

Key Questions

- ▶ Who is the main person of interest in the case, and why?
- ▶ What is the evidence in the case?
- ▶ What are the strengths and weaknesses of the government's case?

2 The Anthrax Killer

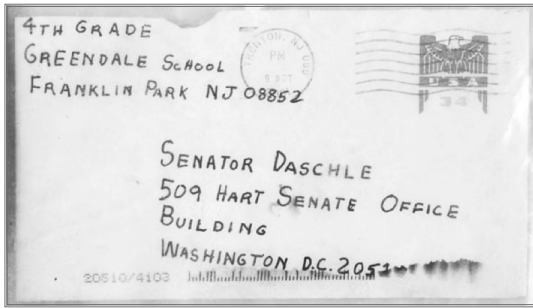
CASE NARRATIVE

It Looked Like Baby Powder

On 15 October 2001, Sen. Tom Daschle's office in the Hart Senate Office Building in Washington, D.C., was teeming with staffers, interns, and volunteers like Bret Wincup. He and an intern, Grant Leslie, were opening the piles of letters Senator Daschle received on a daily basis. As Leslie opened a letter, a fine white substance that looked like baby powder landed on the desk, her skirt, and shoes. "We both kind of commented on it," said Wincup, but initially no one knew how alarmed to be.¹ Usually, these types of scares were hoaxes. But this time, it was no hoax. Within an hour, Navy infectious disease specialist Greg Martin had arrived at Senator Daschle's office to investigate, and by the end of the day the white powder was confirmed as a deadly dose of anthrax. For Wincup, it was the point at which "people with white suits came in. . . . That was scary."² He would later discover just how great a threat that powder represented: opening a letter laced with that number of anthrax spores could result in an exposure that was one thousand to three thousand times the lethal dose,³ and anyone who came into contact with these spores was at risk for developing this highly virulent infectious disease. Emergency personnel quickly quarantined the Hart Office Building, and staffers began treatments with the potent antibiotic Cipro. The incident riveted the attention of the nation: Who could be behind the attack, and how far might it spread?

A Nation under Siege

When Grant Leslie opened the letter, the United States was still reeling from the terrorist attacks of 9/11 that had taken nearly three thousand lives only a month before. By October, Capitol Hill was just returning to normal operations, and the United States was gearing up for war against terrorists hiding in Afghanistan.



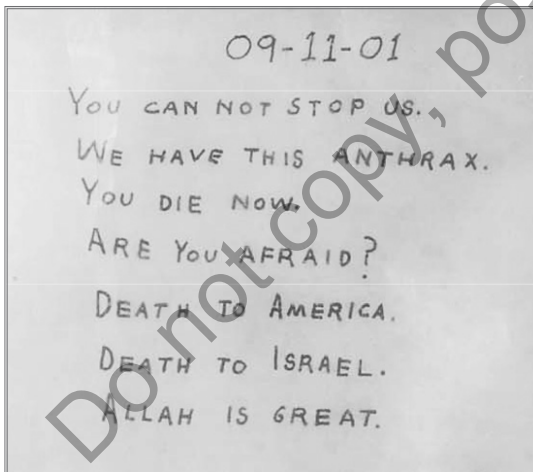
Envelope sent to Senator Daschle's office.

The attacks on 9/11 had already prompted a bioterrorism scare, including a run on antibiotics in New York City and elsewhere.⁴ Reports that the United States was low on supplies of anthrax vaccine only fueled fears.⁵ The government urged against hoarding of the only Food and Drug Administration (FDA)-approved antibiotic used to treat anthrax,

Cipro, while infectious disease specialists cautioned that Cipro had never been tested in a clinical setting, making it unclear if the drug would be effective in the event of a real anthrax attack.⁶

Fears about anthrax had swirled in Florida and in the national headlines since early October. Reports that Robert Stevens, a sixty-two-year-old photo editor who worked in Boca Raton, was hospitalized with inhalation anthrax on

2 October and died on 5 October, prompted Secretary of Health and Human Services Tommy Thompson to note in a White House briefing that the case was isolated and not contagious, adding, "There is no terrorism."⁷ Nevertheless, both the Centers for Disease Control (CDC) and the Federal Bureau of Investigation (FBI) were actively investigating the unusual case when Ernesto Blanco, Stevens's coworker at the American Media, Inc., building in Boca Raton, was diagnosed



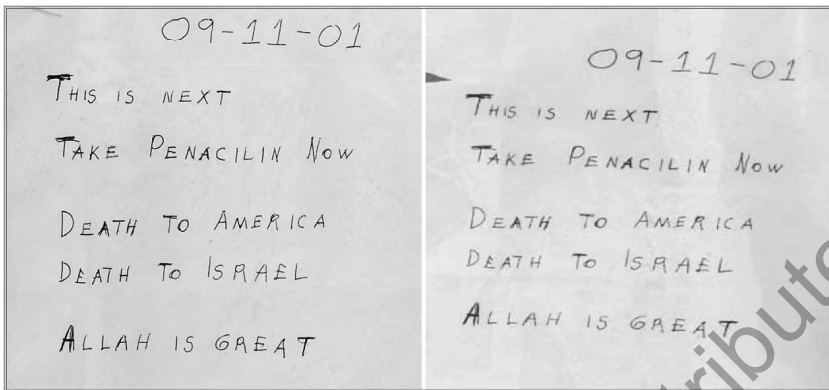
Letter sent to Senator Daschle's office.

with inhalation anthrax on 5 October. Stevens had fallen ill and sought medical treatment on 2 October after handling a letter laced with a fine "white talc" on 19 September, and Blanco had fallen ill and sought medical treatment on 1 October.⁸ Blanco's treatment was successful, and he was discharged

on 17 October. In response to Blanco's diagnosis, the FBI began a criminal investigation into the Florida anthrax cases on 8 October. As forty FBI agents descended on the American Media building, which was home to the *Sun* and several other tabloids, including the *National Inquirer*, Attorney General John Ashcroft said that although "we are taking the matter very seriously . . . we don't know enough to know if this is related to terrorism or not."⁹ Authorities would soon get the information they needed.

In New York, news reports surfaced on 13 October about another anthrax case. On 25 September, Erin O'Connor, an assistant to NBC correspondent Tom Brokaw, handled a threatening letter that was postmarked 18 September in Trenton, New Jersey. She developed cutaneous anthrax and sought medical attention on 1 October.¹⁰ On 28 September, Casey Chamberlain, another assistant to Tom Brokaw who had originally opened the letter, also developed cutaneous anthrax.¹¹ The O'Connor and Chamberlain cases were followed by reports on 20 October of a *New York Post* employee, Johanna Huden, who also had cutaneous anthrax. She noticed a bump on her finger on 21 September and spent weeks seeing numerous physicians before she self-diagnosed the problem after reading news reports about the cases in Florida and New York. Her colleagues, an unnamed *New York Post* mailroom employee and editor Mark Cunningham, also developed cutaneous anthrax on 19 and 23 October, respectively. Cunningham noticed symptoms after going through old mail, some of which was postmarked in September.¹² And in a disturbing development at the ABC offices in New York, the seven-month-old son of an ABC employee developed cutaneous anthrax on 29 September after visiting his mother's office and was admitted to the hospital on 1 October.¹³ Also on 1 October, Claire Fletcher, an assistant to *CBS News* anchor Dan Rather, developed cutaneous anthrax. She recovered quickly, no one else in the *ABC News* office fell ill, and there was no envelope or other source of the bacteria to account for Fletcher's illness, prompting Rather to say that "our biggest problem is not anthrax. . . . Our biggest problem is fear."¹⁴

As the New York reports came in, copycat cases raised investigators' ire. Three St. Petersburg, Florida—postmarked letters arrived at media outlets in New York containing a powder that tested negative for anthrax muddied the waters and were described as a "tremendous drain on resources" by the New York FBI office.¹⁵ Attorney General Ashcroft said the FBI was dealing with dozens of anthrax hoaxes, and warned that the Justice Department would vigorously prosecute those involved in hoaxes, which would be prosecuted as federal felonies.¹⁶



Letters sent to *NBC News* anchor Tom Brokaw (left) and the *New York Post* editor (right).

Cases also began to surface among postal workers at the Hamilton Township mail center in New Jersey, but unlike in New York, they were a mix of both cutaneous and inhalation anthrax. Victims included Richard Morgano, who presented with cutaneous anthrax on 26 September after scratching his arm on the job while fixing a jammed machine on 18 September.¹⁷ His colleague, mail carrier Teresa Heller, fell ill with cutaneous anthrax on 28 September. Another colleague, Norma Wallace, was diagnosed on 19 October with inhalation anthrax after a colleague shot compressed air into a jammed machine that sent dust particles into the air on 9 October.¹⁸ Patrick O'Donnell, another Hamilton postal worker, developed symptoms on 14 October. This time, it was an acute case of cutaneous anthrax that kept him in the hospital for a week.¹⁹ The next day, Jyotsna Patel, also a postal worker, developed inhalation anthrax and spent the eight days in the hospital, while Linda Burch, an accountant at the same facility, developed a lesion on her forehead on 17 October.²⁰

The picture in Washington, D.C., quickly darkened. The anthrax letter that arrived at Senator Dashle's office on 15 October shut down Congress for the second time in two months.²¹ In addition to Leslie and Wincup, twenty-nine others on the Hill tested positive for exposure but did not develop anthrax symptoms. At the Brentwood mail facility, which processes mail bound for Capitol Hill, postal workers quickly succumbed to the disease. Leroy Richmond, an anonymous patient dubbed "George Fairfax," Thomas Morris Jr., and Joseph Curseen Jr. developed inhalation anthrax on 16 October.²² Richmond and the anonymous patient survived, and Morris and Curseen

succumbed to their illnesses on 21 and 22 October, respectively. Nearby, a postal worker at the State Department mail center in Sterling, Virginia, named David Hose developed inhalation anthrax on 22 October but survived.²³

Two fatal inhalation anthrax cases in New York and Connecticut proved to be the most baffling. In New York, a stockroom attendant at Manhattan Eye, Ear and Throat Hospital named Kathy Nguyen became ill on 25 October and died on 31 October.²⁴ In nearby Connecticut, a ninety-four-year-old woman named Otilie Lundgren became ill on 14 November and died on 21 November in a hospital in Derby, Connecticut. Like the *ABC News* office case, there was no known source of exposure, and therefore no immediate explanation for the women's deaths.²⁵

By mid-November, authorities faced a total of twenty-two confirmed cases of anthrax, thirty-one positive cases of exposure, and another ten thousand cases deemed "at risk" from exposure.²⁶ Eleven of the twenty-two victims suffered from cutaneous anthrax but recovered after long courses of antibiotics. The remaining eleven suffered from the more deadly form of inhalation anthrax; only six survived.

The Amerithrax Task Force

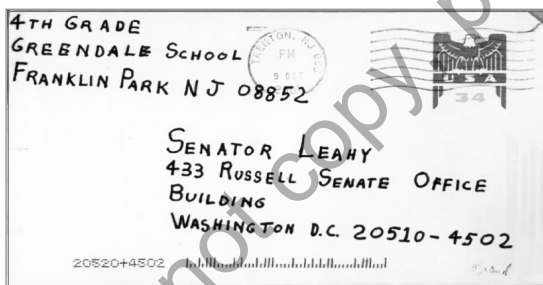
In response to Robert Stevens's death and the letters found in New York and Washington, D.C., the FBI opened one of the largest investigations in its history—Amerithrax. Given the geographic scope of the investigation, FBI field offices in Miami, New York, New Haven, Baltimore, and Washington, D.C.—designated the lead office—participated. Nearly thirty full-time investigators from the FBI, US Postal Inspection Service, and the US Attorney's Office for the District of Columbia formed the core of the task force.²⁷



Envelopes sent to *NBC News* anchor Tom Brokaw (left) and *the New York Post* editor (right).

Initially, the Amerithrax task force did not know whether the letters were an act of a state-sponsored terrorist group, an international terrorist organization, a domestic terrorist group, or an individual.²⁸ Investigators cast a broad net and scrutinized more than a thousand potential suspects in the United States and abroad.²⁹ This led to in-depth investigations of three hundred individuals, in addition to extensive scientific investigation of the letters, buildings, victims, and other physical objects connected to the case.³⁰

On 15 November, investigators received another piece of evidence. While searching through quarantined Capitol Hill-bound mail, FBI and Environmental Protection Agency agents found a letter addressed to Sen. Patrick Leahy that tested positive for anthrax. The letter had found its way into the quarantined mail after an optical scanner misread the zip code on the letter and sent it to the State Department mail facility rather than to the Capitol. It was then rerouted to the Hill, but it did not get there before the mail system shut down and the mail was quarantined.³¹ This brought the total number of anthrax letters to four: two sent to New York addresses at the *New York Post* and the *NBC News* office of Tom Brokaw, and two sent to the Capitol Hill offices of Senators Daschle and Leahy. All four letters bore a Trenton, New



The envelope sent to Senator Leahy and found by investigators on November 15, 2001, bore striking resemblance to the previous envelopes.

Jersey, postmark, although the New York envelopes were dated 18 September and the Washington-bound envelopes were dated 9 October. In addition, the New York envelopes had no return address, while the Washington-bound envelopes bore a fictitious New Jersey return address at the “Greendale School.” Investigators did not find a letter in Florida, but environmental testing of the

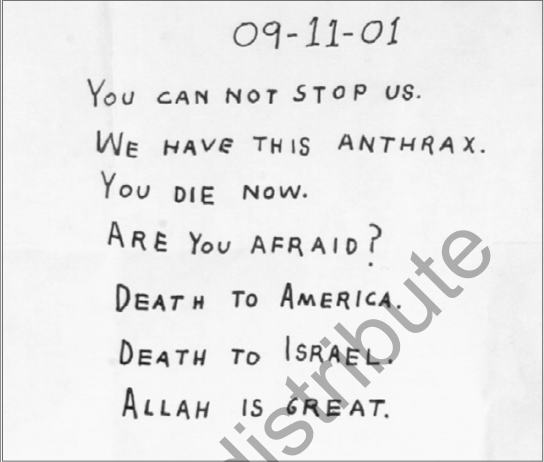
American Media building found it to be a hot zone for anthrax, especially in Stevens’s office space.

Given the scientific challenges presented by a bioterrorism attack using anthrax, the FBI received assistance from “29 government, university and commercial laboratories, which augmented FBI Laboratory efforts to develop the physical, chemical, genetic, and forensic profiles of the anthrax

spore, letters, and envelopes used in the attacks.”³² By 18 October, the Centers for Disease Control confirmed that the strains of anthrax in the Daschle and Brokaw letters matched, as did the handwriting and written threats.³³ The spores in the New York letters also were found to match each other.³⁴ Also in October, Northern Arizona University microbiologist Paul Keim pinpointed the strain of anthrax used in the letter: it was a strain called the Ames strain that was derived from a cow in Sarita, Texas, in 1981.³⁵ Keim called the find “chilling” because the Ames strain was developed in US government laboratories.³⁶ In an independent test, the CDC came to the same conclusion. It was the Ames strain. In June 2002, the FBI announced that radiocarbon dating indicated that all the spores had been created within two years of the attack.³⁷

It took nearly a year for the task force to track down the mailbox from which the letters were mailed. Although the letters all bore the Trenton, New Jersey, postmark, that facility served 48 post offices and 625 of the ubiquitous blue street-side mailboxes. Theoretically, all of them would have to be tested. On the 621st try in August 2002, they found a mailbox in Princeton, New Jersey, that was heavily contaminated with anthrax.³⁸

Investigators and scientists eventually developed a profile of a likely suspect that included scientific ability, laboratory access to the Ames strain of anthrax, proximity and other links to New Jersey, and suspicious behavior. In late June, officials acknowledged that they had no prime suspect and that they maintained a list of fifty possible individuals.³⁹ By July 2002, a profile was featured in the media that described the suspect as “a loner, a science nerd with access to a sophisticated lab. He has a reason to be peeved, and he’s familiar with the Trenton, N.J. area. This Unabomber-like person, officials say, mailed the anthrax-laced letters last fall that resulted in five deaths.”⁴⁰



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.

The letter sent to Senator Leahy was identical in text to the letter sent to Senator Daschle.

Analysis of Sample	COPY
Date analyzed - 17 October, 2001 Date of Report - 18 October, 2001	
Sample <u>SP002.57, letter/powder</u>	
<p>I received the sample (in ziplock bags) from [redacted] on the afternoon of 17 October, 2001. The sample was taken into B-3. Insufficient powder was on the letter, so powdery material was scraped from the envelope and put into a small, tared, glass container. The container was reweighed and the net weight of the powdery material was determined to be 0.013 grams. To the material was added 987 μl of sterile water for injection to make a total of 1 gram (and approximately 1 ml) of suspension. Ten-fold dilutions were plated out onto TSA, then incubated overnight. Plate counts were made, and it was determined that the original tube contained 2.72×10^{10} CFU per ml. Since there was 0.013 grams of material, this calculates to be 2.1×10^{12} CFU per gram of powder material.</p> <p>Visual inspection of the suspension of material under phase contrast microscopy found no visible vegetative cells, no visible debris, and very few small clumps. Most of the material appeared to be individual refractile spores.</p> <p>Interpretations and conclusions: If this is a preparation of bacterial spores, it is an extremely pure preparation, and an extremely high concentration. These are not "garage" spores. The nature of the spore preparation suggests very highly that professional manufacturing techniques were used in the production and purification of the spores, as well as in converting the spores into an extremely fine powder.</p>	
<u>Bruce E. Ivins, 18 Oct, 2001</u>	
Bruce E. Ivins, Ph.D. USAMRIID Bacteriology Division	

An assessment by an anthrax specialist at the US Army Medical Research Institute of Infectious Disease at Ft. Detrick, Maryland, found the spores to be extremely fine, requiring professional manufacturing techniques.

Box 2.1 FBI Linguistic and Behavioral Assessment

In a 9 November 2001 press briefing, the FBI released a linguistic and behavioral assessment of the letters that had been received to date. In addition to noting that "it is highly probable, bordering on certainty, that

Box 2.1 (Continued)

all three letters were authored by the same person,” the FBI offered the following behavioral assessment and requested the public’s help to identify the killer.

Based on the selection of Anthrax as the “weapon” of choice by this individual, the offender:

- ▶ is likely an adult male.
- ▶ if employed, is likely to be in a position requiring little contact with the public, or other employees. He may work in a laboratory. He is apparently comfortable working with an extremely hazardous material. He probably has a scientific background to some extent, or at least a strong interest in science.
- ▶ has likely taken appropriate protective steps to ensure his own safety, which may include the use of an Anthrax vaccination or antibiotics.
- ▶ has access to a source of Anthrax and possesses knowledge and expertise to refine it.
- ▶ possesses or has access to some laboratory equipment; i.e., microscope, glassware, centrifuge, etc.
- ▶ has exhibited an organized, rational thought process in furtherance of his criminal behavior.
- ▶ has a familiarity, direct or indirect, with the Trenton, NJ, metropolitan area; however, this does not necessarily mean he currently lives in the Trenton, NJ, area. He is comfortable traveling in and around this locale.
- ▶ did not select victims randomly. He made an effort to identify the correct address, including zip code, of each victim and used sufficient postage to ensure proper delivery of the letters. The offender deliberately “selected” NBC News, the *New York Post*, and the office of Senator Tom Daschle as the targeted victims (and possibly AMI in Florida). These targets are probably very important to the offender. They may have been the focus of previous expressions of contempt which may have been communicated to others, or observed by others.
- ▶ is a non-confrontational person, at least in his public life. He lacks the personal skills necessary to confront others. He chooses to confront his problems “long distance” and not face-to-face. He may hold grudges for a long time, vowing that he will get even

(Box continues)

Box 2.1 FBI Linguistic and Behavioral Assessment (Continued)

with “them” one day. There are probably other, earlier examples of this type of behavior. While these earlier incidents were not actual Anthrax mailings, he may have chosen to anonymously harass other individuals or entities that he perceived as having wronged him. He may also have chosen to utilize the mail on those occasions.

- ▶ prefers being by himself more often than not. If he is involved in a personal relationship it will likely be of a self serving nature.

Source: Amerithrax Press Briefing, “Linguistic/Behavioral Analysis of the Anthrax Letters,” Federal Bureau of Investigation, November 9, 2001, <http://www.fbi.gov/about-us/history/famous-cases/anthrax-amerithrax/linguistic-behavioral-analysis-of-the-anthrax-letters>.

An Inside Job?

Once investigators learned that the anthrax used in the attacks was the Ames strain, they were able to focus their efforts on places where it was researched and stored. Using this information and the profile, investigators by late July 2002 had narrowed their search to thirty people at two US government installations: the US Army Medical Research Institute of Infectious Disease (USAMRIID) at Ft. Detrick, Maryland, and Dugway Proving Ground in western Utah.⁴¹ Both of these facilities began as military sites associated with the erstwhile US offensive biological weapons program. When President Richard Nixon disbanded the offensive program in 1969, he ordered that future work be confined to “research in biological defense, on techniques of immunization, and on measures on controlling and preventing the spread of disease.”⁴²

In 2001, scientists at these facilities were focusing their efforts on just this kind of defensive research. They retained small stocks of deadly viruses and bacteria in order to study them and create better vaccines. They also served as the nation’s repository of expertise in anthrax. In a bizarre catch-22, investigators interviewed these scientists, sometimes repeatedly, as potential suspects, while at the same time relying on many of these same scientists to use their unique skills to test the thousands of samples involved in the case. According to one scientist at USAMRIID, where the Ames strain was developed and

researched, “Between 11 Sept. and May, USAMRIID processed over 31,000 samples and 260,000 assays in our forensic-based lab.” They usually processed just four to six samples a month.⁴³ During this period, scientists often worked hundred-hour weeks, and many slept in their labs or cars.

Even as the scientists did this sensitive work, questions about the safety and security of both facilities arose. USAMRIID was specially equipped to handle this kind of work and appeared to take appropriate measures to ensure the safety and security of the labs, according to a July 2002 press report:

The labs where USAMARIID does this very dangerous work are reached from the office suites through a long, tan wallpapered hall and a metal door that opens only after a worker scans a magnetic identification card. Ahead are labyrinthine halls and labs—50,000 square feet at biosafety level 3, where agents like anthrax, plague, and Venezuelan equine encephalitis are studied, and the 10,000 square feet at biosafety level 4, where research is done with the most deadly agents, like Ebola and Marburg. To get into any of those, the worker needs to re-enter the magnetic card, along with a four-digit number that’s only issued after the worker has been immunized against that particular bug. The doors are also keyed in to central security, so there is a master list of who enters and exits the labs.⁴⁴

Reports about security at Dugway Proving Ground, however, were less glowing. One former scientist at Dugway who directed biological safety from 1989 to 1993 publicly accused the facility of “sloppy handling” of anthrax spores.⁴⁵ He cited anthrax spores stored in unsecured refrigerators in hallways, plans for production of thirty gallons of wet anthrax, and poor lab safety procedures. Officials at the base, however, refuted the claims.⁴⁶

As their work progressed, investigators narrowed their focus on these same scientists who were aiding the investigation. On the basis of a tip, agents drained a pond near USAMRIID in June 2002 in Frederick, Maryland, in search of anthrax evidence. None was found. They searched the homes of scientists but named no suspects. By the end of July investigators had “interviewed some 5,000 people, issued 1,700 grand jury subpoenas, polygraphed hundreds of people, and created 112 databases just for this case.”⁴⁷ Some scientists who had been interviewed told the press that “the FBI’s line of questioning in interviews with microbiologists suggested that the Bureau believed the anthrax spores could have been grown in secret inside Fort Detrick.”⁴⁸

Despite the FBI's efforts, by August 2002 there were still no suspects. With the one-year anniversary of the first two letters looming, pressure was building for the task force to name a suspect. A *New York Times* editorial called the FBI investigation "unbelievably lethargic." Unnamed government officials raised the specter of more attacks in the context of the FBI's slow investigation, telling the British newspaper the *Guardian* that "it was grown, and therefore it can be grown again and again."⁴⁹

On 6 August 2002, the government publicly announced that it had a person of interest in the case. In an unprecedented move, Attorney General John Ashcroft announced on the CBS *Early Show* that investigators had identified Steven J. Hatfill as a person of interest.⁵⁰

A Person of Interest

After nearly a year-long investigation, the announcement of a single person of interest caused both alarm and relief. Investigators trained their eyes on Hatfill because of his prior work at USAMRIID and tips from other scientists. Hatfill's background, scientific capabilities, and activities around the time of the anthrax letters contributed to the FBI's increased scrutiny of him and ultimately its public announcement of him as a person of interest in the case.

Steven J. Hatfill's background was indeed interesting to investigators. An extroverted ex-military member, he had spent most of his adult life living in Africa in the midst of wars and epidemics, worlds removed from his upbringing in Illinois, where he was born in 1953. He attended Southwestern University to study biology but left his studies for the Democratic Republic of Congo, where he worked at a Methodist mission hospital. While there, he honed his biology skills working in the lab. When he returned to the United States, he finished college and joined the Army, but he left when his poor vision prevented him from becoming a pilot. He subsequently returned to Africa, where he lived from 1978 to 1994 and later claimed to have completed a medical degree in Zimbabwe (then Rhodesia) near a suburb called Greendale. Investigators later discovered that Hatfill had allegedly forged his doctorate, a claim his lawyer publicly confirmed.⁵¹ During the time he lived in Africa, there were frequent outbreaks of anthrax in livestock—a common occurrence in a civil war-racked region, when animals went unvaccinated. Hatfill made good use of his US Army background during this time by serving as a volunteer Rhodesian Army medic during

the civil war. After returning from Africa, he completed a postdoctoral degree and received three master's degrees before accepting a fellowship at Oxford. As a virologist, he returned to the United States to work on Ebola and other viruses at the National Institutes of Health (NIH) in Bethesda, Maryland.⁵² From there, he got a job at USAMRIID.

Investigators first interviewed Hatfill in early 2002. Other scientists and analysts had been urging them to look more closely at Hatfill because of his background in Africa, scientific capabilities, and activities around the time of the anthrax attacks.⁵³ Investigators specifically noted that Hatfill had worked at USAMRIID from 1997 until 1999, and according to the FBI, had "virtually unrestricted access to the Ames strain of anthrax" during that time.⁵⁴ Also, like many in the biodefense community who developed training scenarios, Hatfill understood how to disseminate anthrax through the mail.⁵⁵ In fact, he had given an interview while he was still at NIH about how to weaponize bubonic plague using only simple equipment.⁵⁶ He had also shown his ingenuity and expertise in other ways: he oversaw the construction of a full-scale model of an Iraq mobile biological weapons lab and taught the military how to destroy it, in addition to helping to prepare a 1999 brochure for emergency personnel on how to handle anthrax hoaxes.⁵⁷ His unpublished book about a bioterrorism attack on Washington, D.C. also raised suspicion, as did his work in Rhodesia during a large anthrax outbreak in the late 1970s. Last, he had filled multiple prescriptions for Cipro in 2001 and was taking the drug in September when two of the anthrax letters had been postmarked.⁵⁸

Investigators first searched Hatfill's apartment and his rented storage unit in Florida with Hatfill's consent on 25 June 2002. They returned on 1 August to search the apartment again. This time, using a search warrant, they searched not only his apartment, but also the trash bins outside his building, coming up empty. Press reports at the time stressed that he had not been accused of any wrongdoing, but he "is the only person known to have been subjected to such intensive scrutiny."⁵⁹ Following Attorney General Ashcroft's 6 August announcement that Hatfill was a person of interest in the case, the FBI searched Hatfill's apartment again on 11 August. All the while, Hatfill asserted his innocence. On 12 August, Hatfill held his own press conference outside his attorney's office, saying:

I am appalled at the anthrax terrorist incident, and I wish the authorities Godspeed in catching the culprits or culprit. I do not object to being considered a subject of interest by the authorities because of my knowledge and

background in the field of biological warfare defense. But I do object to an investigation characterized, as this one has been, by outrageous official statements, calculated leaks to the media and causing a feeding frenzy operating to my great prejudice. I especially object to having my character assassinated by reference to events from my past. . . . I know nothing about this matter.⁶⁰

Investigators had reasons to think differently. In their eyes, Hatfill's background, travel, scientific capabilities, and access most certainly made him a person of interest, if not yet a prime suspect in the case.

RECOMMENDED READING

Amerithrax Investigation Summary. *Department of Justice*. Washington, DC: Department of Justice. February 19, 2010. <http://www.justice.gov/amerithrax>.

Do not copy, post, or distribute

Table 2.1 ▶ Case Snapshot: The Anthrax Killer		
Structured Analytic Technique Used	Heuer and Pherson Page Number	Analytic Family
Chronologies and Timelines	p. 56	Decomposition and Visualization
Premortem Analysis	p. 240	Challenge Analysis
Structured Self-Critique	p. 245	Challenge Analysis

THE ANTHRAX KILLER

Structured Analytic Techniques in Action

Analysts are often called upon to support government task force investigations in which the fast pace of events, high level of scrutiny, and sheer quantity of information can be overwhelming. In the face of this kind of challenge, Chronologies, Timelines, Maps, and the Premortem Analysis and Structured Self-Critique can become essential tools for tracking, evaluating, sharing, and troubleshooting a large amount of data. In this case, Steven Hatfill was identified as the FBI's main person of interest. In the following exercises, students put themselves in the shoes of FBI analysts who must unravel how events in the case unfolded, present the information to a senior policy maker in a succinct format, and analyze the evidence prior to a decision on identifying persons of interest.

Techniques 1, 2, and 3: Chronology, Timeline, and Map

Chronologies are simple but useful tools that help order events sequentially; display the information graphically; and identify possible gaps, anomalies, and correlations. The technique pulls the analyst out of the evidentiary weeds to view a data set from a more strategic vantage point. A Chronology places events or actions in the order in which they occurred. A Timeline is a visual depiction of those events showing both the time of events and the time between events. Chronologies can be paired with a Timeline and mapping software to create geospatial products that display multiple layers of information such as time, location, and multiple parallel events. The geographic scope and many details of this case make a Chronology, Timeline, and Map particularly useful in understanding how the case unfolded both temporally and spatially.

Task 1. Create a Chronology of the anthrax attacks and investigation.

STEP 1: Identify the relevant information from the case narrative with the date and order in which it occurred.

STEP 2: Review the Chronology by asking the following questions:

- ▶ What does the timing of the appearance of symptoms tell me about when the letters were mailed?
- ▶ Could there be any other letters than the four in the government's possession?
- ▶ What additional information should we seek?
- ▶ Are there any anomalies in the timing of events?

Task 2. Create a Timeline of the victims of the attacks based on geographic location.

STEP 1: Identify the relevant information about the victims from the Chronology with the date and order in the events occurred. Consider how best to array the data along the Timeline. Can any of the information be categorized?

STEP 2: Review the Timeline by asking the following questions:

- ▶ Do any of the events appear to occur too rapidly or too slowly to have reasonably occurred in the order or timing suggested by the data? (e.g., the letters and their postmarks).
- ▶ Are there any underlying assumptions about the evidence that merit attention?
- ▶ Does the case study contain any anomalous data or information that could be viewed as an outlier? What should be done about it?

Task 3. Create an annotated Map of the letters and twenty-two anthrax cases based on your Chronology. Visually display the information on a Map such that it could be used as a graphic for a briefing with a high-level official.

STEP 1: Use publicly available software of your choosing to create a Map of the area.

STEP 2: Overlay the route.

STEP 3: Annotate the Map with appropriate times and locations presented in the case.

Analytic Value Added. What do the locations and sequence of events tell you? What additional information should you seek? Do you agree with investigators' findings that the four letters to date and a fifth unknown letter are most likely responsible for the anthrax cases to date?

Technique 4: The Premortem Analysis and Structured Self-Critique

The goal of these techniques is to challenge—actively and explicitly—an established mental model or analytic consensus in order to broaden the range of possible explanations or estimates that are seriously considered. This process helps reduce the risk of analytic failure by identifying and analyzing the features of a potential failure before it occurs.⁶¹

Task 1. Conduct a Premortem Analysis and Structured Self-Critique of the reigning view that Steven Hatfill is the anthrax killer.

STEP 1: Imagine that a period of time has passed since you published your analysis that contains the reigning view. You suddenly learn from an

Pitfall	Definition
Analytic mindset	A fixed view or attitude that ignores new data inconsistent with that view or attitude
Anchoring	The tendency to rely too heavily on one trait or piece of information when making decisions
Confirmation bias	The tendency to favor information that confirms one's preconceptions or hypotheses, independently of whether they are true
Historical analogy	Using past events as a model to explain current events or to predict future trends
Mirror imaging	Assuming that the subject of the analysis would act in the same way as the analyst
Premature closure	Coming to a conclusion too quickly based on initial and incomplete information
Satisficing	Generating a quick response that satisfies all stakeholders associated with the issue

unimpeachable source that the judgment was wrong. Then imagine what could have caused the analysis to be wrong.

STEP 2: Use a brainstorming technique to identify alternative hypotheses for how the poisoning could have occurred. Keep track of these hypotheses.

STEP 3: Identify key assumptions underlying the consensus view. Could any of these be unsubstantiated? Do some assumptions need caveats? If some are not valid, how much could this affect the analysis?

STEP 4: Review the critical evidence that provides the foundation for the argument. Is the analysis based on any critical item of information? On a particular stream of reporting? If any of this evidence or the source of the reporting turned out to be incorrect, how would this affect the analysis?

STEP 5: Is there any contradictory or anomalous information? Was any information overlooked that is inconsistent with the lead hypothesis?

STEP 6: Is there a potential for deception? Does anyone have motive, opportunity, and means to deceive you?

STEP 7: Is there an absence of evidence, and does it influence the key judgment?

STEP 8: Have you considered the presence of common analytic pitfalls such as analytic mindsets, confirmation bias, “satisficing,” premature closure, anchoring, and historical analogy?

STEP 9: Based on the answers to the themes of inquiry just outlined, list the potential deficiencies in the argument in order of potential impact on the analysis.

Analytic Value Added. As a result of your analysis, what are the strengths and weaknesses of the case against Hatfill? What additional information should you seek out? Do any assumptions underpin the case? Do they change or reinforce your level of certainty?

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61. The steps as outlined in this case combine the processes for a Premortem Analysis and Structured Self-Critique. This combination is particularly helpful in cases that require analysts to think broadly, imaginatively, and exhaustively about how they might have been wrong. The Premortem Analysis taps the creative brainstorming process, and the Structured Self-Critique provides a step-by-step assessment of each analytic element. To aid students' learning process, the questions in this case have already been narrowed from the fuller set of Structured Self-Critique questions found in Richards J. Heuer Jr. and Randolph H. Pherson, *Structured Analytic Techniques for Intelligence Analysis*, 2nd ed. (Washington, DC: CQ Press, 2015).