously hard to find.

The teams found plenty of differences between the two strains, as they now report in the journal *Science*. They then took these "marker" stretches of DNA and tested them against five other samples of Ames anthrax, looking for differences - or incriminating similarities.

One, from a goat that died of anthrax in Texas in 1997, differed at four markers, proving that the markers can reveal divergence among anthrax lineages.

But ironically, none of the other four - identified only as A, B, C and D - differed at all from the attack strain at any of the new markers revealed by sequencing. However, two, A and D, did differ at one marker - a stretch of repeated adenines on pXO2, one of the two DNA plasmids that give anthrax its virulence.

That marker had already been discovered by Keim and reported at a meeting in June 2001. "It may be the most polymorphic site in the genome," Keim told *New Scientist*. Strain A can immediately be ruled out as the attack strain as it is missing a plasmid, and is non-pathogenic.

The identity of the strains apparently identical to the attack strain - B and C - and strain D can be deduced as follows. In February, Keim told *New Scientist*: "We can distinguish among different Ames accessions. These are from collaborative laboratories and related to genetic work we have been performing over the years."

### **Doubly Sure**

The strains from the collaborative labs appear certain to be strains B, C and D. In that case, one was the reference Ames in Keim's collection that came from a freezer at Porton Down, which in turn had got it from USAMRIID. Another was a culture that came directly from USAMRIID, and the last was from the US Army's Dugway proving ground in Utah.

TIGR spokesmen and other sources have stated that Keim could find no differences between the attack strain and the reference Ames in his collection at any marker tested in his lab. The tests reported in *Science* are no better at doing this. So one of B and C is Keim's Porton Down/USAMRIID reference strain. The other is likely to be the culture directly from USAMRIID, as the reference strain originated there and had since languished in a freezer.



So strain D seems to have come from Dugway. The difference between D and the attack strain is not great - there are 36 adenines in a row, instead of 35 - but Keim's team made doubly sure by sequencing that part of the D strain's genome.

However, the new work does not prove irrefutably that the attacker got his anthrax directly from USAMRIID because it is possible that untested Ames cultures from other labs might also be identical. Those tests are now underway ([New Scientist, 2002](#)).

**Title:** Anthrax Killer 'Is US Defence Insider'

**Date:** August 18, 2002

**Source:** [BBC](#)

**Abstract:** An FBI forensic linguistics expert believes the US [anthrax attacks](#) were carried out by a senior scientist from within America's biological-defence community.

Professor Don Foster - who helped convict Unabomber Ted Kaczynski and unveiled Joe Klein as the author of the novel Primary Colors - says the evidence points to someone with high-ranking military and intelligence connections.

Speaking about the investigation for the first time, Prof Foster told the BBC he had identified two suspects who had both worked for the CIA, the US Army Medical Research Institute of Infectious Diseases (USAMRIID) and other classified military operations.

Controversially, Prof Foster says the killer is likely to be highly patriotic individual who wanted to demonstrate that the US was badly prepared for an act of biological terrorism.

The weapons-grade anthrax was posted in letters just days after the 11 September terror attacks, leaving five people dead, 18 injured and 35,000 forced to take precautionary antibiotics.

The professor says he does not believe the killer will strike again as he has achieved his goal.

He explained: "To that end his misplaced patriotism has worked. Today millions of government dollars have gone into research and anthrax antibiotics are now available to the public."

### **Agency Rivalry?**

However, he fears the investigation is now being hampered in its gathering of vital documents that could lead to the killer.

Prof Foster says investigators need examples of the suspects writing to analyse their style and use of language - which the professor believes is as unique as DNA and could unveil the perpetrator.

He said: "It's very frustrating. Ordinarily with the FBI if there's some documents needed - known writings - boom, they're on my desk the next day.

"My two suspects both appear to have CIA connections. These two agencies, the CIA and the FBI, are sometimes seen as rivals.

"My anxiety is that the FBI agents assigned to this case are not getting full and complete co-operation from the US military, CIA and witnesses who might have information about this case."

### **Killer 'Diverting Suspicion'**

Prof Foster was given four letters recovered by investigators to analyse for clues to the killer's identity.

"As I worked through these documents it became apparent that USAMRIID was ultimately the best place for the FBI to begin looking for a suspect," he said.

All of the letters contain the following messages "Death to America" and "Death to Israel". All were dated 11 September, a clear reference to the terror attacks.

But while investigators searched for links between the anthrax attacks and al-Qaeda, Prof Foster immediately suspected that dating the letters 11 September was merely a ruse to throw the authorities off the scent.

He says: "When an offender gives you some piece of information that's just completely unnecessary and that, in this case, is inaccurate, it becomes immediately suspect.

"It becomes a statement of 'Here's what I want you to believe about this document'."

Prof Foster also says the killer seems to have tried implicating two former USAMRIID scientists who had left the laboratory in unhappy circumstances by posting the letters from near their homes in New Jersey.

He says only someone in contact with a senior insider at USAMRIID would have known how the two scientists left the lab and that they would then be likely targets for the FBI investigation.

He says: "They are looking at someone who's a little bit higher up the food chain, who would have to have access to personnel information."

### **Deliberate Mistakes**

The professor also identified a number of mistakes and misspellings in the letters which he suspects are a deliberate ploy to confuse investigators.

The author of the anthrax letters tells his victims to take penicillin. Not only is penicillin the wrong antibiotic to take, the killer also misspells the word.

Prof Foster says: "You mean to tell me this guy is dealing with anthrax, a trillion spores a gram, and he thinks penicillin is going to be the antibiotic of choice?"

"There's something very fishy about that misspelling there, that this particular word should be misspelled and it should be misspelled in such an unconvincing way.

"It looks like an attempt on the offender to say 'Hey, don't think I'm a scientist, don't think I know anything about antibiotics'."

The FBI have placed a number of scientists under intense scrutiny and recently questioned US scientist Dr [Steven Hatfill](#) in connection with the attacks.

Dr Hatfill strenuously denies any involvement in the attacks saying: "I have never worked with anthrax; I know nothing about this matter."

The FBI's investigation continues ([BBC, 2002](#)).

**Title:** US Government Biological Weapons Legislator Says 2001 Anthrax Attacks Part Of Government Bio-Warfare Program

**Date:** December 13, 2006

**Source:** [Infowars](#)

**Abstract:** The real culprits behind the 2001 anthrax attack on Congress were most likely US government scientists at the army's Ft. Detrick, MD., bioterrorism lab according to a former government biological weapons legislator and University of Illinois Professor.

Dr Francis A. Boyle says the FBI covered up these facts and has also quite clearly stated that he doubts the official government story that 19 arabs with boxcutters perpetrated the attacks of 9/11.

Boyle is a leading American professor, practitioner and advocate of international law. He was responsible for drafting the Biological Weapons Anti-Terrorism Act of 1989, the American implementing legislation for the 1972 Biological Weapons Convention. He served on the Board of Directors of Amnesty International (1988-1992), and represented Bosnia- Herzegovina at the World Court. Professor Boyle teaches international law at the University of Illinois, Champaign. He holds a Doctor of Law Magna Cum Laude as well as a Ph.D. in Political Science, both from Harvard University.

"I believe the FBI knows exactly who was behind these terrorist anthrax attacks upon the United States Congress in the Fall of 2001, and that the culprits were US government-related scientists involved in a criminal US government bio-warfare program," Boyle says in his new book [Biowarfare and Terrorism](#).

Only a "handful" of scientists had the means to carry out the attack, yet the FBI ordered the destruction of the anthrax culture collection at Ames, IA., from which the Ft. Detrick lab got its pathogens. Boyle states that only top level scientists with access to "moonsuits" that enabled them to safely process and manufacture super-weapons-grade anthrax could have carried out the attacks.

"The trail of genetic evidence would have led directly back to a secret but officially-sponsored US government biowarfare program that was illegal and criminal" , Boyle said. However, impartial scientists were not allowed to perform genetic reconstruction of the anthrax found in letters mailed to Senators Daschle (D-S.D.) and Patrick Leahy, (D -Vt.) in late 2001.

We have [previously exposed](#) how leading members of the Bush administration and White House staff were on the anthrax-treating antibiotic Cipro up to six weeks before the attacks occurred. It is also documented that the anthrax strain used was military grade. This was widely reported in 2002 in publications such as the [New Scientist](#). However, this fact has recently been [totally changed](#) with the FBI now suggesting that common anthrax, not military grade anthrax was used.

The whole thing "appears to be a cover-up orchestrated by the FBI." according to Dr Boyle.

Boyle goes on to inquire, "Could the real culprits behind the terrorist attacks on 11 September 2001, and the immediately following terrorist anthrax attacks upon Congress ultimately prove to be the same people? Could it truly be coincidental that two of the primary intended victims of the terrorist anthrax attacks - Senators Daschle and Leahy - were holding up the speedy passage of the pre-planned USA Patriot Act ... an act which provided the federal government with unprecedented powers in relation to US citizens and institutions?"

Clearly Dr Boyle has a hard time believing what the government says happened on 9/11 ([Infowars, 2006](#)).

**Title:** Suicide Of Anthrax Scientist Raises Questions

**Date:** August 1, 2008

**Source:** [Science Mag](#)

**Abstract:** One of the greatest criminal mysteries of the decade has taken a dramatic new turn with the suicide last Tuesday of Bruce Ivins, an anthrax researcher at the U.S. Army Medical Research Institute of Infectious Disease (USAMRIID) in Fort Detrick, Maryland. According to news reports, federal prosecutors were preparing to file charges against Ivins, 62, for plotting the anthrax letter attacks which killed five people and sickened 17 others in October and November 2001.

Biodefense researchers were pondering today whether there might be a backlash to their field if the worst bioterror crime in U.S. history was indeed committed by a scientist who had spent a career developing countermeasures against anthrax. But the fact that Ivins won't face trial also raised the uncomfortable specter that the full truth about the case may never come out. "We may never know for sure whether he did it or not," says virologist Thomas Geisbert, a former USAMRIID researcher now at Boston University. Ivins's lawyer, Paul Kemp of Rockville, Maryland, issued a statement quoted by *The New York Times* declaring his client innocent and alleging that mounting pressure from the Federal Bureau of Investigation (FBI) had "led to his untimely death."

According to the *Los Angeles Times*, which broke the story this morning, Ivins committed suicide by taking an overdose of painkillers. Ivins had worked at USAMRIID for 18 years, focusing primarily on anthrax. Most of his published work was on anthrax vaccines. Ivins produced and used anthrax spores of the Ames strain, the type used in the letter attacks, to infect animals.

In a statement issued this afternoon, the FBI did not mention Ivins's name but said it would reveal more information about the case after victims' families had been informed. The bureau said that "substantial progress" has been made in the case, thanks in part to "new and sophisticated scientific tools"--but it didn't give specifics.

The FBI has been under immense pressure from politicians and the public to find the perpetrators of the 2001 attacks, and some are worried that Ivins's death may provide a premature opportunity to declare the case solved. In a statement today, Alan Pearson of the Center for Arms Control and Non-Proliferation in Washington, D.C., called on the bureau to continue its investigation. "The need for a thorough investigation and a full accounting to the American people remains." Ivins's inability to defend himself makes it even more important that scientists be able to pore over the complete scientific evidence, says R. John Collier, an anthrax researcher at Harvard University. "I would love to see what they have," Collier says.

Just this summer, the government agreed to pay \$4.6 million to Steven Hatfill, a biodefense researcher whose life was turned upside down in 2002 after then-Attorney General John Ashcroft called him a "person of interest" in the anthrax attacks. Geisbert wonders whether Ivins's death was the result of "another Hatfill situation, and was he just unable to handle the pressure."

The death--and presumed involvement in the anthrax letters--puts the biodefense research community in a tight spot, says Gerald Epstein, a biosecurity expert at the Center for Strategic and International Studies in Washington, D.C. "From the very beginning, there has been speculation that the attacks were carried out by a biodefense zealot who wanted to prove that bioterrorism was a serious problem," says Epstein. If true, that could give the public the impression that "biodefense research is a giant fraud," he says. "It would be unfortunate if the message people take away from this is that the only individuals we should be concerned about are deranged biodefense scientists."

Geisbert worries that Ivins's potential involvement will give new ammunition to local groups that have tried to stop the wave of new biosafety labs. In Boston, "we have had a lot of opposition--and this is not going to help," he says. Still, Geisbert points out, none of the anthrax victims lived in or near USAMRIID, and there's no reason to believe local residents are at greater risk when a biodefense researcher becomes a bioterrorist himself.

Jonathan Tucker, a specialist on biological weapons control, says the incident is bound to evoke new concerns about "insider threats" at government and university labs. Officials may be compelled to further scrutinize researchers who work with select agents, Tucker says, adding that some questions have already been raised about "the adequacy of the screening process" used by the FBI to determine if a scientist should be allowed to work with a dangerous pathogen ([Science Mag, 2008](#)).

**Title:** Anthrax Case Renews Questions On Bioterror

**Date:** August 3, 2008

**Source:** [New York Times](#)

**Abstract:** Until the [anthrax](#) attacks of 2001, [Bruce E. Ivins](#) was one of just a few dozen American bioterrorism researchers working with the most lethal biological pathogens, almost all at high-security military laboratories.

Today, there are hundreds of such researchers in scores of laboratories at universities and other institutions around the United States, preparing for the next bioattack.

But the revelation that [F.B.I.](#) investigators believe that the anthrax attacks were carried out by Dr. Ivins, an Army biodefense scientist who committed suicide last week after he learned that he was about to be indicted for murder, has already re-ignited a debate: Has the unprecedented boom in biodefense research made the country less secure by multiplying the places and people with access to dangerous germs?

"We are putting America at more risk, not less risk," said Representative Bart Stupak, Democrat of Michigan and chairman of a House panel that has investigated recent safety lapses at biolabs.

F.B.I. investigators have long speculated that the motive for the attacks, if carried out by a biodefense insider like Dr. Ivins, might have been to draw public attention to a dire threat, attracting money and prestige to a once-obscure field.

If that was the motive, it succeeded. In the years since anthrax-laced letters were sent to members of Congress and news organizations in late 2001, killing five people, almost \$50 billion in federal money has been spent to build new laboratories, develop vaccines and stockpile drugs.

After the attacks, for example, an experimental vaccine Dr. Ivins had spent years working on moved from the laboratory to a proposed \$877 million federal contract, though the deal collapsed two years later. Federal documents suggest that Dr. Ivins, along with several colleagues, might have earned royalties had the contract gone forward, but the deal ultimately collapsed.

Dr. Ivins's lawyer, Paul F. Kemp, and some of the scientist's colleagues insist that he was innocent. Mr. Kemp said by e-mail on Saturday that news reports that his client had considered agreeing to a plea bargain were "entirely spurious." And a senior law enforcement official said that discussions between investigators and Mr. Kemp were "preliminary" and routine and did not represent any active discussion of a plea bargain.

But officials at the Justice Department and the Federal Bureau of Investigation on Saturday appeared confident that they had the right man. They said they were still weighing how and when to seek an end to the grand jury investigation.

"That's not a decision we're going to make lightly," said one Justice Department official who spoke on condition of anonymity because he was not authorized to discuss internal deliberations. "There won't be a rush to judgment."

As prosecutors consider how to proceed in the wake of Dr. Ivins's death, federal officials say they are convinced that the increase in biodefense spending has brought real gains.

"Across the spectrum of biothreats we have expanded our capacity significantly," said Craig Vanderwagen, an assistant secretary at the [Department of Health and Human Services](#) who oversees the biodefense effort. Systems to detect an attack, investigate it and respond with drugs, vaccines and cleanup are all hugely improved, Dr. Vanderwagen said. "We can get pills in the mouth," he said.

Supporters of the spending increase cite studies that project apocalyptic tolls from a large-scale biological attack. One 2003 study led by a Stanford scholar, for instance, found that just two pounds of anthrax spores dropped over an American city could kill more than 100,000 people, even if [antibiotic](#) distribution began quickly.



And there is ample evidence that Qaeda leaders have shown interest in using biological weapons. Yazid Sufaat, a Malaysian-born Qaeda biochemist who trained in the United States, spent several months in 2001 trying to cultivate anthrax in Kandahar, Afghanistan.

Yet nearly seven years have passed without another biological attack, which has reduced the sense of urgency about the bioterrorist threat, even among some specialists.

"I think it's an important risk, but frankly I'm more concerned about bombs and guns, which are easily available and can be very destructive," said Randall S. Murch, a former F.B.I. scientist who has studied ways to trace a bioterrorist attack to its source.

And Congressional investigators recently warned that the proliferation of biodefense research laboratories presents real threats, too.

More people in more places handling toxic agents create more opportunities for an accident or intentional misuse by an insider, Keith Rhodes, an investigator with the [Government Accountability Office](#), said at a Congressional hearing in October.

Nationwide, an estimated 14,000 people work at about 400 laboratories and have permission to work with so-called select agents, which could be used in a bioterror attack, although not all are authorized to handle the most toxic substances, like anthrax. With so many people involved, there is insufficient federal oversight of biodefense facilities to make sure the laboratories follow security rules and report accidents that might threaten lab workers or lead to a release that might endanger the public, Mr. Rhodes testified.

In effect, the government may be providing the tools that a would-be terrorist could use, said Richard H. Ebright, a [Rutgers University](#) biochemist and vocal critic of the federal increase in biodefense spending.

"One well-placed student, technician or senior scientist — no cost, with the salary being provided courtesy of the U.S. taxpayer — and no risk, no difficulty," Mr. Ebright said. "That is all it takes."

Heightening the concern has been a string of accidents at certain new or expanded biodefense laboratories, several of which were not properly reported to the authorities when they took place.

One of the first accidents was in Dr. Ivins's lab in late 2001, when he and his colleagues were aiding the federal investigation of the anthrax attacks and spores accidentally spilled outside the secure area. He failed to report the event to his superiors and instead tried to disinfect the contaminated areas, according to an Army report, which concluded, "Adherence to institute safety procedures by laboratory personnel is lax."

In early 2006, at [Texas A&M University](#), a worker was infected with Brucella bacteria, a pathogen common in livestock that can cause flulike symptoms like [fever](#), fatigue and [joint pain](#), although it is rarely fatal. Later, three researchers at the same lab were infected with [Q fever](#), another cattle-borne disease that can cause serious but generally not fatal illness in humans.

After the two incidents belatedly became public, federal officials temporarily shut down the laboratory, citing a series of safety shortcomings, like unapproved experiments and staff members given access to the dangerous agents even though they had not been approved to handle them.

Apart from the insider threat, some public health experts believe money used to study obscure pathogens that are not a major disease problem could be better directed to study known killers like [influenza](#) or [AIDS](#).

Partly in response to this criticism, government officials now often talk about how strengthening the systems necessary to respond to a terror attack would also prepare the country for a natural epidemic like avian [flu](#).

As experts debate threats, nervous neighbors of expanding biodefense facilities have repeatedly rallied to try to defeat them. At Fort Detrick in Maryland, some residents have opposed the construction of a "national biodefense campus" slated to include a new building to house the [United States Army](#) Medical Research Institute of Infectious Diseases, where Dr. Ivins worked for many years before his suicide. Three other new laboratories on the campus will be operated by the Departments of Homeland Security, Health and Human Services, and Agriculture.

Proponents say clustering the laboratories on a military base will encourage safe scientific collaboration and save money through sharing of some facilities.

The buildup, and the related increase in research, has brought some important advances, federal officials argue, like promising new experimental vaccines or therapies to treat [smallpox](#) or Ebola virus.

The country now also has an expanded stockpile of vaccines and drugs to treat anyone exposed in a future attack, including enough antibiotics to treat more than 40 million Americans who might be exposed to anthrax and nearly five million bottles of a special potassium iodide liquid that helps protect infants from harm caused by nuclear fallout.

The deal for the \$877 million contract that included Dr. Ivins's vaccine collapsed in 2006 after the contractor, VaxGen of Brisbane, Calif., missed deadlines. VaxGen, in a licensing agreement with the Army to produce the vaccine, listed two patents held by Dr. Ivins and his colleagues. The possibility that Dr. Ivins could earn royalties from the patents was first reported by The Los Angeles Times.

Arthur Friedlander, one of Dr. Ivins's collaborators in the work that led to the anthrax vaccine patent in 2002, declined to comment when asked Saturday if he and others who had worked on the project stood to gain financially. He referred the question to an Army spokeswoman, who did not respond to a request for comment.

Dr. Ivins's lawyer, Mr. Kemp, said he could not comment on the notion that Dr. Ivins stood to earn royalties from vaccine patents because of attorney-client privilege.

VaxGen had agreed to pay royalties to the Army in exchange for the license to produce the new anthrax vaccine, according to federal financial disclosure it filed. And Army policy would allow the inventor to receive up to \$150,000 a year "of any royalties/payments resulting from commercial licensure."

It is unclear what the deal in this case might have been, or how the royalties might have been split among the five researchers whose names were on the patent.

Addressing the issue of bioterrorism spending, Michael Greenberger, director of the Center for Health and Homeland Security at the [University of Maryland](#), said he was convinced that the increase had left the nation better prepared for an attack, without creating significant new vulnerabilities.

"You can never say that the system is 100 percent secure," Mr. Greenberger said. "But the research ethic today is one of much greater discipline and focus on security than was true prior to the anthrax attacks."

Mr. Stupak, the congressman from Michigan, remains concerned.

"You have all these universities tripping over each other trying to be high-level biosecurity labs," he said. "What the nation gets is a very expensive bill, less security and a greater risk to the surrounding communities" ([New York Times, 2008](#)).

**Title:** Army Researcher's Alleged Anthrax Attack Raises Concerns Over Biodefense Labs

**Date:** August 4, 2008

**Source:** [Discovery](#)

**Abstract:** Last week's suicide by a government biodefense researcher who had been linked to the mailing of anthrax-laced letters in 2001 has raised thorny questions about whether the benefits of biodefense research outweigh the risks. Researcher Bruce Ivins had reportedly been informed by the FBI that he was about to be indicted for murder in the incident that killed five people and sent 17 more to the hospital.

Some observers point out that biodefense research has vastly increased since the terrorist attacks of 2001, and raise the question: Has the unprecedented boom in biodefense research made the country less secure by multiplying the places and people with access to dangerous germs? ... Nationwide, an estimated 14,000 people work at about 400 laboratories and have permission to work with so-called select agents, which could be used in a bioterror attack, although not all are authorized to handle the most toxic substances, like anthrax.

Yet Ivins may have been motivated by the desire to spur a further increase of biodefense spending and research, former acquaintances said. One former senior official with Ivins' employer ... said he believed his former colleague wanted more attention — and resources — shifted to biological defense. "It had to have been a motive," said the former official, who suspects that Ivins was the culprit. "I don't think he ever intended to kill anybody. He just wanted to prove 'Look, this is possible.' He probably had no clue that it would aerosolize through those envelopes and kill those postal workers".

Ivins' biography is full of contradictions. He was a trusted researcher for the U.S. Army for 35 years and received a commendation from the Department of Defense, yet his therapist described him as a "revenge killer" who had been diagnosed by several psychiatrists as "a sociopathic, homicidal killer". The news of Ivins' apparent instability is likely to draw more attention to the possibility of "insider threats" at government and university labs. Officials may be compelled to further scrutinize researchers who work with select agents, [biological weapons expert Jonathan] Tucker says, adding that some questions have already been raised about "the adequacy of the screening process" used by the FBI to determine if a scientist should be allowed to work with a dangerous pathogen ([Discovery, 2008](#)).

**Title:** Government Biological Weapons Legislator: Anthrax Inside Job Cover Up Continuing

**Date:** August 22, 2008

**Source:** [Infowars](#)

**Abstract:** A former government biological weapons legislator appeared on the nationally syndicated Alex Jones show yesterday to discuss his detailed knowledge of the cover up of the 2001 anthrax attacks, which he is adamant were perpetrated by criminal elements of the US government in an attempt to foment a police state by killing off opposition to hardline post 9/11 legislation.

Dr Francis A. Boyle literally helped write the law with regards to terrorism, as he was responsible for drafting the Biological Weapons Anti-Terrorism Act of 1989 that was passed unanimously by both Houses of Congress and signed into law by President Bush Snr. Professor Boyle teaches international law at the University of Illinois, Champaign. He holds a Doctor of Law Magna Cum Laude as well as a Ph.D. in Political Science, both from Harvard University. He has also served on the Board of Directors of Amnesty International (1988-1992), and represented Bosnia- Herzegovina at the World Court.

In light of the latest developments with the FBI Anthrax investigation, the professor joined Alex Jones on air to re-cap the story that [made waves in late 2006](#). In October 2001 when the anthrax attacks took place and it was revealed that the spores were super weapons grade anthrax at one trillion spores per gram created with special electro-static treatment, Dr Boyle says it became obvious to him that there was nowhere it could have come from other than a government lab.

Dr Boyle proceeded to call a very high level official in the FBI who deals with terrorism and counter-terrorism, Spike Bowman, whom he had met at a terrorism conference at the University of Michigan Law School. Dr Boyle went through all the names, the contractors and the labs for Anthrax work with the FBI's Bowman. Bowman then informed Dr Boyle that the FBI was working with bio-lab Fort Detrick on the matter, to which he responded that Fort Detrick could really be the main problem.

"I told Mr Bowman in October of 2001 that the only people that had the capability to do this would be those individuals working at either United States Government labs, or private contractors and things of this nature, and it obviously seemed to me that this was U.S. government related." the University of Illinois Professor told listeners. It was documented at the time that the anthrax strain used was military grade. This was later widely reported in 2002 in publications such as the [New Scientist](#).

"At that point I assumed good faith on the part of the FBI in this investigation because it had killed several people, it had shut down the United States Congress, which I think was probably the greatest political crime ever inflicted on our Republic in its history. But then I read that the FBI had authorized the destruction of the U.S. government's Ames strain collection." Boyle continued.

The destruction of the anthrax culture collection at Ames, IA., from which the Ft. Detrick lab got its pathogens for U.S. biowarfare programs, was blatant destruction of evidence as it meant that there was no way of finding out which strain was sent to who to develop the larger breed of anthrax used in the attacks. The trail of genetic evidence would have led directly back to a secret but officially-sponsored US government biowarfare program that was illegal and criminal.

"I knew a cover up was underway because legitimate scientific researchers could have taken that collection and used it to genetically re-construct precisely where and when and how the weapon came from. This was clearly a federal crime in its own right." Boyle stated.

The Professor explained that the motive behind the attacks was clear: "I believe the first anthrax attack was designed to ram through the PATRIOT ACT because Senators Daschle and Leahy were holding it up and once the anthrax occurred it rammed right through, indeed, on the renewal of the USA PATRIOT ACT, Senator Feingold was holding it up and all of sudden out of nowhere some white powdered substance appeared at one of the Senate office buildings, and all of a sudden the renewal of the PATRIOT ACT went through."

The evidence becomes more compelling when you [take into consideration](#) the fact that the White House was on anthrax fighting antibiotics weeks prior to the attacks. The professor stressed that a criminal cover up took place and that it is ongoing: "They are still doing it today, if you read the investigation, the press conference they heard the other day, it does not add up, if you read the article in today's New York Times it does not add up, it appears that the FBI set the investigation up by scientists in such a way that no one knew exactly what they were doing, they could not communicate with anyone else and only communicated with and took samples from the FBI."

"There is today in existence a stock pile of super weapons grade anthrax that is under the control of the original perpetrators of the anthrax attacks of October 2001 and that stock pile can and will be used again when their masters decide it would be politically convenient to scare and terrorize the American people." "They could launch another attack on us, including Congress, the Judiciary, the media." The professor warned. "I think what we need to do now is insist upon a full scale Congressional investigation, not some type of presidential commission cover up along the lines of the 9/11 report." Professor Boyle concluded.

Dr Boyle also covered the new evidence suggesting that Dr Ivins, the man the FBI named as the leading suspect in their investigation two weeks ago, has been used as a patsy in the cover up. "Ivins is only the latest dead microbiologist." Boyle stated, "You also have to tie into this the large numbers of dead microbiologists that have appeared since around the summer before these events, when the New York Times revealed the existence of the covert anthrax weapons programs run by the CIA, and that too is in the public record." Boyle stressed ([Infowars, 2008](#)).

**Title:** Senator Demands Answers On Government Anthrax Investigation Mystery

**Date:** September 6, 2011

**Source:** [Infowars](#)

**Abstract:** A ranking Republican Senator has written to the Justice Department demanding to know why it quickly retracted court papers that called into serious question a key pillar of the criminal case against Bruce Ivins, the FBI's prime suspect in the 2001 anthrax mail attacks.

Sen. Charles Grassley of Iowa, who has long questioned the legitimacy of the FBI's findings in the case, [wrote Attorney General Eric Holder and FBI Director Robert Mueller this week](#), regarding [a filing](#) by Justice Department civil lawyers in July that noted that the Army's biodefense center at Fort Detrick, Md., "did not have the specialized equipment in a containment laboratory that would be required to prepare the dried spore preparations that were used in the letters."

In other words, the filing noted that Ivins' lab, often referred to as the "hot suite", did not contain the equipment needed to turn liquid anthrax into the refined powder that ended up being mailed to members of the Senate and reporters in the fall of 2001.

Ivins, who was found dead in 2008 from an apparent suicide at the same time the government was about to indict him, was identified by the FBI's ["Amerithrax Task Force"](#) as the lone perpetrator of the attacks that killed five people and infected 17 others in the weeks immediately following 9/11.

The FBI based its entire case against Ivins on the fact that the microbiologist had access to the necessary equipment in the government lab at the U.S. Army Medical Research Institute of Infectious Diseases where he worked.

When the Justice Department realized that its recent court filing cast serious doubt on these claims, following media coverage, it did a 180 flip flop and [sent the court a "list of corrections"](#) to conform with the FBI's conclusion that Ivins did have equipment available to do the job.

In his letter, Sen Grassley notes that this turn of events "has produced a new set of questions regarding this unsolved crime."

"My concern is accentuated by the apparent contradiction of the DOJ court documents to the original FBI investigation, the subsequent attempt to retract that information and the federal judge's ruling that the DOJ Civil Division "show good cause" to justify a modification to the original court filing." Grassley writes.

"The DOJ original court filing seemingly eliminated the FBI's previous circumstantial evidence associated with Dr. Ivins without providing any additional insight as to the means and methodology he may have used to create the anthrax powder." The Senator adds.

Grassley, the most senior Republican on the Senate Judiciary Committee, also called for a briefing to "determine why it appears, at the least, that the right hand and left hand of the (Justice Department) do not know what the other is doing."

The July court filing was made as part of a government defense against a lawsuit brought by the family of Robert Stevens, Photo Editor of The Sun in Florida and the first victim who died as a result of the Anthrax attack. The court papers containing the Justice Department contradiction were discovered and [reported](#) by a researcher for the PBS program Frontline, which is working on a forthcoming documentary on the case with McClatchy Newspapers and ProPublica.

What the filing should have said, the department wrote in its retraction, was that while the Army lab did not have a lyophilizer, a freeze-drying machine, in the space where Dr. Ivins usually worked, there was a lyophilizer and other equipment in the building that he could have used to dry the anthrax into powder.

Even if this was the case, which is still highly questionable, it still significantly weakens the case against Ivins as the lone assailant, because it means he would have had to have access different areas of the building and use the equipment in those areas for some time without being noticed.

It also means that the fact that others who worked in the lab were not sickened becomes even more of a key indicator that Ivins did not prepare the anthrax spores as the FBI and the government has claimed he did.

Paul Kemp, Ivins' lead defense attorney, noted that the department's concession that the equipment wasn't available "is at direct variance to the assertions of the government on July 29, 2008," the day Ivins died, thus "invalidating one of the chief theories of their prosecution case."

This latest contradiction adds to the already voluminous unanswered questions and contradictory evidence surrounding the case.

Earlier this year a report produced by a panel of independent scientists [asserted that there was not enough scientific evidence](#) for the FBI to convict Ivins, vindicating those who have consistently pointed to a deeper conspiracy behind the case.

The \$1.1 million report, commissioned by the FBI and produced by [The National Academies of Sciences](#), concluded that the FBI overstated the science in its investigation into the microbiologist.

Senator Grassley writes in his letter to the Attorney general that this report coupled with the latest botched attempt by the government to tie up loose ends in the case is "particularly troubling" to him.

The report cast doubt on the supposed link between a flask of anthrax found in Ivins' office and letters containing the bacterial spores that were mailed to NBC News, the New York Post, and the offices of then-Sen. Tom Daschle and Sen. Patrick Leahy.

"The scientific link between the letter material and flask number RMR-1029 is not as conclusive as stated in the DOJ Investigative Summary," the 190 page report stated.

"Although the scientific evidence was supportive of a link between the letters and that flask, it did not definitively demonstrate such a relationship, for a number of reasons," said Dr. David Relman, a bioterrorism expert at Stanford University School of Medicine who served as vice chair of the review committee. "Our overarching finding was that it is not possible to reach a definitive conclusion about the origins of the B. anthracis in the mailings based on the available scientific evidence alone."

"This shows what we've been saying all along: that it was all supposition based on conjecture based on guesswork, without any proof whatsoever," lawyer Paul Kemp told [The Washington Post](#).

"For years, the FBI has claimed scientific evidence for its conclusion that anthrax spores found in the letters were linked to the anthrax bacteria found in Dr. Ivins's lab," said Sen. Charles E. Grassley (R-Iowa). The report "shows that the science is not necessarily a slam-dunk. There are no more excuses for avoiding an independent review."

Of course, there will not be an independent review any time in the near future because, as [Glenn Greenwald of Salon](#) has pointed out, all efforts to move in that direction have been aggressively blocked by the Obama Administration:

President Obama — in what I think is one of his most indefensible acts — actually [threatened to veto the entire intelligence authorization bill](#) if it included a proposed bipartisan amendment (passed by the House) that would have [mandated an independent inquiry into the FBI's anthrax investigation](#).

Indeed, the [veto threat issued by the Obama White House](#) was refreshingly (albeit unintentionally) candid about why it was so eager to block any independent inquiry: " **The commencement of a fresh investigation would undermine public confidence in the criminal investigation and unfairly cast doubt on its conclusions.**"

Ivins' death provided a neat tie up to the case, which was officially closed last year by The Justice Department. However, a clear motive was never determined, and no one ever reported seeing Ivins prepare anthrax spores or mail the supposed letters.



Previous assertions by a former colleague and friend of Bruce Ivins, and the original suspect in the FBI's investigation into the attacks, have also raised serious questions.

Shortly after Ivins' death, Dr. Ayaad Assaad, an Egyptian-born toxicologist at the U.S. Environmental Protection Agency, declared that Ivins did not kill himself and was not behind the attack at all.

Assaad made the comments in an interview with a local Fort Detrick newspaper in September 2008.

The [Frederick News Post](#) reported:

Assaad, who worked in a U.S. Army Medical Research Institute of Infectious Disease lab at Fort Detrick from 1989 to 1997 developing a vaccine for ricin, said in an interview Saturday he does not believe Ivins was guilty.

"He's a great man. He's honorable, sincere, honest and most important, he didn't kill five people and *he didn't kill himself*," Assaad told the newspaper.

Assaad knew Ivins well, not only were they colleagues but their four children were all classmates in Frederick.

Assaad was extensively questioned by the FBI on October 1, 2001, a fortnight after the first anthrax letters were mailed. It later emerged that the FBI's lead, a letter from an unidentified person who claimed Assaad was planning a biological terrorist attack, was false.

The mystery letter identified Assaad as a former USAMRIID microbiologist and also pinpointed his time at the U.S. Army Medical Research Institute of Chemical Defense at Aberdeen Proving

Ground in Harford County, indicating that whoever sent it had access to detailed army records.

The anonymous letter was sent shortly after 9/11 but before anyone knew about the anthrax-laced letters. On October 5, 2001, about 10 days after the anonymous letter was mailed, Robert Stevens became the first of five individuals to die from an anthrax infection, indicating that someone had wanted to frame Assaad for the attacks.

"This anthrax issue is part of a much bigger issue," Assaad also commented. "The roots of corruption are so deep in (USAMRIID), and this is the thing that the people in Frederick don't understand."

Former government biological weapons legislator [Dr Francis Boyle](#) shares Assaad's view that Ivins has been used as a patsy in a larger cover up.

"Ivins is only the latest dead microbiologist." Boyle has previously stated, "You also have to tie into this the large numbers of dead microbiologists that have appeared since around the summer before these events, when the New York Times revealed the existence of the covert anthrax weapons programs run by the CIA, and that too is in the public record."

In September 2007, Ivins sent an e-mail to himself, in which he said he knew of the identity of the anthrax killer, without actually stating who he believed it to be. It is not known why he did this. Prior to his death in 2008, he told friends that government agents were hounding him and his family ([Infowars, 2011](#)).

**Title:** Scientists' Analysis Disputes F.B.I. Closing of Anthrax Case

**Date:** October 9, 2011

**Source:** [New York Times](#)

**Abstract:** A decade after wisps of anthrax sent through the mail killed 5 people, sickened 17 others and terrorized the nation, biologists and chemists still disagree on whether federal investigators got the right man and whether the [F.B.I.](#)'s long inquiry brushed aside important clues.

Now, three scientists argue that distinctive chemicals found in the dried anthrax spores — including the unexpected presence of tin — point to a high degree of manufacturing skill, contrary to federal reassurances that the attack germs were unsophisticated. The scientists make their case in a coming issue of the Journal of Bioterrorism & Biodefense.

F.B.I. documents reviewed by The New York Times show that bureau scientists focused on tin early in their eight-year investigation, calling it an “element of interest” and a potentially critical clue to the criminal case. They later [dropped their lengthy inquiry](#), never mentioned tin publicly and never offered any detailed account of how they thought the powder had been made.

The new paper raises the prospect — for the first time in a serious scientific forum — that the Army biodefense expert identified by the F.B.I. as the perpetrator, [Bruce E. Ivins](#), had help in obtaining his germ weapons or conceivably was innocent of the crime.

Both the chairwoman of a National Academy of Science panel that spent a year and a half reviewing the F.B.I.’s scientific work and the director of a new review by the [Government Accountability Office](#) said the paper raised important questions that should be addressed.

Alice P. Gast, president of Lehigh University and the head of the academy panel, said that the paper “points out connections that deserve further consideration.”

Dr. Gast, a chemical engineer, said the “chemical signatures” in the mailed anthrax and their potential value to the criminal investigation had not been fully explored. “It just wasn’t pursued as vigorously as the microbiology,” she said, alluding to the analysis of micro-organisms. She also noted that the academy panel suggested a full review of classified government research on anthrax, which her panel never saw.

In interviews, the three authors said their analysis suggested that the F.B.I. might have pursued the wrong suspect and that the case should be reopened. Their position may embolden calls for a national commission to investigate the first major bioterrorist attack in American history.

But other scientists who reviewed the paper said they thought the tin might be a random contaminant, not a clue to complex processing. And the Justice Department has not altered its conclusion that the deadly letters were mailed by Dr. Ivins, an Army anthrax specialist who worked at Fort Detrick, Md., and killed himself in 2008 as prosecutors prepared to charge him.

Dean Boyd, a Justice Department spokesman, said the paper provided “no evidence whatsoever that the spores used in the mailings were produced” at a location other than Fort Detrick. He said investigators believe Dr. Ivins grew and dried the anthrax spores himself.

“Speculation regarding certain characteristics of the spores is just that — speculation,” Mr. Boyd said. “We stand by our conclusion.”

The tin is surprising because it kills micro-organisms and is used in antibacterial products. The authors of the paper say its presence in the mailed anthrax suggests that the germs, after cultivation and drying, got a specialized silicon coating, with tin as a chemical catalyst. Such coatings, known in industry as microencapsulants, are common in the manufacture of drugs and other products.

“It indicates a very special processing, and expertise,” said Martin E. Hugh-Jones, lead author of the paper and a world authority on anthrax at Louisiana State University. The deadly germs sent through the mail to news organizations and two United States senators, he added, were “far more sophisticated than needed.”

In addition to Dr. Hugh-Jones, the authors of the new paper are Barbara Hatch Rosenberg, a biologist, and Stuart Jacobsen, a chemist; both have speculated publicly about the case and criticized the F.B.I. for years.

In 2008, days after Dr. Ivins's suicide, the bureau made public a [sweeping but circumstantial case](#) against him. Last year, the bureau formally closed the case, acknowledging that some scientific questions were unanswered but asserting that the evidence against Dr. Ivins was overwhelming.

Investigators found that the microbiologist had worked unusual late-night hours in his lab in the days before each of the two known anthrax mailings in September and October 2001; that he often mailed letters and packages under assumed names; that he had a history of homicidal threats and spoke of "Crazy Bruce" as a personality that did things he later could not remember.

Dr. Ivins had hidden from family and friends an obsession with a sorority — Kappa Kappa Gamma — with an office near the Princeton, N.J., mailbox where the letters were mailed. The F.B.I. recorded Dr. Ivins's speaking ambiguously to a friend that he did "not have any recollection" of mailing the letters, that he was "not a killer at heart" and that "I, in my right mind, wouldn't do it."

Yet no evidence directly tied Dr. Ivins to the crime. Some of the scientist's former colleagues have argued that he could not have made the anthrax and that investigators hounded a troubled man to death. They noted that the F.B.I. pursued several other suspects, most notoriously another former Army scientist, Dr. Steven J. Hatfill, whom the bureau eventually exonerated and paid a \$4.6 million legal settlement.

In its report last February, the [National Academy of Sciences](#) panel sharply criticized some of the F.B.I.'s scientific work, saying the genetic link between the attack anthrax and a supply in Dr. Ivins's lab was "not as conclusive" as the bureau asserted.

If the authors of the new paper are correct about the silicon-tin coating, it appears likely that Dr. Ivins could not have made the anthrax powder alone with the equipment he possessed, as the F.B.I. maintains. That would mean either that he got the powder from elsewhere or that he was not the perpetrator.

If Dr. Ivins did not make the powder, one conceivable source might be classified government research on anthrax, carried out for years by the military and the Central Intelligence Agency. Dr. Ivins had ties to several researchers who did such secret work.

The Government Accountability Office, the investigative arm of Congress, is conducting its own review of the anthrax evidence. Nancy Kingsbury, the official overseeing the project, said the agency had spoken with the paper's authors and judged that "their questions are reasonable."

Beyond the world of forensics, tin is a humdrum additive used to kill micro-organisms in products like paint, wood preservatives and even toothpaste. But microbiologists say that the nutrients and additives used to grow *Bacillus anthracis*, the anthrax bacterium, are typically free of tin.

So in late 2002, when the F.B.I. found significant quantities of tin in the mailed powders, it set out to find its source. By 2003, the bureau was calling tin "an element of interest" — echoing its terminology for human suspects — according to disclosures culled from 9,600 pages of F.B.I. documents by The Times.

Over the years, the bureau performed hundreds of tests to explore tin's use in microbiology and significance in the attack germs. It also hunted for clues to how the spores had become laced with silicon, which the United States had used decades ago as a coating in germ weapons. In 2005, scientists at an internal F.B.I. symposium called tin a possible fingerprint of the attack germs.

After that, the forensic clue disappeared from public discussion, except for a passing mention in a 2009 press release. "Although the chemical fingerprint of the spores is interesting," the release said, "it was not relevant to the investigation."

In the end, the F.B.I. — without alluding to its private tin labors — declared publicly that the attack germs had no special coating, saying that conclusion supported its finding that Dr. Ivins had grown and dried the spores alone, using standard equipment in his lab at Fort Detrick.

Several anthrax scientists who reviewed the new paper at the request of The Times said they believed it neglected the possibility that the tin and silicon were meaningless contaminants rather than sophisticated additives.

Johnathan L. Kiel, a retired Air Force scientist who worked on anthrax for many years, said that the spores “pick up everything” and that the silicon might be residue of a commercial product used on laboratory glassware to keep spores from sticking. He said tin might even be picked up from metal lab containers, though he has not tested that idea.

“It doesn’t have to be some super-secret process,” Dr. Kiel said. Other experts suggested that the tin might have come from anti-foam products, disinfectants or water.

The trouble with such conjecture is that the F.B.I. spent years testing for tin in microbiology lab supplies — and reported none, according to bureau documents.

Dr. Gast, the head of the National Academy of Sciences panel, noted that her group strongly recommended that future investigations of the attacks examine the government’s classified work on anthrax.

She called access to secret records “an important aspect of providing more clarity on what we know and what we don’t know” ([New York Times, 2011](#)).