Fear and the Unprepared: United States Bioterrorism Policy and the 2001 Anthrax Crisis

by

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ABSTRACT

FEAR AND THE UNPREPARED: UNITED STATES BIOTERRORISIM POLICY AND THE 2001 ANTHRAX CRISIS

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This thesis utilizes a combination of relevant newspaper articles, reports from United States government agencies, and policies to examine the history of biological warfare to bioterrorism within the United States. Through these sources, the relationship between public perception/values and political policy and law become more transparent. Over a century-long arc, this thesis explores the role of fear in determining bioterrorism policy from the creation of biological weapons through use as a domestic terrorism agent. The choice blindness to cultural problems within the societal system and their connections to domestic terrorism inhibits the justice system from functioning at a higher capacity. Through my examination of the 2001 anthrax attacks, it is revealed that this event, magnified by the 9/11 attack on the Twin Towers, had a significant impact on public perception of biological weapons and subsequently on bioterrorism policy and legal structures.

DEDICATION

In extreme loving memory of Donna Jean Dewitt who claimed to never remember what I was studying yet bragged about it to everyone she knew when she thought I couldn't hear.

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1 Introduction

1.1 Are You Afraid of the End of the World?

Bioterrorism is a complicated product evolved from technological advancements and complex societal discord.[1] "Bioterrorism" combines biological warfare with the modern conception of "terrorism" to incite physical damage and psychological fear on a target. Weaponizing disease to win a conflict is not a new concept and neither is improving technological warfare but bioterrorism enacts an intentional psychological component that has previously been absent from disease warfare. The real weapon of bioterrorism is fear and shock, which is utilized to gain an upper hand politically, socially, or for an individual purpose. At the risk of sounding pessimistic, humanity has a tendency of inventing new ways to cause harm against one another.

The United States of America was conceived in violence and bloodshed that has bred a culture of fear intrinsic to the growth and development of the country. Bioterrorism within the United States of America did not begin with the 2001 anthrax attacks although the incident held up a mirror to society. The funding of biological weapons programs and training of scientists within the United States from the World Wars until 2001 created the catalyst for the 2001 anthrax attacks. Bruce Ivins, the man

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[1] George Annas, "Bioterrorism, Public Health, and Civil Liberties," *The New England Journal of Medicine* 346, no. 17 (2002), 1337. Doi: 10.1056/NEJM200204253461722

held responsible for the attacks, was a lead anthrax researcher within Fort Detrick, the Department of Defense's biological weapons research center. Regardless of the popular commentary that Ivins may not have been the actual culprit, the case makes it clear that whoever did it needed sophisticated refining technology, an extremely in-depth knowledge of anthrax, and the space to do it. All of these conditions suggest that a federal researcher, funded by government programs and testing biological weapons, was responsible for the attacks. In a sense, the Department of Defense, United States Medical Research Institute of Infectious Diseases (USAMRIID) and Fort Detrick created their own sophisticated enemy of the state within the country's borders at a time when threats were perceived to be external and international.

Biological weapons have not had a successful historical track record. They are expensive to produce, require a high level of education to manufacture, and almost impossible to control. Working with biological agents poses a threat to all who are involved and when deployed, often fall short of the intended potency due to their inherently unstable nature. Yet, they continued to be the recipient of various research programs and government funds intent on finding a way to make them work. Specifically, anthrax research continued throughout the decades to receive funding, research attention, and active use despite underwhelming results every time. Government researchers and criminals within the United States and abroad were interested in the tiny white spores and the potential they held to become an effective weapon.

Biological weapons hold the biggest power of any weapon developed: fear. Nuclear weapons have the potential to level an entire geographic area with the push of a button and cause lingering inhospitable events for decades afterwards but this is counter-intuitive. Even if the goal was complete domination, if the area remains uninhabitable and everyone who resided there was killed, there is nothing to dominate. Biological weapons held the same nuance as the nuclear weapons as they were developed alongside each other and did not destroy entire areas and populations beyond useability. Biological weapons were difficult to control as their intended target could not be guaranteed but the effects of becoming infected by a biological agent would instill fear in the enemies as well as anyone in the surrounding area. No one wants to be sick, no one wants to have manipulations to their appearance or genetic makeup, and everyone is afraid of becoming sick and never getting well again. In addition, restrictions on public freedoms are often imposed creating a corresponding economic crisis. Manufacturing dangerous and uncontrollable weapons for the purposes of defense is an ironic mantra. It requires the largest and deadliest defenses be manufactured to protect the United States against other countries who may develop similar weapons. Mutually assured destruction creates a terrifying premise for a disastrous scenario and everyone loses.

Moving into the post-World War era and through to 2001, fear is everywhere. The culture of fear is not an independent phenomenon that a targeted group experienced that can be extrapolated to a larger non-representative body. The average citizen

through to government officials and the President of the United States experienced fear of biological weaponry and being on the receiving end. This culture of fear was not even necessarily American but a global phenomenon feeding the public panic within the United States. While the biological weapons tended to have minimal results when used, the Department of Defense and federal bureaucracy sought to prevent rival countries from manufacturing similar weapons. This desire justified domestic research on biological weapons and their potential.

This culture of fear presented itself differently throughout the separate societal levels and within different decades based on the surrounding circumstances. At the civilian level, citizens became recipients of alarming news articles and press conferences warning of a new danger around every corner and the extreme dangers of biological weapons. Government organizations handled fear with more research, more testing, and pushing for more innovation in the name of national security. The President of the United States approved the decisions regarding bioweapons productions such as: delegated funding, ran scenarios, and decided the official stance on biological weapons and their creation often requested by the United States' military and sectors of the Department of Defense. The surrounding cultural events such as the Cold War, Vietnam War, Cuban Missile Crisis, and eventually, the rise of domestic terrorism gave backing to this fear. It was not unfounded because the threat posed by biological weapons remained and became more and more prevalent as the United States neared 2001.

While the United States was no longer in the Cold War era, the culture of fear that was developed continued through this new catalyst. Fear is political and it represents power.

1.2 Biological Arms + Fear = Bioterrorism

The American history of bioterrorism began with the introduction of modern warfare during the World Wars and the combination of nuclear weaponry with biological and chemical agents that began to dominate the WWII battlefields. The experience of biological warfare within the United States was unique as it walked a precipice between a desire to explore the potential of these weapons and sociopolitical concerns about the potential and ethics surrounding the new weapons.

Any substance that manipulates the well-being of a life form, particularly humans, is a biological agent. Any act, or attempted act, that serves the purpose of accomplishing a goal through implementation of fear is terrorism. Bioterrorism agents include botulism, plagues, viruses, manipulated food substances, fevers, chemicals, and bacteria. Most people will encounter some form of biological agent that makes them ill at some point in their lifetime that transcends the boundaries of natural contact.[2] Generally, this is due to the foods we eat and the high degree of manufacturing involved in goods and materials that we encounter daily as opposed to malicious intent. The

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[2] Theodore Cieslak., Mark Kortepeter., Ronald Wojtyk., Hugo-Jan Jansen., Ricardo Reyes., James Smith., "Beyond the Dirty Dozen: A Proposed Methodology for Assessing Future Bioweapon Threats," *Military Medicine* 183, no. 1-2 (2018): 62-64. 10.1093/milmed/usx004.

addition of fear, which incites panic, is the fuel for political response and often leads to introducing legislation. Remembering the preliminary instruction of grade twelve legal studies, it is not necessarily the act itself that is criminal but the intent behind the act. This sentiment encapsulates terrorism and bioterrorism. It is not simply people becoming infected, an outbreak, or an epidemic that leads to concern about public health but the *mens rea* leading to *actus reus* containing the objective to cause harm and incite fear.

Fear is an extremely powerful tool within society. While it is generally known that fear is part of the human experience, it is often removed from the general narrative following a traumatic event. News cycles and politicians focus on resilience, the physical damage, and the body count as opposed to the psychological impact of a devastating event. We see fear used for manipulation and control in autocratic governments, instances of domestic abuse, and within uneven power imbalances. Fear has the power to control populations, change mindsets, and destroy pre-existing relationships. Learning how to harness this ability grants who wields the power immense control. Terrorism is able to do exactly that and it is not the destruction, lives lost, or the invasion of space that makes terrorists so successful; it is the use of pure fear.

1.3 Anthrax! (Not the Band)

Bacillus anthrancis, commonly known as “anthrax” is a bacterium prevalent in agriculture.[3] Originally, the bacterium infected animals and was only introduced to humans if they came into direct contact with an animal that was positive for the bacterium. This put professions like farmers and food processors at a higher risk compared to those within urban centers.[4] Anthrax as a biological weapons agent entered the stage in World War I and changed the way the bacterium interacted with people. Major Leon Fox of the U.S. army fist singled out anthrax as a potential weaponized spore.[5] Creating a weapon that integrated anthrax resulted in a direct causal relationship that was previously non-existent. The impact that the World Wars had on weapons innovation and re-defining “modern warfare” is infamous and anthrax was only a small part of the larger bioweapons project.[6] Nuclear weaponry became the favoured new warfare technology as it had a greater success against targets and wider applications. There were serious military concerns surrounding anthrax due to its unstable nature and by the 1960s, Fort Detrick and military innovation plans began to branch out to consider other alternatives.[7] While anthrax had failed as a weapon, it served civilian sciences and the heads of research saw the opportunity to support

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[3] Susan Jones. *Death in a Small Package: A Short History of Anthrax.* (Baltimore: John Hopkins University Press, 2010): 13.
[4] Susan Jones, *Death in a Small Package,* 13-15.
[5] Susan Jones, *Death in a Small Package,* 130.
[6] Sonia Ben Ouagrham-Gormley. *Barriers to Bioweapons: The Challenges of Expertise and Organization for Weapons Development* (Ithaca, New York: Cornell University Press, 2014): 64-69.
[7] Sonia Ben Ouagrham-Gormley, *Barriers to Bioweapons,* 66.

modern science and continue weapons research under the same roof.[8] 2001 was the first recorded terrorist attack that successfully harnessed anthrax as the agent of choice in the United States of America and even that statement is a matter of opinion considering the massive amount of unintended cross contamination.

1.4 So How Did We Get There?

Nuclear technology is one of the major military technological innovations produced during the World Wars. It receives a lot of academic and social attention yet biological weaponry was enhanced and re-imagined. The United States' Department of Defense, specifically the research base at (Camp) Fort Detrick, began researching and developing various disease technologies that had the potential to be weaponized under the premise of "national defense."[9] During the World Wars, this base was still a camp and focused on understanding the war measures being used against the Allied nations and creating their own. Under the base's "camp" status, the research center was a temporary solution to a military problem. Following the war, the Department of Defense continued research into the Cold War era with a focus on nuance, technological prestige, and ensuring a capitalist gain over the communist East. Camp Detrick was

[8] Sonia Ben Ouagrham-Gormley, *Barriers to Bioweapons,* 64-66.
[9] Sonia Ben Ouagrham-Gormley, *Barriers to Bioweapons,* 35-40.

promoted to Fort Detrick which recognized its permanent status and security as a military bioweapons base within the United States.

The Centre for Disease Control also became engaged in research to combat possible bioweapons attacks against the United States.[10] Regardless of their brief consultation, the manufacturing, testing, containment, and storage of the research agents remained under the supervision of the United States' military and the Department of Defense. The Public Health and Centre for Disease Control units were consulted only preliminarily and only when something inevitably went wrong. Following the Dugway Sheep Incident in Utah where 3,000 sheep where found dead under mysterious circumstances while living in close proximity to Fort Detrick's testing sites, the precursor to the Centre for Disease Control conducted an investigation against Fort Detrick and its practices.

The United States military began working on the possibilities of refining anthrax following the Second World War intending to create a way to increase the effectiveness of the agent as a biological weapon.[11] The key issue with anthrax is control. It is very difficult to create a weapon that contains the spores and only inflicts damage on the intended target once released due to the nature of the bacterium.

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[10] Morad Hassani, Mahesh Patel, Liise-Anne Pirofske, "Vaccines for the Prevention of Diseases Caused by Potential Bioweapons," *Clinical Immunology* 111, no. 1 (2004): 2. doi:10.1016/j.clim.2003.09.010.
[11] Sonia Ben Ouagrham-Gormley, *Barriers to Bioweapons,* 65-66.

1.5 Your Call, Mr. President

The 1970s demonstrated a change in public opinion after the series of outbreaks from Fort Detrick in the previous decade and a lack of understanding/low comfort level regarding the American bioweapons projects. The Dugway Sheep Incident received enormous press coverage that uncorked a pent-up conversation among the public and news outlets about the dangers of bioweapons manufacturing. President Nixon restructured the program by publicly denouncing bioweapons. President Clinton recognized the potential for biological weapons. While it would be nice to think that he was only thinking of defense against bioweapons agents, it is likely that he saw the potential for offensive uses as well. His presidency witnessed various attacks using biological agents that transcended the boundaries from something out of a science fiction novel to a reality that required addressing. As President Clinton took office as the first fully post-Cold War president, he was entering a period of relative peace and not prepared for the rise of another threat to security so quickly.

George W. Bush took office in January 2001 following the end of Clinton's second term and on the heels of a highly publicized sex scandal.[12] It was also a change of political parties as Clinton was a Democrat and Bush represented the Republicans so

[12] Peter Baker and Susan Schmidt, "Lewinsky Gets Immunity for her Testimony," *The Washington Post* (Washington, D.C.), July 29, 1998.

the term began with a changing of the guard.[13] Inaugurations bring with them an unrealistic belief that all of society's problems were going to be solved simply because there is a new Commander in Chief calling the shots.[14] Obviously, no new presidency ever fulfills the high hopes of the public and with the year that Bush was in for, he barely had a chance.

George W. Bush's presidency and cabinet built upon the return to bioweapons initiated by Clinton but chose to focus on avenues that were more tangible such as law enforcement reform, the creation of the Department of Homeland Security, and militarizing the response to potential bioterrorist threats.[15] During the 2000 election, most of the issues on the table revolved around domestic problems within the country that are impacting individuals as opposed to international bioterrorist attacks. Bush's election campaign did focus on American nationalism, American exceptionalism, and a promise to increase the defense of the country against foreign enemies.

New presidents, especially when replacing an opposing party, try to establish themselves as different from their predecessors by altering legislation and policies that were least favourable with public polls.[16] By the September 9/11 and anthrax attacks, Bush did not have much of an opportunity to officially repeal policies instated by

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[13] "Hail to the (New) Chief," *New York Post,* (New York, New York,) January 19, 2001.
[14] Ibid.
[15] George W. Bush, "Remarks on U.S. Space Policy," Speech, National Aeronautics and Space Administration, (Washington, D.C.), January 14, 2004.
[16] Deborah Orin, "Bush May Void Bill's Final Exec Orders," *New York Post,* (New York, New York), January 6, 2001.

Clinton's regime. Despite being faced with multiple crises and a broken nation he was reluctant to rely on pre-existing policies if he could avoid it.

1.6 Straight Out of a Science Fiction Novel

Popular culture representations from 1970s-1990s reflect the ongoing discord surrounding biological weapons manufacturing and potential social consequences. The 1990s witnessed an increase in domestic terrorism within the United States correlating with an increase of domestic crime involving biological weapons. In 2001, a few weeks after the infamous 9/11 attacks, the United States encountered a second terrorist attack utilizing *Bacillicus anthrancis.* The anthrax attacks resulted in minimal lives lost but was just as successful in spiking fear and chaos throughout governmental bodies and citizens as the 9/11 attacks.[17] The experience with a physical attack on American home soil combined with a psychological and bioterrorism one re-ignited the discussion surrounding bioterrorism preparedness. The 2001 experience initiated policy construction that addressed a domestic response. The new policies built upon the old Cold War rhetoric that there was a terrorist around every corner and all should be suspicious of their neighbours. The concerns about who perpetrated the attack, if there were more terrorists within the United States, and a belief that anthrax was contagious

[17] David Willman. *The Mirage Man: Bruce Ivins, the Anthrax Attacks, and America's Rush to War. (*New York: Bantam Books, 2011): 37.

led to extreme isolation as citizens mistrusted each other and kept to themselves in the wake of the attacks. When the country should have been rallying together to unite and heal, they were divided, scared, and untrusting of the government and fellow Americans alike. The Bush administration focused on international action against Iraq, Iran, and Afghanistan as well as on thwarting domestic terrorism at home. The Homeland Security project united multi levels of government to control and monitor events within the United States that may be terrorist activity.

1.7 Whodunnit

The arrest and trial of Bruce Ivins gained international attention and not all of the attention was positive. The FBI had prided their investigation based on the new psychological phenomenon of criminal profiling. The profile pointed towards a Muslim attack similar to Al Qaeda, which was responsible for the 9/11 attacks. When the culprit turned out to be a white American citizen, a stark contrast to the profile, the public began to lose faith in the FBI's new technique of criminal profiling. Conspiracy theories and civilians pushing for concrete proof (a confession) were rampant, underlining the intrinsic societal mistrust of the United States' justice system and lingering lack of confidence in the FBI from previous debacles including inability to solve a break in at

their own office and Ruby Ridge.[18] The lack of confidence was given traction because the FBI already wrongfully arrested another man resulting in a forced public apology and frustrating the citizens who were desperate for closure.[19]

The influence of 9/11 cannot be separated from the discussion and impact of the anthrax attacks. Following only two weeks after the fall of the Twin Towers, the crash at the Pentagon, and the hijacked plane landing in Pennsylvania, an already grieving nation, still in shock, was forced into a second round of violence. The culture of violence has undermined American social society since conception yet despite the amount of outrage, protests, and change in leadership, no lasting change has occurred. The clamoring for change and action is not all-for-not as more violence normally comes from it; just not peace. The political and governing bodies have experience with mass displays of violence within the United States but two back-to-back attacks appearing to be foreign attacks was a different experience. Bioterrorism remains a form of violence in the traditional sense as it maintains the ability to cause physical and psychological harm to victims but it enjoys its own brand of violence too. It acts a form of violence against the public trust.

One of the lead researchers of the anthrax project at Fort Detrick, Bruce Ivins, would become the prime suspect of the 2001 anthrax attacks following a chaotic

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[18] Frank James, "FBI Hits Wall in Anthrax Investigation: Suspect Profile is Only Clue Agency has After 2 Years," *The Chicago Tribune* (Chicago, Illinois), March 2, 2004.
[19] David Willman, *Mirage Man*, 173.

investigation by the Federal Bureau of Investigation.[20] The FBI originally arrested many suspects, most of whom were Muslim or Arab, which highlighted the reality of racial profiling heightened by the 9/11 attack on the Twin Towers before landing on Ivins.[21] Ivins had access, understanding, and a possible motive as the military intended to discontinue his research as more effective methods gained plausible ground within the laboratories. The anthrax spores sent through the mail system contaminated many other envelopes at the processing plant that it was almost impossible to localize the area of attack or establish a pattern since it presented as randomized.[22] If Bruce Ivins' goal was to prove that anthrax is an effective weapon that can be controlled, his mission failed. While anthrax research received multiple criticisms for its lack or potency due to inability to be controlled and deployed effectively, the randomness of the infected added to the overall success of this attack. If the goal was to prove that it could be an effective weapon despite the inability to be controlled upon detonation, in this he was successful in weaponizing fear.

If Bruce Ivins had perpetrated the attack out of frustration that his life's work was being rejected by the military laboratories, he was successful in saving the research. The new policies were reactionary but they were also imperialistic. George W. Bush's

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[20] David Willman, *Mirage Man,* 277.
[21] Gwen D'Arcangelis, "Defending White Scientific Masculinity: The FBI, the Media, and Profiling Tactics During the Post 9/11 Anthrax Investigation," *International Feminist Journal of Politics* 18, no. 1 (2016): 122-123. doi:10.1080/14616742.2015.1051330.
[22] Ryan Ellis, "Creating A Secure Network: The 2001 Anthrax Attacks and the Transformation of Postal Security," *The Sociological Review* 62, no.1 (2007): 170. doi:10.1111/1467-954X.12128.

advisors saw the tragedy of both attacks as an opportunity to push for more government control that had previously been blocked in the Senate repeatedly. The Homeland Security Act passed with ease in the face of national fear. While governments should not view tragedy as an opportunity, and it's tasteless to refer to the policy motions as such, but it is important to separate the individuals who were affected at a societal level and the goals of governmental bodies. Bruce Ivins worked for Fort Detrick within the Department of Defense and dedicated most of his life to anthrax and biological weapons research. Ironically, he became a manufactured by-product of the American bioterrorism projects and tested out his life's work on his fellow citizens.

Prior to 2001, bioterrorism was observed as an international threat and weaponry/research was based on defense. Following the attacks with a domestic perpetrator, the United States' government under the Bush administration began to view terrorism, specifically bioterrorism, as a threat within the homeland. This change in perspective led to the age of Homeland Security with increased government surveillance and mutual mistrust between the citizens and government bodies. The effectiveness and potential of biological agents never hid within the ability to unlock their potency and control spores but in recognizing their potential for instilling fear in a target population.

2 Like Nothing They've Seen Before - The World Wars

2.1 The World War, the Stage, Biological Weapons, the Players

The First World War was the first of its kind in modern human history. The extensive death tolls, involvement of substantive global super powers, and longevity contributed to the massive societal effect. The beginning of the First World War provided an air of excitement and promise as it was socially idealized as the answer to the problem of a stagnant society.[23] The war was intended to stimulate industry and, most importantly, end quickly with an Allied victory. The war continued with the highest death toll previously encountered in the modern world and war machines with advanced weaponry were introduced to the world stage. This fear of annihilation by innovative weaponry laid the foundation for the same type of fear experienced in the Cold War period, 2001, and the age of Homeland Security.

Biological warfare within the era of the World Wars created a polarizing discord as various weapons projects resulted in weaponry intent on biological manipulation. Antiquity has some evidence of dipping their swords in known poisons or numbing agents to increase the damage done to an opponent. In other instances such as the use of smallpox in the New World, the emerging scholarship suggests that, since initial transmission was accidental, colonizers viewed it as God's will. It is difficult to state with

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[23] Lothar Kettenacker and Tortsen Riotte, *The Legacies of Two World Wars: European Societies in the Twentieth Century*, (New York: Berghahn Books, 2011), 31.

certainty the intentions of the colonizers but the point remains that disease infected items were distributed and when Indigenous people fell ill, no attempt was made to heal or stop the infection. The 1900s brought the modern conception of biological weapons to the forefront of weapons manufacturing.[24]

2.2 Warfare Develops Morals – World War 1

World War I primarily featured mustard and chlorine gas but Russia developed biological warfare testing facilities and research labs as well.[25] Russia became the United States' main competitor following the World Wars in ideology, social development, and scientific advancement. Both emerged from the wars as global super powers at odds with each other and vying for the place of the new world leader. It's difficult to accurately speculate on the research conducted and the measures of success as the reports are either from the Russian records or British Secret Intelligence Service's reports.[26] The People's Commissariat of Health was credited with overseeing the bulk of technological advancements given their expertise in disease.[27] While specific disease particles were not relayed by intelligence, it was known that Russia was in continuous contact with Germany about the successes and possibilities of biological

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[24] W. Seth Carus, *A Short History of Biological Warfare: From Pre-History to the 21st Century* (Washington, D.C: National Defense University Press, 2017), 12.
[25] Anthony Rimmington, *Stalin's Secret Weapon: The Origins of Soviet Biological Warfare* (Oxford: Oxford University Press, 2018), 42.
[26] Rimmington, *Stalin's Secret Weapon: The Origins of Soviet Biological,* 99.
[27] Rimmington, *Stalin's Secret Weapon: The Origins of Soviet Biological*, 100.

warfare potentially leading to the development of dangerous gasses that were utilized in World War II.[28]

With respect to *b. anthracis* specifically, the spores were originally introduced by the German army in the First World War as a biological weapon against animals as opposed to humans during the war.[29] This makes sense considering the bacterium originated as an agricultural disease. During WWI, the German army utilized the anthrax spores against cattle in Allied territories with the intent of contaminating and thinning the already depleted food sources.[30] Soldiers and civilians were not targeted but it solidified the reality that Germany had a biological weapons project capable of large scale refining and repurposing. While anthrax was still the new possibility on the field, the use by the German army was enough to spur further investigation into the potential of the spores by other countries including the United States and the United Kingdom.

The United States' government under Secretary of the Interior, Franklin Lane, established the Chemical Warfare Service in 1917 as a response to soldiers that were exposed to chemical warfare agents.[31] Setting up a trend that will continue within the chemical/bioweapons agencies and development, the Chemical Warfare Service

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[28] Rimmington, *Stalin's Secret Weapon: The Origins of Soviet Biological.* 138.
[29] Rene Pita and Rohan Gunaratna, "Anthrax as a Biological Weapon: From World War I to the Amerithrax Investigation," *International Journal of Intelligence and Counterintelligence* 23, no. 1 (2010): 64. doi:10.1080/08850600903143304.
[30] Rene Pita and Rohan Gunaratna, "Anthrax as a Biological Weapon", 65.
[31] Thomas Faith, *Behind the Gas Mask: The U.S. Chemical Warfare Service in War and Peace* (Urbana, IL: University of Illinois Press, 2014), 7.

originated with the intent of creating defensive measures to protect the troops on the front line.[32] The United States' military was grossly underprepared for gas warfare and desperately needed to invent ways to harness and defend against it once they entered the war in 1917.[33] During 1918, the Service existed to assist soldiers with learning about chemical warfare and how to prepare for it as opposed to utilizing this form of weaponry themselves which left the Service purposeless in the inter-war period.[34]

Following success with this project, but also in light of how destructive these weapons could be, the program switched to offensive development.[35] The National Defense Act passed in 1923 solidified the Chemical Warfare Service's role within the military as a research and defense measure.[36] Though the Service was solidified as part of the United States' military, it was often left out of military plans until the start of World War II which would suggest that the United States did not put much weight on the promise of biological weapons until later.[37] While chemical warfare is different from biological warfare, they are cut from the same cloth and often originate with some form of biological agent, such as chlorine gas, that is refined through laboratory practice. Chlorine gas has established itself as a chemical weapon but the refinement process begins from natural and organic materials provided by the earth which adds a biological

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[32] George Annas, "Beyond Nazi War Crime Experiments: The Voluntary Consent Requirement of the Nuremberg Code at 70," *American Journal of Public Health* 108, no. 1 (2018): 43. doi:10.2105/AJPH.2017.304103.
[33] Thomas Faith, *Behind the Gas Mask,* 7.
[34] Thomas Faith, *Behind the Gas Mask,* 55.
[35] George Annas, "Beyond Nazi War Crime Experiments," 43.
[36] Thomas Faith, *Behind the Gas Mask,* 77.
[37] Thomas Faith, *Behind the Gas Mask,* 78.

component.[38] The Service program found its niche in poison gas which certainly got the attention of researchers and military executives[39] As of 1928, CWS became integrated into ongoing military plans and weapons potentials using chemical weapons.[40] Their legacy within the United States was effectively solidified by the Geneva Protocol which established that the fear and potential of chemical and biological weapons were impactful enough to require international discussion and regulation. It was therefore, powerful enough to be properly integrated into the United States' military plans.

2.3 Solving the Moral Dilemma – Interwar Period

In the interwar years, Allied and Axis powers alike breathed a sigh of relief as the "War to End All Wars" finally came to an end. There was a lot of rebuilding to be done – physically, socially, and internationally- but the fear of a never-ending war and the intense brutality it nurtured had ceased. World War I began with the understanding that it would be a short war to earn glory and stimulate the economy but dragged on into a never-before-seen hell fueling dark poetry of loss and torture from the veterans who fought. Following the war, there was a desperate desire to never allow the same level of brutality and mass death to occur again. The solution was to impose sanctions on the Axis countries to ensure they could not rejuvenate the war effort and create policies to

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[38] Thomas Faith, *Behind the Gas Mask,* 10.
[39] Thomas Faith, *Behind the Gas Mask,* 107.
[40] Thomas Faith, *Behind the Gas Mask,* 111.

ensure peace between the nations as much as possible. The League of Nations was founded seemingly as an answer and a surety to these fears left over from the War – a group of international politicians that would keep the nations of the world in check to minimize unnecessary conflict and decrease war crimes.[41] The idea, like many ideologies, worked really well on paper but ultimately forgot to plan for human intervention. The League began to be viewed as a formality/figurehead as opposed to an actual intervening governing body because it was limited to the countries that chose to join and focused entirely on peacekeeping as opposed to intervening directly in state affairs. Regardless of the League's success or lack of it, it is a strong symbol of the interwar period as a reflection of what society and sovereign states wanted following the Great War – security.

Despite an international understanding that chemical and biological weapons were especially heinous and should not be used following the impression left at the end of the Great War, development and research on them continued. The United States took the defensive stance stating that research and development was necessary to ensure that America would not fall victim to the weapons if they were used by an enemy country.[42] Congress did not divert a lot of funds towards to the program which left the researchers interested in private projects.[43] These private projects, such as the chlorine

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[41] David Armstrong, "The Origins of the League of Nations," in *The Rise of the International Organisation: A Short History,* (Palgrave, London, 1982) 4.
[42] Leo Brophy, Miles D. Wyndham, Cochrane Canning Rexmond, *The Chemical Warfare Service; From Laboratory to Field* (Washington, Office of the Chief of Military History, U.S. Army, 1959), 16.
[43] Leo Brophy et al, *The Chemical Warfare Service,* 32.

plant constructed at Edgewood as a result of Captain Chance's investment were for investors interested in scientific manufacturing for products mainly focused on repelling unwanted house pests but they laid the research groundwork for larger scale.[44] Much in the way that anthrax was primarily an agricultural weapon that grew to be used against humans, chemical and biological research originated as an agricultural solution before escalating to weaponry against enemy nations.

Following World War I, there was a global consensus that chemical and biological warfare was unacceptable and needed to be stopped. Yet, superpowers continued to engage in manufacturing of these weapons on home soil for the purposes of "defending" themselves. The mantra focused on a "mutually assured destruction" platform that if another country knew that biological/chemical weapons were being manufactured by the target country, they would halt any attacks of such kind for fear of repercussions against their own country. This argument does not hold up so well with biological weapons as there are many ways it can be implemented without annihilating an entire continent but it has some pull with the chemical weapons. Chemical and biological warfare had a lasting impact on the psyche of nations even though it was a small component of the broader war because it was perceived as particularly grotesque. The nature of biological and chemical weapons is to manipulate the original biological structure. From a religious standpoint, it is messing with God's work. From a secular

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[44] Leo Brophy et al, *The Chemical Warfare Service,* 16-17.

standpoint, it is unnerving. The concept of death, even by a weapon, has a natural air surrounding it and is comprehensible. The concept for biological weapons is to cause death through sneaky means that often have horrendous symptoms before allowing the victim to succumb. During this infection period, the victim becomes a weapon to others by way of transmission.

The inter-war period had legislation surrounding chemical and biological warfare introduced by the Geneva Convention, such as The Protocol for the Prohibition of the Use of War of Asphyxiating, Poisonous, or other Gases, and of Bacteriological Methods of Warfare. Specifically within the United States, the Department of Defense officially stated the mediums that would be considered biological/chemical warfare.[45] The Department of Defense within the United States was not the only one that was struggling to exploit these weapons.[46] The delicate juggling act of preparing for war while also keeping up with the international arms race met with the condemnable nature of biological and chemical warfare reflected the tug-of-war in the policy concerns. Ensuring weapons capability was important but so was maintaining the support of the mass public. The intent of this document was to ban, "the use in war of asphyxiating, poisonous, or other gases, and of all analogous liquids, materials or devices, has been

[45] Barbara Radke, Linda Jewell, Stuart Piketh, and Jacek Nameisnik, "Arsenic-Based Warfare Agents: Protection, Use, and Destruction," *Critical Reviews in Environmental Science and Technology* 44, no. 14 (2014): 1542. doi:10.1080/10643389.2013.782170.
[46] Ibid.

justly condemned by the general opinion of the civilized world."[47] This document clearly includes biological warfare (bacteriological) on the same plan as the chemical warfare experienced in the First World War. It held the intent of limiting research and use of such dangerous techniques on humans.[48] This legislation is an example of how, while chemical and biological warfare are technically different, they were conceptualized in similar ways and approached within the same conversation.

The Geneva Protocol appears to have been mainly a formality for countries to state a public stance on acceptable behaviour as opposed to something enforceable as demonstrated when the Italian army utilized biological agents against Ethiopia in 1935.[49] It was reformed every few years and works within frameworks of other organizations so the Protocol has a malleable nature by default.[50]

Even though the Convention took place, not all countries who joined upheld the values. One of the most prominent countries to be criticized for this was Japan. Following World War I, the Japanese leader, Tanaka Gilchi, began initiatives towards a pan-Asian control.[51] Considering it was just after the end of the First World War, other countries were resistant to becoming involved in either side of this war for monetary and

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[47] "Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gasses, and of Bacteriological Methods of Warfare," (Treaty, Geneva, Switzerland, 1925).
[48] George Annas, "Beyond Nazi War Crime Experiments," 43.
[49] W. Seth Carus, *A Short History of Biological Warfare*, 14.
[50] Ibid.
[51] Jeanne Guillemin, "The Origins of Today's Chemical Weapons Controversy in China-Japan Relations," *The RUSI Journal* 162, no. 4 (2017), 5. doi:10.1080/03071847.2017.1367211.

peace reasons. Warnings were provided to the Japanese government which resulted in Japan exiting the League of Nations and ramping up their chemical and biological warfare research stations in Manchukuo.[52] Japan began testing its weapons on Chinese prisoners of war and troops which prompted Italy to begin using biological weapons as they tried to subdue Africa.[53] The President of the United States, Franklin Roosevelt, tried to intervene using the United States' new-found position on the global stage but the United States was also assisting Japan with hiding information about the Okunoshima research center.[54] Japan did surrender to the U.S. at the end of the Second World War but they had already solidified their position as leaders in biological and chemical warfare with lasting lessons and impact on the international community.

As the world progressed into the 1930s, biological and chemical weapons did not disappear. The late 1930s especially witnessed the diversity of these weapons as pesticides, vaccines, and nerve toxins became central to on-going research within the United States.[55] Aside from technological innovations, the decade leading to the outbreak of the Second World War involved further international political actions that used biological warfare as a backdrop. Specifically, Spain, Italy, and Japan broke the rules of the Geneva Convention in imperialistic attempts at colonizing other nations.[56]

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[52] Ibid.
[53] Ibid.
[54] Jeanne Guillemin, "The Origins of Today's Chemical Weapons Controversy in China-Japan Relations," 6.
[55] Vladimir Pitschmann, "Overall View of Chemical and Biological Weapons," *Toxins* 6, no. 6 (2014): 1764. doi:10.3390/toxins6061761.
[56] Gunes Murat Tezcur and Doreen Horschig, "A Conditional Norm: Chemical Warfare from Colonialism to Contemporary Civil Wars," *Third World Quarterly* 42, no. 2 (2020): 370. doi:10.1080/01436597.2020.1834840.

There were countries, such as Iraq, that engaged in biological/chemical weapons use against foes as well but they were less potent on the international stage as they were not part of the Geneva Convention.[57] It was considered to be more heinous for a member country to disregard the protocols and this behaviour ultimately undermined the entire project.

Chlorine and mustard gas became the primary chemical focus of this decade as private investors set up research laboratories and it pulled away from the strictly biological framework. While pesticides and vaccines tend to fall by the wayside of the main narrative, they are an important innovation for the larger context. This type of research and creativity reflects a desire to learn to work with the new elements outside of the atmosphere of warfare exclusively. Within the Department of Defense, choking and nerve agents took charge.[58] Through these research projects, the public concerns began to switch to environmental concerns as well as moral. Japan experimented with nerve agents within a select water supply which, in turn, did significant damage to the ecosystem as opposed to exclusively the human population involved.[59] As more research was done, more concerns arose instead leading into the Second World War.

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[57] Ibid.
[58] Vladimir Pitschmann, "Overall View of Chemical and Biological Weapons," 1771.
[59] Friedrich Frischknecht, "The History of Biological Warfare," *EMBO Reports* 4, no. 1 (2003): 49. doi:10.1038/sj.embor.embor849.

2.4 No Rest for the Warfare Researchers – World War II

The biggest player in arms technology to evolve within the confines of the World War era was nuclear technology. Hiroshima and Nagasaki served as brutal examples of the extent of devastation that the new weaponry was capable of. With such noticeable effects, nuclear arms became something to admire as well as fear as the world emerged into its new era. This feeling of fear and helplessness did not evaporate following the war but became integrated into modern life. Adjacent to the nuclear developments was biological warfare. The development of these weapons are different, they are similar in concern and manufacturing. Nuclear technology was not used extensively in World War II but the impact of the bombs dropped on Hiroshima and Nagasaki left a searing imprint in society's conception of the weaponry and its potential. A weapon does not need to be used frequently to have a strong impact. Government officials were left questioning how important these weapons could become when a new war broke out.[60] The thought process is reflective of the nuclear conversation regarding the attacks in Japan and their subsequent effect of initiating the Cold War. Bioweapons may have a material impact that results in various forms of damage but the public reaction and impact of societal fear could not be predicted or contained. Both scenarios transcend the traditional theatre of war and place civil normalcy in jeopardy.

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[60] John Ellis Van Courtland Moon, "The US Biological Weapons Program," in *Deadly Cultures: Biological Weapons since 1945* (Cambridge: Harvard University Press, 2006), 11.

Nuclear technology did take the lead during World War II but other forms of warfare were also integrated into the battles. The Second World War brought further bioweapons developments with disease materials including typhoid in Japan, the bubonic plague in Manchuria, and anthrax in Germany, Canada, and the United States.[61] The Nazi army began loading their V-1 and V-2 rockets with anthrax spores after success with the cattle attacks in World War I. The United States, in conjunction with Canada, began production on the British-funded "N-Bomb" to weaponize anthrax.[62] In March 1945, the Imperial Japanese Army launched "Operation Cherry Blossoms At Night" which involved a I-400 submarine loaded with Aichi M6A planes loaded with fleas carrying deadly diseases including anthrax.[63] Biological and chemical warfare officially made their debut on both sides of the war in similar capacity and anthrax innovation progressed.

The Soviet Union and Japan used human test subjects for their biological weaponry and the German Nazis utilized biological torture which included the use of biological weapons. The necessity for these laws reveal the dark side of humanity that can be tempted out in times of great struggle and great uncertainty. It also displays how policies become integrated into a general society. A need for the law/policy is created

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[61] Anne Clunan, Peter Lavoy, and Susan Martin, *Terrorism, War, or Disease? Unraveling the Use of Biological Weapons* (California, Stanford University Press, 2008): 190-191.
[62] Rene Pita and Rohan Gunaratna, "Anthrax as a Biological Weapon," 65.
[63] Samuel J. Cox, "H-057-2:I-400 and Operation Cherry Blossoms at Night: Japanese Plan for Biological Warfare – September 1945," Naval History and Heritage Command, U.S. Navy, January 7, 2021. https://www.history.navy.mil/about-us/leadership/director/directors-corner/h-grams/h-gram-057/h-057-2.html

from an experience or action that requires curbing and enforcement. Both of these trends were repeated in the 2001 anthrax crisis.

The financial freedom enjoyed by the United States in the post-war period created the financial ability to create large bioweapons and military projects such as the War Research Service headed by Secretary of War, Henry Stimson. Under President Roosevelt, the United States military dedicated $60 million and 4,000 personnel to the bioweapons project.[64] $1.9 billion dollars was dedicated to the Manhattan Project alone as President Roosevelt sought to ensure America's safety from the perceived German, Soviet, and Japanese threats.[65] The present policies were borne out of fear and the President and his advisors believed that having the larger guns would ensure survival and superiority on the new world stage thus, protecting themselves and the nation from threats.

Japan was heavily involved in biological weapons research on human test subjects from as early as 1925 continuing until the end of World War II with mass body counts and numerous agents refined for weaponry purposes.[66] Governments and the general public were concerned about the mass effects of these new weapons but also afraid of being used as a test subject.[67] As the foundation for modern international

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[64] Ibid.
[65] W. Seth Carus, *A Short History of Biological Warfare,*, 25.
[66] W. Seth Carus, *A Short History of Biological Warfare*, 17-19.
[67] Waldemar Kaempffert, "Bacterial Warfare is New Horror Weapon," *The Globe and Mail,* (Toronto, Ontario), January 16, 1946.

criminal law, these international concerns and the uneasiness that this style of weaponry and the experiments enacted with similar materials resulted in legislation and accountability in one of the first instances where nations attempted to reign in chemical potential. Similar to the Geneva Protocol, the legislation stemmed from witnessing horrific actions by way of biological research and weaponry in the Second World War. Fear manifests into policy.

The United States enjoyed a unique position during the First and Second World War considering their geographic location. Being “across the pond” from the active fighting landscapes provided them with an unscathed homeland to contribute to supply chains and weapons development from a relatively safe distance. There were attacks at home, most notably Pearl Harbor, but the United States did not experience the same level of devastation as the European nations.

The Pearl Harbor attack initiated the United States’ military interest in biological weapons.[68] This is, in part, because it was a direct attack against the United States as opposed to the broader Allied forces they were supporting and also because it was done by the Japanese army. The vision of the new America that would lead the post-war world was steeped in national pride and exceptionalism. This attack was seen as a direct threat and rejection of U.S. power. There was also a racist element based on white superiority that heightened the affront from the Japanese army. The United

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[68] W. Seth Carus, *A Short History of Biological Warfare,,* 24.

States' government was able to benefit socially from the wars as their supply system ensured that the United Kingdom was indebted to the United States following the war. This debt along with American investments in foreign aid and trade initiatives provided America with financial and social power that was previously unattainable as a new country and they were able to prove themselves intellectually with their research labs.

The reality of these threats to national security and longevity was heightened by the culture of secrecy that permeated through the post-war world.[69] A culture of secrecy sows intrinsic mistrust of the government and the information that is put out. Regardless of which side a citizen is on, having a breach of trust with the governing bodies and elected officials will taint the way that information is received including warnings or assurances about the existence of threats. In the 21st century, most citizens have adjusted to the reality that the government tends to keep secrets from the general public.

Following the end of World War II, war crimes that had been kept secret during the war were brought to the public attention. That "no one knew" about the atrocities being committed on both sides of the war became a point of political and social contention. Even within the realm of science itself, scientists were divided on the topic of secrecy and how it applied to scientific ethics.[70] When secrecy is involved, the

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[69] John Ellis Van Courtland Moon, "The US Biological Weapons Program," 9.
[70] Mario Daniels and John Krige, "Beyond the Reach of Regulation? "Basic" and "Applied" Research in Early Cold War United States," *Technology and Culture* 59, no. 2 (2018): 232. doi:10.1353/tech.2018.0028.

foundation for conspiracy theories and imaginations to run unchecked is laid, often creating an environment of hysteria worse than if the truth was public knowledge.

The post-war period brought feelings hope and opportunity as the American citizens rejoiced in the return to normality with a range of new-found appreciation for peace time. However, it also brought a population familiar with the loss of peace and the immense disruption of two world wars. Considering that peacetime between World War I and World War II was only two decades, preparation for a possible threat pushed to the forefront of the American military under the Special Projects Division of the Chemical Warfare Services, the new embodiment of the Chemical Warfare Service Foundation.[71] President Truman and the Joint Research and Development Board relied heavily on resisting potential threats from the Soviet Union to push for legislation regarding biological weapons use and manufacturing within the United States and acknowledged the potential psychological impacts these weapons can have on a populace.[72] It would appear that the United States' presidential government understood the possibilities of harnessing fear as a weapon.

2.5 To End All Wars…

The First and Second World War redefined modern warfare. They introduced lengthy periods of total war with high casualty rates, which undermined traditional social

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[71] Donald Avery, *Pathogens for War: Biological Weapons, Canadian Life Scientists, and North American Biodefense* (Toronto: University of Toronto Press, 2013), 56.
[72] John Ellis Van Courtland Moon, "The US Biological Weapons Program," 11.

standings between superpowers. Fear of complete annihilation dominated the emotional psyche of society as citizens and governments were faced with new weaponry capable of wiping out the entire country by the push of a button.

Nuclear and chemical warfare took the forefront of the World Wars when it came to innovative weaponry. While these technologies are not biological warfare agents, they were part of the larger conversation around weapons of mass destruction and potential for contamination that stimulated the conversation about controlling these projects and platforms. While they were used minimally within the wars, they had a substantial impact on sociopolitical thought and consciousness. Fear of these weapons and the possibility of mutually assured destruction and large scale attacks established the basis of programs that evolved into the basis of bioterrorism policy in later years and spurred the interest in weapons manufacturing.

Similar to the inter-war period following World War I, the United States recovered from the events while learning from the lessons. The world was arguably their oyster as they had debts to cash in and research programs that were flourishing. Protocols and legislation had been introduced to keep the monsters at bay and ease the mindsets of governments and civilians that annihilation was not going to occur overnight. Also in line with the post-war period, this fantasy was short lived.

The United States emerged from World War II as a world superpower but so did the U.S.S.R and maintaining their new-found status was imperative on defense from

potential attacks. The desire to develop and store large quantities of dangerous weapons for the publicized reason of “national defense” initiated an arms race between the United States and the Soviet Union as a pseudo-battleground for capitalism vs communism.[73] Thus, the United States moved into the Cold War period with a goal of proving economic dominance over the East and becoming lead developers for biowarfare projects.[74]

3 My Bomb is Bigger Than Your Bomb – The Cold War

3.1 Warring of the Minds

The true battlefield of the Cold War was psychological. Similar to the existence of chemical and biological warfare weapons during World War I and II, the amount of times these weapons were used was not central to the response they received because they induced a tremendous amount of fear. The intellectual battle was further fueled by the realistic arms and arms technology race that had bolstered the pre-existing feelings of fear and nervousness. Two new global superpowers were hurdling towards new weapons of mass destruction that held the potential to wipe out the other. No nuclear or biological weapons were deployed but the constant threat of the possibility was enough

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[73] William Blum. *America’s Deadliest Export: Democracy and Truth About US Foreign Policy and Everything Else* (London: Zed Books, 2013): 199-200.
[74] Donald Avery, *Pathogens for War*, 57.

to paralyze the United States for an entire era as broadcasts aired, governors made safety addresses to the public, schools taught how to hide from nuclear bombs, and shelters were built across the United States.

The culture of fear that was established by the Cold War environment was not unfounded. The United States and the global community was recovering from two world wars that redefined warfare and introduced new weaponry. These weapons did not disappear at the end of the wars. Veterans, military families, and the general American public had to adjust to being under constant threat of complete annihilation as a result of a button push on the other side of the world. This reality was heightened by the use or almost use of biological weapons during the Cuban Missile Crisis, Korean War, and the Vietnam War.

Underlying the existence of real threats using biological warfare was the social atmosphere of the “Red Scare”. The Red Scare refers to the fear of communism becoming prevalent within the modern world following World War II, with communism being closely associated with Russia. Newspapers and media outlets hyped up the fear of communism and presented the model as the complete opposite of the “American dream” and the embodiment of everything bad.[75] The fear of communism also created

[75] Archibald Stevenson, “Curb on Communism Found Badly Needed: Documents Cited to Show Invidious Influences are at Work Within the United States,” *New York Times* (New York, New York), July 22, 1934.

paranoia as neighbours suspected each other of secretly supporting the Red Army to overthrow the American way of life from inside the country.[76]

The Cold War environment pitted East against West and upped the ante by including new economic ideologies vying for proof of dominance. Technical innovation became the weapon of choice between the West and the East while psychological paranoia became the battlefield. Both countries developed space, nuclear, and bioweapons technology to prove further advancement while also bolstering threat.[77] Inspired by British research done during the World Wars on anthrax, the bubonic plague, yellow fever, and smallpox, the United States Microbiological Research Department continued refining disease particles and the Ministry of Defense continued to fund their bioweapons research.[78] Nuclear and biological warfare ensured mutually assured destruction should an attack occur.[79] Bioweapons were portrayed by the research statements and the Department of Defense as the future of successful warfare and served a dual purpose of mode of attack as well as line of defense.[80] Prior to World War I, disease was the number one cause of death in the world so it makes sense that military scientists would look to weaponize it once the war proved that "modern"

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[76] "Rankin Trails 'Ring': Says 'Communist Spies' are Being Sought in the United States," *The New York Times* (New York, New York), February 17, 1946.
[77] Arthur Molella and Scott Gabriel Knowles. *World's Fairs in Cold War: Science, Technology, and the Culture of Progress* (Pittsburgh: University of Pittsburgh Press, 2019): 5.
[78] Stefan Riedel, "Biological Warfare and Bioterrorism: A Historical Review," *Baylor University Medical Centre Proceedings* 17, no. 4 (2004): 403. doi:10.1080/08998280.2004.11928002.
[79] Ruth Cecire, "Bioweapons: Postmodern Ruminations on a Premodern Modality," *Feminist Studies* 35, no. 1 (2009): 45.
[80] Susan Jones, *Death in a Small Package,* 190-191.

technology would not suffice.[81] However, in a world that was desperate for a gasp of peace, remodeling the anthrax program as a defense program to ensure peace lasted was key to gaining public support for the continuation of the research.[82]

The United States of America was not alone in this recognition. Refining biological weapons, researching the potential of agents, and discussing forms of viable defense measures were international phenomena.[83]The emphasis on defensive measures and ensuring that fire power existed to at least match but preferably out-perform was borne from mistrust of other countries who may use the weapons in an offensive attack. Berlin and Paris provided education centers for scientists to research, London provided strains of anthrax to study for potency, Japan focused on weapons development, and Russia trained bioweapons agents.[84] All were motivated by fear of another World War or a chemical attack ignited by use in a third world country such as Vietnam, successfully transitioning the Cold War to a hot one. This enticed possibilities the research held for technological innovation, and a desire to maintain lasting peace after decades of destructive warfare.

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[81] H.J. Jansen, F.J. Breeveld., C. Stijnis, M.P. Grobusch, "Biological Warfare, Bioterrorism, and Biocrime," *Clinical Microbiology and Infection* 20, no. 6 (2014): 488. doi:10.1111/1469-0691.12699.
[82] Susan Jones, *Death in a Small Package,* 193.
[83] Susan Jones, *Death in a Small Package,* 129.
[84] Ibid.

3.2 Not Your Average Science Camp – Fort Detrick

The majority of the bioweapons research within the United States took place at Fort Detrick, a military testing facility in Maryland.[85] Following the end of World War II, the U.S. had many allied countries indebted to them, which made the nation an economic and military superpower. After witnessing the impact of the World Wars on the previous world powers and a willingness to use violence to propel the American agenda by way of warfare established at independence, the United States Congress was intent on maintaining their new societal standing.

B. anthrancis was one of the first substances to undergo testing for potency as a biological weapons agent when the Fort opened in the 1950s.[86] Despite the lack of success at refinement due to inadequate equipment and unfamiliarity, research continued and more diseases were introduced to Fort Detrick's arsenal of potential bioweapons.[87] Research requires experimentation and American researchers had a sharp learning curve to overcome. Multiple diseases were introduced to the testing facilities to see which ones could be manufactured into viable weapons and which lacked potency and control. In the 1950s, various diseases, including anthrax, were released within a controlled setting that ended up infecting researchers on the project.[88]

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[85] Sherwood Ross, "New Fort Detrick 'Biodefense' Laboratory May Reflect a Bush Germ Warfare Effort," *Synthesis/Regeneration* 44, no. 1 (2007): 43.
[86] Stefan Riedel, "Biological Warfare and Bioterrorism," 402.
[87] Ibid.
[88] Stefan Riedel, "Biological Warfare and Bioterrorism," 403.

This instance created the first recorded domestic experience with anthrax exposure. It also created panic amongst the researchers in the facility and the public as the effects of the spores were poorly understood. After members of the public became ill for no apparent reason yet lived in close proximity to testing sites, members of the public filed lawsuits against the United States' government and demanded firm investigation into their illnesses.[89] More than just the fear of the spores themselves was the fear of the implication – disease is finicky to try and control.

The general public tends to be wary around projects steeped in secrecy and high security, especially when the projects involve incredibly deadly weapons. All the fears surrounding the potential of the disease research lab in Maryland began to come true as a lead researcher became infected from a project he was working on in 1956.[90] The specific tests that took place at Fort Detrick tended to be kept out of the public eye but some became public knowledge through the lawsuits and subsequent media attention, such as using mosquitos to spread yellow fever, anthrax bombs, brucella suis bombs, and variants to attack vegetation/agriculture.[91] Questions regarding the security of the Fort, intentions of the manufacturers, and the actual necessity for these types of weapons became the main topics of debates in newspapers and within Congress.[92]

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[89] Leonard Cole, "Open-Air Biowarfare Testing and the Evolution of Values," *Health Security* 11, no. 1 (2016): 318.
[90] Stefan Riedel, "Biological Warfare and Bioterrorism," 403.
[91] Tom Bowman, "Fort Detrick: From Biowarfare to Biodefense," *National Public Radio News,* (Washington, D.C.) August 1, 2008.
[92] Rene Pita and Rohan Gunaratna, "Anthrax as a Biological Weapon," 85.

In 1965 and 1968, Fort Detrick performed live experiments with bioweapons technologies in the Skull Valley region of Utah.[93] Both of these tests involved use of an aircraft from the Army's Dugway Proving Ground to distribute a nerve agent called VX over a controlled test area.[94] The objective was to test the potency, reaction time, and level of destruction of the biological agents being tested.[95] In 1968, following the second test, a livestock company complained that 3,000 sheep in their herd had died of mysterious causes.[96] The farmland was close enough to the test facility that it was reasonable to conclude, after an investigation, that the agent being tested had drifted to the farmland and poisoned the herd of sheep.

Nothing was officially confirmed by the military but the proximity of the test facility, timing of the test flights and the deaths, as well as the abnormality of 3,000 previously healthy sheep being found dead implicated the U.S. military tests. The incident became known as the Dugway Sheep Incident, and was credited with sparking bioweapons debates within America.[97] Local veterinarians and Utah's public health department investigated the bodies of the sheep, finding that the jet tanks containing the agents had been deployed too late resulting in chemical contamination outside the

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[93] Jonathan Tucker, "A Farewell to Germs: The U.S. Renunciation of Biological and Toxin Warfare", 1969-70," *International Security* 27, no. 1 (2002), 112. doi:10.1162/016228802320231244.
[94] Tom Bowman, "Fort Detrick: From Biowarfare to Biodefense,", August 1, 2008.
[95] Ibid.
[96] Jonathan Tucker, "A Farewell to Germs," 113.
[97] Lorraine Boissoneault, "How the Death of 6,000 Sheep Spurred the American Debate on Chemical Weapons." *Smithsonian Magazine,* (Washington, D.C.), April 9, 2018.

testing field, which the sheep then ingested.[98] The National Communicable Disease Centre in Atlanta became involved and tested the remains of the sheep as well as the water in the nearby area. They found, “beyond doubt that these responses are in fact identical and can only be attributed to the same chemical.”[99]

Democratic Congressman Richard McCarthy spearheaded the public movement against biological and chemical weapons testing in the United States following the Dugway Sheep Incident.[100] The Incident coincided with debates around the use of tear gas in the Vietnam War at the same time and lent its input to corresponding politics. The United States’ military attempted to pay for the lost sheep involved but did not take responsibility for the incident negatively impacting public trust.[101]

In 1969, the United States Army announced that twenty-three U.S. soldiers and one civilian fell victim to a sarin nerve toxin from cleaning sarin-infused bombs in Okinawa.[102] This sparked international concerns as the statement admitted use of biological weapons in Japan, which piled on top of the national concerns following the sheep incident in Utah.[103] Despite the intentions of the United States’ military to avoid a lengthy public debate in response to this testing, that is exactly what they got. Public

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[98] Ibid.
[99] Philip Boffey, “Nerve Gas: Dugway Accident Linked to Sheep Kill,” *Science* 162, no. 3861 (1968): 1463. doi:10.1126/science.162.3861.1460.
[100] Lorraine Boissoneault, “How the Death of 6,000 Sheep Spurred the American Debate on Chemical Weapons.” April 9, 2018.
[101] Scott Cianciosi, “The Sheep Incident,” *Damn Interesting,* (Salt Lake City, Utah), March 17, 2008.
[102] Tom Bowman, “Fort Detrick: From Biowarfare to Biodefense,”, August 1, 2008.
[103] Ibid.

outrage and lack of support led directly to Nixon denouncing biological and chemical weapons projects. Nixon vowed to transfer biological and chemical weapons aims to solely defensive research purposes. It is worth noting that Nixon's decree did not cease weapons manufacturing outright but reserved manufacturing to serve only the purpose of defense which is not clearly defined or outlined. Research at Fort Detrick would stay as medical innovation until the 1980s when President Clinton's administration revitalizes bioweapons research.

By 1970, bioweapons and chemical weapons had proven to be difficult to work with and result in a significant amount of public fear. Any instance, regardless how small, was enough to add to the growing list of accidents which supported the public's fear of continued manufacturing and potential uses. This fear manifested in pop culture in this period as well with numerous movies and books released focusing on bioweapons accidents, such as The Andromeda Strain by Michael Crichton published in 1971.

The United States Army Medical Research Institute of Infectious Diseases (USAMRIID) following Nixon's decree, became the new overhead command at Fort Detrick. Fort Detrick continued to carry a sinister reputation as it was still working with biological agents.[104] Considering the amount of money and the brain power invested in

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[104] Martin Enserink, "On Biowarfare's Front Line," *Science* 296, no. 5575 (2002): 1954. doi:10.1126/science.296.5575.1954.

Fort Detrick and its affiliate facilities, the government and the Department of Defense was resistant to axing the projects and expertise outright. The solution to this was to award a grant from the U.S. Senate to re-purpose the laboratories and a majority of the researchers to focus on medical research and development.[105] While this is a reasonable decision considering the nature of biological weapons manufacturing, it also allows the researchers to continue with biological manufacturing and testing should the public debate die down and allow the Department of Defense to resume more intense bioweapons research.

3.3 Too Close for Comfort

Bioweapons technology was new, enticing, and had a reputation for being uncontrollable. Everyone was familiar with diseases and understood the concept of biological warfare but even without encountering an attack themselves, there was a certain amount of anxiety associated with manufacturing deadly diseases. Renowned Cold War scientists were tasked with manufacturing potential weapons and working in disease research at Fort Detrick, but this was not enough to reassure the public in the United States following breakouts of weaponized disease molecules from the Fort.[106] No one was eager to lose the peace following the World Wars and the Cuban Missile

[105] "Biological Warfare: Relief of Fort Detrick," *Nature* 228, no. 5274 (1970): 803. doi:10.1038/228803a0.
[106] Martin Enserink, "On Biowarfare's Front Line," 1954.

Crisis came too close to upending it and introducing nuclear weapons. While this crisis was averted, politicians and the American public remained wary of biological and nuclear weapons after the Cuban Missile Crisis. The National Opinion Research Centre (NORC) surveyed members of the American public following the Crisis and found that people were literally "scared for their lives."[107] There was just too much war, threats, and worry for too long. The American public were living in a new world full of promising scientific innovation that offered desirable consumer products, but also terrifying new weapons and the threat of a new war with the USSR at any moment.

Religious and "hippie" groups denounced biological weaponry as "morally corrupt", informing the public debate and fear of government biological weapons programs.[108] This sentiment grew as the United States' military continued their presence in Vietnam which was being televised to American viewers. The Soviet Union increased their bioweapons initiatives in the 1960s at the same time that the British government publicly condemned them.[109] Heightened by the fear that the U.S. would become the Soviet Union's proving ground, the general public began advocating for a ceasefire in biological and nuclear weapons.[110] It's strange to consider one weapon manufactured for the purpose of mass death and destruction is worse than another form

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[107] Tom Smith, "The Polls- Trends – The Cuban Missile Crisis and U.S. Public Opinion," *The Public Opinion Quarterly* 67, no. 2 (2003): 271. doi:10.1086/374575.
[108] Ruth Cecire, "Bioweapons: Postmodern Ruminations on a Premodern Modality," 43.
[109] Stefan Riedel, "Biological Warfare and Bioterrorism," 404
[110] Ibid.

but the biological nature that lends an extra layer of malice. With the manufacturing of biological weapons, humanity is interfering with something perceived to be natural and uncontrollable for the purpose of inflicting death. Effectively, humanity is "playing God' by corrupting natural elements for the purposes of human destruction. The concept raises multiple moral complications that can cause uneasiness as nature tends to always find a way regardless of humanity's attempt at domestication and refinement. Due to the Dugway Sheep Incident, the fallout from civilian casualties caused by U.S. chemical warfare in Vietnam, the constant threat from beyond the Iron Curtain, and growing public disdain for bioweapons projects, President Richard Nixon signed the 1972 Biological Weapons Convention condemning biological warfare manufacturing.[111]

Over the next two decades, a series of disease outbreaks and laboratory accidents occurred that increased the public outcry around the potential of biological weapons. Even though Nixon had promised to scale down the bioweapons projects, accidents were still occurring. In 1979, a technician at the Soviet Union weapons plant forgot to replace an air filter at one of their plants, resulting in a leak of anthrax spores and the death of over sixty people.[112] In 1983, a widely-believed myth circulated in the United States that pointed to Fort Detrick as the cause for the HIV/AIDS outbreak.[113] In 1989, an Ebola virus outbreak occurred within the United States and media outlets

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[111] Ruth Cecire, "Bioweapons: Postmodern Ruminations on a Premodern Modality," 44.
[112] Rene Pita and Rohan Gunaratna, "Anthrax as a Biological Weapon," 67.
[113] Erhard Geissler and Robert Hunt Sprinkle, "Disinformation Squared: Was the HIV-From-Fort-Detrick Myth a Stasi Success?," *Politics and the Life Sciences* 32, no. 2 (2013): 77. doi:10.1017/pls.2016.16.

speculated it had been released from a research laboratory studying the virus.[114] While no specific laboratory was identified as responsible for the leak, pressure was put on the Department of Defense labs by news outlets and politicians to answer for the illness and irresponsibility.[115] Considering that USAMRIID admitted to losing samples of various diseases including anthrax and Ebola, this concern wasn't as conspiratorial as it first presents.[116]

Employees of Fort Detrick were left in a sea of uncertainty as their projects and purpose received a presidential cancellation. In 1970, the Senate agreed to fund Fort Detrick for the purpose of transitioning the laboratories from biological weapons to disease and medical research.[117] This is an interesting decision because it permitted the Fort and research team to continue working with the same agents, just with a different intended outcome. Press coverage and interest in the Dugway Sheep Incident increased as the incident proved hesitancies that had been voiced for decades. The result was further digging around the Department of Defense and bio-research laboratories to see what else was had been conducted.

Back in 1969, NBC cracked an equally troubling story about how research facilities disposed of bioweapons waste directly into the ocean over a period of eight

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[114] George Gekus, "The Ebola Virus Incident: A Case in Point," *The Washington Post,* (Washington, D.C.) December 13, 1989.
[115] Ibid.
[116] Martin Enserink, "On Biowarfare's Front Line," 1955.
[117] "Biological Warfare: Relief of Fort Detrick," 803.

years.[118] At the time, the Green Movement and Rachel Carson's A Silent Spring, which discussed the toxic pollution and human illness as a result of increased industrialization and innovation. This movement had the public thinking about the environmental and health dangers of secret government research that utilized biohazards. NBC revealed "Operation CHASE," which was the code name provided by the Pentagon for the practice of loading bioweapons by-product and waste onto old ships, which were taken out to sea and sunk.[119] The public backlash was due less to the environmental impact on the ocean but more so regarding the possibilities of human exposure. Congressman Richard McCarthy encapsulated the sentiment in his book, The Ultimate Folly, where he admitted feelings of indignation, "…indignation because I realized that I had undoubtedly voted funds for this kind of activity but which, apparently, were buried in other appropriation bills."[120] His book goes on to discuss the environmental pitfalls of the government's actions. These were not the containment and safety levels that were promised when concerns were voiced in the first place, he said. Broken promises undermined the public's faith and confidence in their governing bodies.

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[118] Lorraine Boissoneault, "How the Death of 6,000 Sheep Spurred the American Debate on Chemical Weapons." April 9, 2018.
[119] Jonathan Tucker, "A Farewell to Germs," 113.
[120] Richard McCarthy, *The Ultimate Folly,* 126.

3.4 Putting the "Bio" in "Bioweapons"

Such notorious revelations of secret government activities and cover ups informed broader public scrutiny and criticism of the power of the US government. Among other things, protests in the United States surrounding the Vietnam War condemned the use of the weapon nicknamed Agent Orange, leading to an investigation by the International War Crimes Tribunal.[121] Agent Orange may not have been considered a bioweapon originally but it has since come to be understood as such. It was originally created as a defoliant to destroy the jungle landscape of Vietnam but it created severe and lasting health complications to those who were subjected to the agent.[122] Its unintended consequences were yet another example the public pointed to wherein American researchers produced substances the impact of which they could not predict nor control. The United States' military involvement in the Vietnam conflict is a contentious point for debate to begin with as many believed their involvement in the first place was unnecessary. The Vietnam War occurred as one of the most lengthy military encounters and directly followed the Korean War and the Cuban Missile Crisis.[123] The Soviet Union was engaged with China, which held the potential for a new double superpower and

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[121] Luke Stewart, "Too Loud to Rise Above the Silence: The United States vs International War Crimes Tribunal, 1966-1967," *The Sixties* 11, no. 17 (2018): 18. 10.1080/17541328.2017.1415521

[122] Edwin Martini, *Agent Orange: History, Science, and the Politics of Uncertainty*, (Amherst: University of Massachusetts Press, 2012), 197.

[123] George Herring, "The Cold War and Vietnam," *OAH Magazine of History* 18, no. 5 (2004): 19. doi:10.1093/maghis/18.5.18.

heightened the threat of a nuclear or biological war against the United States.[124] The introduction of a deadly biological weapon transcended the boundary into a war crime mixed in with the other atrocities that came to light following the war.

Thus, after the Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological and Toxin Weapons or the Biological Weapons Convention came into existence in 1975 as the first disarmament treaty to ban an entire classification of weapons.[125] The nature of biological agents transcend societal boundaries and impact ordinary citizens, governments, rich, and poor alike. This Convention and the protocols that it established attempted to protect each subsect of the population within the United States from harmful agents and it did well considering only minor revisions have occurred since its conception.[126]

3.5 It's Bad but It's "In"

Following the Convention and Nixon's renunciation of biological weapons within the United States, there was a collective sigh of relief. In 1972, 107 other nations joined Nixon by signing the convention documents solidifying an almost global agreement on biological technologies. The Nuclear Non-Proliferation Treaty, the Treaty of Moscow,

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[124] Ibid.
[125] Daniel Gerstein, *Biotechnology: The Biological and Toxin Weapons Convention* (United Kingdom: Rowman & Littlefield, 2013) xiii.
[126] Daniel Gerstein, *Biotechnology: The Biological and Toxin Weapons Convention,* 104.

and the Treaty of Warsaw were enacted which gave the impression that other countries were following Nixon's lead in abolishing biological and nuclear weapons. President Carter cancelled plans for the neutron bomb in the late 1970s and the Space Race began picking up speed.

The 1970s and 1980s had a dark underbelly as well that countered the progress being made. Under the guise of "protecting countries from communism," the Department of Defense utilized American military on various imperial excursions. Military involvement in Vietnam loomed over these decades even though American troops officially withdrew in 1975. The legacy that was established, backlash, and the consequences of the war lingered known as "Vietnam Syndrome".[127] The United States' military continued in imperialistic military excursions including the Horn of Africa, South America, and the Afghanistan war in 1978.[128] Military involvement in this period was heavily controversial and resulted in public protest, activism, and events were highly publicized. Television was a new medium that maximized the effect of the war while granting average citizens the opportunity to weigh in on the United States government's choices and provisions. The military claimed they were mainly involved behind the scenes as "supporting" troops to assist within civil disputes. The goal was to ensure as few countries became communist as possible while also displaying American power and military prowess. The lessons of the Vietnam War lingered with the American public

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[127] George Herring, "The Cold War and Vietnam," 21.
[128] Ibid.

who had learned the difference between what was being said and what was being done on the ground.

The weapons presented with too much military potential to completely condemn and cease research. Their power and promise was established during their few uses during the World Wars and reinforced with each subsequent incident. The Soviet Union and Japan did not cease manufacturing of their biological weapons and if the United States was going to remain competitive and established as a world leader, having superior methods of defense was a priority. Bioweapons development guaranteed mutually assured destruction and research was maintained on both sides. Anthrax specifically received a cut back within Fort Detrick which is directly linked to the 2001 anthrax attacks. Bruce Ivins regarded this shutdown as a personal attack on his life's work.

The Cold War changed the dynamic of war from the physical threat to psychological games and techniques.[129] The different levels in the White House mirrored the dissenting views within society as minds grappled to understand where the United States stood within this new technology, how far they could go with it, and how much they should be afraid of it. The United States emerged from the World Wars as a

[129] Andrea Friedman. *Citizenship in Cold War America: The National Security State and the Possibilities of Dissent* (Amherst: University of Massachusetts Press, 2014) 17.

global super power for the first time since its founding and immediately tried to define itself in the international context through the Cold War.

In 1989, the Biological Weapons and Anti-Terrorist Act was passed by U.S. Congress and outlawed the possession, trade, sale, or manufacturing of biological elements for the purposes of use as a weapon.[130] Senator Herbert Kohl took the lead in the judicial address to outline the environmental, societal, and psychological concerns evident in the American public and felt within the courts regarding biological weapons, biological waste, and their impacts on society, nature, and humanity.[131] While Nixon's treaty was acknowledged to be observed, Congress held that there was no law on the books to compel compliance. So, legislators deemed the new Act necessary as a show of faith to the public.[132] This decision alleviated some of the public's nervousness surrounding the manufacturing of biological weapons but did not remove the threat from the nation. Research facilities were still experimenting with volatile agents that held the same potential for accidental contamination.

Re-structuring the narrative to present an image of reduced biological weaponry manufacturing and experimentation served as a psychological cushion. It is worth noting that the aim of the projects, as stated clearly in the title of the Act, began to turn their

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[130] The Biological Weapons and Anti-Terrorist Act of 1989: Hearing Before the Committee on the Judiciary, United States Senate, One Hundred First Congress, First Session on S. 933, (Washington, D.C.), July 26, 1989.
[131] Ibid.
[132] Ibid.

focus to terrorism and terrorism defense. As we enter the Clinton Presidency, terrorism becomes the new concern that, in a way, replaces the fear of nuclear and chemical weapons characterizing the previous decades. The Cold War officially ended in the same year symbolized by the fall of the Berlin Wall and this Act marks a significant change in the progress of biological weapons policy within the United States as the country moved into the post-Cold War era.

4 Legacies of the Past, Fear of the Future – The Clinton Era

4.1 Battling the Lasting Impacts

When President William (Bill) Clinton was inaugurated in 1993, he became the first entirely post-Cold War president and saddled the expectations that came along with it. The lessons and fears of the Cold War and World War eras surrounding biological warfare and their uses did not dissipate simply because it was a new decade but continued in various forms into the post-Cold War era. President Clinton inherited the responsibility of ensuring that peace endured while creating a Presidency that was not dictated by constant fear.

In short, Clinton did not achieve the latter part of this goal. The United States continued to exist within a state of enhanced awareness stemming from the culture of fear developed within the Cold War setting, but the reasons did evolve with the times. The constant threat of communism taking over the world had, for the most part, dissipated, replaced by fear of nuclear/chemical/biological weapons as well as the rising use of explosives and attacks of civilians using ammunition. Much like how we conceptualize the existence of these weapons in a modern period, they became absolutes and citizens learned to live with the reality. During the Clinton era, new fears took precedent over the fears of the past including the Gulf War, turbulence in the Islamic world where the United States was militarily involved, and a growing number of acts of domestic terrorism. This new threat combined with the lingering fears of the Cold War era pushed for a congressional change in Presidential focus to bioterrorism.

Clinton's approach to bioterrorism was imperfect and messy but this is to be expected considering the United States had never experienced a bioterrorism attack or manufactured a sustainable bioterrorism agent on its own soil. The administration was left blind as President Bush Sr. did not disclose the classified bioweapons projects and he likely was uninformed as Nixon did not disclose the information.[133] The Arms Control and Disarmament Agency advised that there was a project designed around weaponizing anthrax spores in pouches that may violate some of the guidelines of the

[133] Jonathan Tucker, "A Farewell to Germs," 147.

BWC.[134] It is impossible to know what Clinton and his advisors knew at the time of his inauguration and beginnings of his presidency but he would have known about the general projects and the defunding efforts that preceded him. Clinton held the weight of expectation to establish his own approach to bioweapons policy.

4.2 BioTech by Any Other Name

In developing a stance on bioweapons technology, Clinton worked to include health protocols in Presidential Decision Directive 62 in May 1998 and he met resistance from state authorities who did not want to grant the federal government more control in their jurisdiction.[135] Part of the struggle with politics is establishing a solution that works for all levels of government while respecting their individual autonomy. The state level bureaucracy was highly protective of their state powers and resisted federal intervention intently. This resistance stems from a place of mistrust of the federal government's intentions and the federal government's tendency towards secrecy. The mistrust and suspicion of governing bodies went beyond the average citizen which displayed a deep divide within the country.

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[134] Ibid.
[135] Victoria Sutten, "A Precarious 'Hot Zone:' The President's Plan to Combat Bioterrorism," *Military Law Review* 164, no. 1 (2000): 143.

The solution was to avoid the state directors as much as possible and focus on implementing smaller groups with specified tasks who could transcend the invisible barriers of state and country. This solution furthered the apprehensions of the state level governments as the federal government found a loophole and went around them regardless of their strong resolve in this matter. The Centre for Disease Control was invited to combine efforts with the Department of National Defense, the Council of State, and Territorial Epidemiologists to construct state-wide public health surveillance and work unanimously.[136] Despite the hesitancy of the state-level governments, this model was not a bad idea and created a support system where there previously was none.

The new programs were based on a multi-departmental approach and got their first test in 1996 with the resurgence of the HIV/AIDS crisis in the United States. HIV/AIDS was not a bioweapons threat but it did create a large scale health crisis as a result of a biological element. Similar protocols and programs were implemented in response to this crisis as would be expected for a biological weapons attack. This precedent lends its advice and lessons to the 2001 anthrax crisis and introduced new laws that permit coercive power that walk the line of state control and voluntary compliance.[137]

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[136] Ibid.

[137] Lawrence Gostin, Scott Burris, and Zita Lazzarini, "The Law and the Public's Health: A Study of Infectious Disease Law in the United States," *Columbia Law Review* 99, no.1 (1999), 114. doi:10.2307/1123597.

When health policies were needed in 2001 to assist with the overwhelming need for health resources, existing plans fell short as they involved many plans on paper but little in the way of properly executing on a large scale.[138] The AIDS crisis was more socially complicated than the anthrax crisis as it had to take the right to privacy into consideration. In accordance with the AIDS crisis, the policies faced a similar difficulty in finding a source of infection and a proper solution.[139] The groundwork infrastructure did provide a precedent to model in emergency response that lent its expertise to bioterrorism planning.

4.3 Enemies Behind Every Corner

Clinton's personal interest in bioweapons was directly linked to bioterrorism after he read a book about the potential of bioterrorism.[140] Considering the mass media focusing on bioweapons malfunctions published after 1971, this is not surprising. The interest of his administration in bioweapons and their potential stemmed from the lingering societal fear combined with the existence of new domestic threats. The 1960's association of "terror" being part of war transitioned to "terror" as a crime.[141]

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[138] Mary Ellen Butler, "Regulators and FBI Agents Recommend Preparing for Bioterrorism," *Food Chemical News* 42, no. 9 (2000): 17.
[139] Tasleem Padamsee, "The Politics of Prevention: Lessons from the Neglected History of US HIV/AIDS Policy," *Journal of Health Politics, Policy, and Law* 42, no. 1 (2017): 75. doi:10.1215/03616878-3702782.
[140] Rene Pita and Rohan Gunaratna, "Anthrax as a Biological Weapon," 76.
[141] Linda Kiltz, "The 1993 World Trade Centre Bombing: A Success or Failure of the FBI?," in *Critical Issues in Homeland Security: A Casebook* (Boulder, Westview Press, 2014), 76.

A *New York Times* article highlighted that President Clinton was insecure about his administration's bioterrorism policies and practicum. In 1997, Richard Preston published a novel, *The Cobra Event,* which chronicles a potential disaster response to a bioterrorism act.[142] The *New York Times* article claimed that President Clinton was so disturbed by this possible reality that he assigned intelligence agents to assess the real-world possibility of such events.[143] The implication is not only that Clinton was insecure in his knowledge and preparedness for a bioterrorism event but also that there was a public fear permeating into popular culture that highlighted the potential threats born from bioterrorism. In a more positive light, it also shows that the President was willing to learn and adapt policy to reflect the fears and concerns of the popular public as well as recognize that he may not have thought of all the possibilities.

A Jewish organization, B'nai B'rith received a parcel with an unknown substance inside yet the note attached indicated that it was refined anthrax in 1997.[144] U.S. Secretary of Defense, William Cohen, addressed the issue on national television and announced that anthrax was incredibly deadly and only a small amount, like the size of a small sugar packet, could devastate an area like Washington, D.C.[145] After enforcing strict quarantine measures and utilization of government resources, the substance was

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[142] Preston, Richard. *The Cobra Event : a Novel*, (New York: Random House, 1997), 1.
[143] DR Lind. "Media Rights of Access to Proceedings, Information, and Participants in Military Criminal Cases." *Military Law Review* 163, no. 163 (2000): 36.
[144] Rene Pita and Rohan Gunaratna, "Anthrax as a Biological Weapon," 76.
[145] Ibid.

found to be a benign substance.[146] In retrospect, this was likely not the best way to address the public or handle the news of this false alarm. Bioweapons were still a niche area with a very small subsect of the population able to refine and understand the complexity of the bacterium. Announcing a weapon of possible mass destruction on national television could have provided those with a pre-existing criminal tendency with a new idea. This was different than the already-available suggestions in popular culture as this transcended the lines of fiction into a solidified reality. The B'nai B'nai incident proves that even a false alarm wields the potential to incite terror and gain media and political attention.

Bruce Ivins, the man believed responsible for the 2001 anthrax attacks in the United States, may have been inspired by Cohen's ill-advised press conference. Ivins experienced the Cold War culture of fear as well as the allure of weapons and technology innovation. Ivins took a particular interest in anthrax manufacturing and the potential of anthrax as a viable weapon. Under the Biological Weapons and Anti-Terrorist Act of 1989, Ivins' research changed to a medical focus as he was an employee of Fort Detrick.[147] Ivins began working for Fort Detrick in 1969 and began working on anthrax specifically in 1979 following an outbreak in Sverdlovsk military base which was responsible for 105 deaths.[148] When USAMRIID took over and adhered to

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[146] Ibid.
[147] David Willman, *The Mirage Man,* 54.
[148] David Willman, *The Mirage Man,* 27-28.

the 1989 Act, Ivins was tasked with creating successful anthrax vaccines, which revoked some of the autonomy that Ivins enjoyed. He became deeply resentful of state power over his research and determined to prove anthrax's potential as bioweapon.[149]

A well-known white supremacist, Larry Wayne Harris, was arrested for suspicion of a dangerous weapon in 1998. Harris attempted to use anthrax as a biological weapon to infect the New York City subway system. As the substance was further examined, it was revealed that he just imitated anthrax proving that a substance that looked like anthrax could be an effective enough terrorism weapon as it established the same amount of fear.[150] This was the first in a string of attacks and false attacks that weaponized anthrax, or other biological agents, as weapons of terrorism. It is evident that the culture of fear, allure of potential, and the possibilities encouraged by the fictional and, now, military worlds had set the stage for those who wished to harness the power of bioterrorism.

Acts of domestic terrorism changed in the post-Cold War era to emphasize the power of fear. For instance, in 1993 an unknown person detonated a large bomb at Yale University, fascinating criminal profilers and the media.[151] The culprit, Ted Kaczynski, was dubbed "Unabomber," and he continues to be a point of fascination. This profile was used by the FBI in 2001 to assist in constructing the profile for the anthrax

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[149] David Willman, *The Mirage Man,* 65.
[150] Rene Pita and Rohan Gunaratna, "Anthrax as a Biological Weapon," 76.
[151] Faith Abbott, "No Bomb, No Book," *The Human Life Review* 24, no. 1 (1998): 31.

perpetrator. It took seventeen years to apprehend the Unabomber. Faith Abbott identified the Unabomber as a product of the United States' intimate relationship with their perceived national identity.[152]

Following closely behind was another terrorist that gained national fame: The Oklahoma City Bomber in 1995. Timothy McVeigh, unlike the Unabomber, the Oklahoma City Bomber used a centralized attack by rigging a van to explode and presented another home-grown terrorist resentful of the government[153] The Oklahoma City Bomber combined his terror in a now-familiar tactic of using new technology to complete the task. Bombs were not a new technology but remote detonation was. The terrorist used a cell phone to remotely detonate the explosives in the van allowing him to view the initial attack from a safe location and have a head start on evading police forces. Janet Ward and Stephanie Pilat commented that this attack solidified that the United States was officially entered in the "terrorist age of crime."[154] "Terrorism" had previously been associated with an international crime and as a component of broader warfare. The societal shift in this period transitions to terrorism as a form of domestic crime within a localized definition that can act independent of a theatre of war. This

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[152] Ibid.
[153] Jordan Steiker, "Did the Oklahoma City Bomber Succeed?" *The Annals of the American Academy of Political and Social Science,* 574, no. 1 (2001): 187. doi:10.1177/0002716201574001014.
[154] Janet Ward and Stephanie Pilat, "Terror, Trauma, Memory: Reflections on the Oklahoma City Bombing – An Introduction," *Social Science Quarterly* 97, no. 1 (2016): 3. doi:10.1111/ssqu.12247.

attack did initiate legislative reform but the policies that were enacted did not cease high levels of domestic violence against the nation as it was intended.[155]

Also in 1995, another terrorist attack occurred which mirrored the intentions of Larry Wayne Harris. Aum Shinrikyo, a religious group in Japan, released sarin into the Japanese subway system in an act of domestic terrorism.[156] As a secondary approach, members of Aum Shinrikyo also sprayed anthrax but it was ineffective because they used an inactive strain.[157] The transition to acts of domestic terrorism and terrorist acts absent the broader theatre of war was a global phenomenon. Five hundred people were hospitalized and seven people were killed as a result of the sarin/anthrax attacks.[158] When handling a terrorist attack, domestic or international, the number of deaths and potency of the medium is not the key aspect. Terrorists, as their title suggests, commit their crimes with the intent of stoking fear and panic within a population. There were many lessons to be learned from the subway attacks including ability to respond quickly, intervention techniques, and proper monitoring of known fanatic groups. Yet the key lesson that sounded the loudest was the very real capabilities of bioterrorist threats and the consequential damage.

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[155] Jordan Steiker, "Did the Oklahoma City Bomber Succeed?"189.
[156] D.A. Henderson, "John Bartlett and Bioterrorism," *Clinical Infectious Disease* 59, no. 1 (2014): 77. doi:10.1093/cid/ciu393.
[157] Ibid.
[158] Robyn Pangi, "Consequence Management in the 1995 Sarin Attacks on the Japanese Subway System," *Studies in Conflict & Terrorism* 25, no. 6 (2002): 424. doi:10.1080/10576100290101296.

In response to the Tokyo attack, President Clinton issued a Presidential Decision Directive which called upon the Department of Defense, Department of Justice, and the Department of Health and Human Services to reignite the research initiatives involving bioweapons and defense against bioterrorism.[159] The terminology in Clinton's presidency was different from his predecessors as he was actively engaging with the reality of bioterrorism and recognizing the increase in attacks that have a biological component involved. President Bush had previously referred to "bioterrorism" although more as a potentiality than an active threat. Prior to the Clinton administration, the policies and research were solely related to biological weapons and agents. While this may seem like six of one and half dozen of the other, the added implications of bioterrorism are important to note. Bioterrorism is different from conventional warfare as it is generally perpetrated by non-military actors with a private and personal agenda as well as from within the United States as opposed to international warfare. President Clinton was actively preparing for the use of a biological terrorist attack against the United States of America even though he was not sure where the attack would originate.

The revival of the bioweapons initiatives under Clinton's order did not revive all prior projects that were undergoing development. Anthrax had fallen out of favour with the Department of Defense's research laboratories, in part, due to its failed use in

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[159] D.A. Henderson, "John Bartlett and Bioterrorism," 78.

Japan. While the attacks resulted in casualties and mass media attention, the potency of the anthrax was essentially null. Now that the weapon had been tested first hand and the effects were non-existent, the United States' military decided that it was redundant to continue using military funds to refine anthrax. Weapons are intended to be effective so it is important they can also be successfully targeted. Neither Japan, the Soviet Union, nor research tests within Fort Detrick seemed to prove that any of the researchers within these countries could refine something so unstable as anthrax into a potent and viable weapon.[160]

The Centre for Disease Control was tangentially involved in the planning, but their agents were grossly under-informed on the nature of biological weapons and biological warfare.[161] This is, in part, due to a separation of jurisdiction. The United States' military was in charge of biological weapons research and the CDC was in charge of managing disease outbreak. Yet the CDC had been involved in some early stages of federal planning around bioweapons technologies due to the health component and the risk of accidental contamination. Keeping partner organizations on a "need-to-know" basis ultimately undermined the collective objective, as we will see with the Federal Bureau of Investigation during the 2001 anthrax investigation.

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[160] Rene Pita and Rohan Gunaratna, "Anthrax as a Biological Weapon," 67.
[161] D.A. Henderson, "John Bartlett and Bioterrorism," 77.

Considering the CDC was central to the Ebola outbreak and AIDS epidemic, the "warfare" aspect of bioterrorism likely seemed secondary to CDC officials and scientists. The Centre for Disease Control understood disease, outbreak, and mass health crises. The cause of those events were irrelevant as the contagious disease component was their specialty. In 2001, it would become clear why all Federal divisions need to be aware of the entire picture.

In May 1998, Congress approved a budget of $175 million devoted to bioweapons research, as requested by President Clinton, sparking academic symposiums and research opportunities.[162] More than 2800 items of scholarship were published on the topic of bioweapons and biological technologies during Clinton's terms as President indicating that he was interested and concerned about the potential of these weapons.[163] These conferences and initiatives were positive in nature and projected hope and innovation for the potential of biological research and the American biodefense initiatives, providing a stark contrast to the dark and malicious nature of bioterrorism and the "morally gray" position of the 1970s. The positive air came from the design of celebration and festival surrounding the conferences. Similar to the World Fairs, it was a celebration of technology and innovation while also a chance to show off America's brightest minds and leading scientists in the field.

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[162] D.A. Henderson, "John Bartlett and Bioterrorism,"78.
[163] M.A. Markusova, C.S. Wilson, M. Davis, "From Bioweapon to Biodefense: The Collaborative Literature of Biodefense in the 1990s," *Scientometrics* 53, no. 1 (2002): 26. doi:10.1023/A:1014827819263.

4.4 Fighting Fire With Fire

Clinton began working with his defense team to establish proper protocols, named sectors of government and their outline of responsibilities, and to embark on research endeavors to measure the extent to which the country could be at risk.[164] Countries that were viewed as a threat to American security such as Afghanistan, Iran, and Iraq continued to report success with anthrax as a biological weapon.[165] Desperate to keep their place as a world leader and insistent on not being outgunned, anthrax research received a second breath of life as a revitalized interest in offensive research piqued. As research resumed at Fort Detrick in 2000, Ivins was extremely protective of the anthrax vaccine development. David L. Danley, his colleague with BioPort , a privatized company funding the anthrax project, stated, “this was his baby. He defended it,” and felt the other BioPort researchers were too incompetent to be interfering.[166] While he continuously stressed the importance of anthrax and pitched arguments to the United States military, the lack of commitment to his research enraged him.[167]

Bioport is a private pharmaceutical company that received funding directly from the Pentagon to create an anthrax vaccine.[168] Privatizing potentially life-saving medicine

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[164] Victoria Sutton, “A Precarious ‘Hot Zone,” 135-137.
[165] Rene Pita and Rohan Gunaratna, “Anthrax as a Biological Weapon,” 80.
[166] David Willman, *The Mirage Man,* 56.
[167] David Willman, *The Mirage Man,* 59-60.
[168] “Bioport to Provide Anthrax Vaccine,” *Defense Week* 19, no. 39 (1998), 1.

has been a controversial topic within the United States. The establishment of Bioport was already controversial as it took over a Michigan-based research center, Michigan Biologic Products Institute (MBPI) for, what some critics believed to be, a steal of a price.[169] MBPI had been the only company manufacturing an anthrax vaccine within the United States for thirty years prior to the purchase but the Department of Defense had not shown any previous interest in their work or results.[170] Robert Myers and Robert van Ravenswaay, two executives of the company, received harsh press as they were previously government employees, who pushed for bills to be passed that supported their future agenda with regards to buying into a privatized bioweapons company. Both had received numerous complaints about abusive behavior towards employees.[171] Bioport held the monopoly as the only manufacturer of an anthrax vaccine.[172] Their primary function prior to 2001 was to manufacture a viable anthrax vaccine to distribute to American troops who might come into contact with it when used as a bioweapon.[173] Reports from 1999 demonstrate that Bioport had numerous discussions with Congress because while they had accepted the grants from the United States government, their vaccine research was not yielding feasible results.[174]

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[169] Timothy Maier, "Why Bioport Got a Shot in the Arm," *Insight Magazine* 15, no. 35 (1999): 13.
[170] Ibid.
[171] Ibid.
[172] Bob Evans, "How a Company Cashed in on Anthrax," *Daily Press, (*Norfolk, Virginia) December 7, 2005.
[173] Ibid.
[174] Ibid.

This company was representative of a shift in federal policy since Bioport was the first privatized bioweapons company. An argument could be made that the $120 million invested in the health care system itself could revamp the broken system, improve supply lines, and create a budget for impoverished Americans who do not have the insurance to cover many procedures and tests but it is not a lot of money within the eyes of the federal government and federal budget. Regardless, it was a hard pill for the average Joe to swallow that the money went to manufacturing a vaccine for anthrax that, until recently, was deemed to be unable to produce meaningful results when used as a bioweapon as opposed to other health fields that may be directly related to members of the general public. This purchase was framed within the lens of public health by the United States government when portrayed to the receiving public so their outcry was not based on devaluing military production but the loss of yet more industry in Michigan and a feeling of misappropriation of funds.

Recognizing the need for a specialized branch of government focused on terrorism and bioterrorism programs, the Federal Bureau of Investigation was the recipient of the charge. Clinton laid out the expectations, protocols, and role of the Federal Bureau of Investigation as he recognized that an interstate police board would be imperative to handling bioterrorism cases:

> “The mission of the FBI is to uphold the law through the investigation of violations of federal criminal law; to protect the United States from foreign intelligence and terrorist activities; to provide leadership and law enforcement assistance to federal,

> state, local, and international agencies; and to perform these responsibilities in a manner that is responsive to the Constitution of the United States."[175]

This mission statement is wonderfully vague, full of trigger words, and does not even state a human boss that they respond to. Their allegiance is to a Constitution. For the purposes of the Clinton administration, the loose terms surrounding the purpose of the FBI, specifically with regards to the "terrorist activities" portion, combined with the FBI's allegiance to a document, permitted the President to implement new action to fight terrorism. In 1994, the Communications Assistance to Law Enforcement Act was passed permitting wiretapping within the United States for the purposes of obstructing terrorism events in another wonderfully vague statement.[176] The FBI became central to the handling of such cases since they did not answer to a President or administration specifically. While the FBI had more reporting requirements than other organizations such as the CIA, the FBI agents were given a lengthy leash to accomplish their tasks without government involvement. The Bureau was called on when matters were before court or under scrutinizing by the public. A blind-eye was also turned to actions of the FBI as long as their actions did not bring any unwanted attention and continued to serve the interests of the American government.

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[175] "FBI Mission Statement," Federal Bureau of Investigations, accessed November 16, 2020, https://www.fbi.gov/about/mission

[176] "One Wrong Number After Another." *National journal (1975)* 30, no. 19 (1998): 1046.

Under the Reagan administration, the Bureau had become the leading force in combatting terrorism in the United States. The nature of the investigations focused on the American occupation in the Islamic states and were backed by a racist perspective that ideologues driven by fanatical religion to destroy the American way of life.[177] This concept mirrors the Cold War fears of communists infiltrating the American public and undermining the government from the inside. After involvement from the Central Intelligence Agency (CIA), which parented and deeply criticized the FBI's endeavors in counterterrorism, the initiative began to subside and it became clear that some levels of the FBI leadership believed that "terrorism was not a big deal."[178] From the perspective of the active agents, the counterterrorism department was the area that older (or lazy) agents went to retire as it was the easy route – domestic terrorism was happening in countries overseas, not in the United States.[179] As new acts of domestic terrorism began popping up throughout Clinton's administration, he called upon this office within the FBI and urged them to get moving.

In 1993, the FBI got a real taste of why domestic terrorism should be taken seriously when the World Trade Centre in New York City was bombed by a terrorist group. Ramzi Yousef organized the attack and prepared an improvised explosive device (IED) containing urea-nitrate, placed the bomb inside a van, drove to the B2 parking

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[177] Roberto Suro, "FBI Boosts Counter-Terrorism Project: At Least 500 Special Agents to be Reassigned in Field Offices, Headquarters," *The Washington Post,* (Washington, D.C.) September 5, 1996.
[178] Tim Weiner, *Enemies: A History of the FBI,* (New York: Random House Books, 2012), 365.
[179] Tim Weiner, *Enemies,* 366.

level, and detonated the device.[180] Six people were killed, 1,000 people were injured, and $3 million in property damage resulted from the attack.[181] The FBI labeled the event TRADEBOMB and received mixed reviews on their success in solving the crime. As we have the benefit of knowing what was to come, the 1993 World Trade Centre Bombing was a trial run for the 2001 attacks that demolished the Twin Towers on September 11. As this attack was only eight years later, there should have been better preparation and an enhanced counterterrorism movement within different levels of government. President Clinton had just begun his term as president in January when the 1993 attack occurred one month later. Many of the FBI officials were still officials eight years later in 2001. The Bureau was successful in apprehending Yousef and his team but they were unsuccessful in implementing protocols and practices to stop domestic terrorism in the United States.

In 2001, responding to 9/11 and the anthrax attacks, the Federal Bureau of Investigation attempted to take on a strong leadership role to fulfil their expectations laid out by President Clinton in his preparedness policies, yet possessed a severe lack of knowledge and training to execute a successful response.[182] Since its creation, FBI agents had enjoyed great autonomy answering only to their Director. In times of chaos

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[180] Linda Kiltz, "The 1993 World Trade Centre Bombing," 77.
[181] Ibid.
[182] Victoria Sutten, "A Precarious 'Hot Zone," 142.

and disaster, interdepartmental coordination was key to executing policy and ensuring a uniformed response to project security, safety, and organization.

4.5 Hold the Fort!

President William Clinton's presidency was difficult to categorize because of its unique place in history. As the first fully post-Cold War president, his administration felt the lingering effects of the Cold War's culture of fear, attractive potential in technological research, the age of media, and the concerns about biological weapons. It also stood on the platform of a new horizon to shape the next chapter in American history. While that chapter would come to be the "Age of Security" established more by his successor, President George W. Bush, the roots of this began with Clinton.

President Clinton and his administration established the foundations of the public health infrastructure that would lend a hand in the 2001 anthrax crisis. Arguably, public health still has a long way to go in the United States but Clinton was the first president to focus on overhauling the system and finding a better way to approach emergency responses to disasters within the country. Clinton's predecessors were too preoccupied with the potential threat of the USSR to focus intently on the public health forum.

The administration also felt the first real ripples of domestic terrorism hitting the United States. A symbol of citizens in distress, corrupt government, or manifesting insanity, Clinton's administration began to take serious note of the global phenomenon

that had reached the United States. As a product of the Cold War environment, this quickly turned to a preoccupation specifically with bioterrorism. Congress under Clinton put pressure on Bioport to begin making substantive headway with the anthrax vaccine and re-invigorated the FBI's focus on counterterrorism within the United States. Clinton laid the foundation for the Bush administration to act following the attacks on the Twin Towers and the anthrax attacks in September 2001.

By 2000, seventy-two aspects of the Department of Health and Human Services' Office of Emergency Preparedness Plan had been enacted and two forms of legislation surrounding bioterrorism had been adopted by Congress: The Antiterrorism and Effective Death Penalty Act and the Defense Against Weapons of Mass Destruction Act.[183] The United States' government and public health were improving policies and working towards a biologically safer United States. The AEDP Act created a central list of harmful agents and enacted policies for laboratories including proper universal identification labels when using/ordering/shipping them.[184] The second Act authorized $97 million from the federal budget to be designated towards weapons of mass destruction and forming military response teams.[185] Part of the problem with preparing public health agencies for contagious diseases was a lack of prevention ability. The

[183] William Johnstone, *Bioterror,* 52.
[184] Ibid.
[185] William Johnstone, *Bioterror,* 52-53.

Acts introduced primarily highlighted punishment and military force. Unfortunately, disease does not respond to rifles and bombs.

5 “I Don’t Have Anthrax” – The Bush Era

5.1 Changing of the Guards

President Clinton served on behalf of the American people for two full terms and two out of three Americans reportedly approved of his work even after the Monica Lewinsky controversy.[186] The political ideologies of Republicans and Democrats were highly polarized. The Republicans, who accounted for the other 1/3 of American voting

[186] “Clinton’s Approval Ratings Soar as Term Ends,” *The New York Times,* (New York, New York), December 27, 2000.

citizens, were pleased to have a member of their own party stepping into the presidential role.[187]

Clinton was nearing the end of his second term as President of the United States and Presidential Candidates, George W. Bush and Al Gore began their campaigns. Praised as a “new direction” by his party, Republican contender, George W. Bush, ran primarily on issues of education and foreign policy.[188] Reminiscent of the defense projects from previous biological weapons programs, Bush fortified a “peace through strength” response to foreign policy and stressed a break from the tradition views of “terror” referring to the nuclear age.[189]

George W. Bush was elected as the next President of the United States continuing the Presidential line as his father, George Bush Sr., was President until 1993. George W. Bush had the pedigree and education to be a political candidate. The familiar name and the desire for political change as Clinton was a Democratic president favourably pushed his platform further. George W. Bush gained media attention for voting discrepancies over Florida in a bitter dispute with his Democratic opponent, Al Gore.[190] The Supreme Court of the United States ruled in favor of Bush but the public

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[187] Ibid.
[188] Thomas Edsall, “Bush Wins in the End on Platform: Ideas on Education, Other Issues Survive,” *Washington Post, (*Washington, D.C.) July 30, 2000.
[189] Ibid.
[190] Paul Boller Jr, “Bush, Gore, and the Supreme Court,” in *Presidential Campaigns: From George Washington to George W. Bush* (New York: Oxford University Press, 2004), 406.

support was divided, even amongst fellow Republicans.[191] Starting the presidency with a voting scandal that did not have a satisfactory explanation for voters, did not appease even his own party, and raised concerns about the Supreme Court determining an election outcomes as opposed to "the people," was not the best position to be in.[192]

Initially citizens expected much of the Bush administration, expressing hopes for change as well as unreasonable expectations that all of society's problems were going to be solved.[193] New presidents, especially of opposing parties, try to establish themselves as different from their predecessors by altering legislation and policies that were least favorable with public polls.[194] Clinton's health care initiatives were never passed by Congress and problems persisted, so President Bush focused there.[195]

Regardless of the Presidential switch, modern domestic terrorism was still prevalent within the United States. The previous chapter highlighted some domestic terrorism instances that occurred during the Clinton era and the impact/implications of these events did not disappear due to a new Presidential inauguration. The working concept of "domestic terrorism" was still vague at this point as it did not gain a clear definition until October 2001 when the Department of Defense was looking for a way to describe the events of 9/11 and the anthrax attacks. In 2002, Buck Revell of the FBI

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[191] Paul Boller Jr, "Bush, Gore, and the Supreme Court," 410.
[192] Paul Boller Jr, "Bush, Gore, and the Supreme Court," 410-412.
[193] "Hail to the (New) Chief," January 19, 2001.
[194] Deborah Orin, "Bush May Void Bill's Final Exec Orders," January 6, 2001.
[195] "Clinton's Approval Ratings Soar as Term Ends," December 27, 2000.

made a statement in an attempt to explain the sharp increase in domestic terrorism events from the late 1980s – early 2000s. He commented on the role of extremists, particularly right-wing, the rise in dissatisfaction with government bodies, and the allure of improving a station of the working class through violence.[196] Workers revolts have been the cause of multiple historical acts of domestic terrorism, from the Robespierre "Reign of Terror" during the French Revolution to the Boston Tea Party. Perhaps more commonly known are domestic terrorism within organized groups. These instances include the Ku Klux Klan, Skinheads, Neo-Nazis, and the Taliban.[197] The 1990s-2000s in the United States reflected a significant amount of societal discord and discontentment leading to a rise in acts of domestic terrorism.

Biological and chemical weapons interests and developments evolved through the use of modern weapons developments. Criminals/extremists/terrorist aim to use effective weapons as well. Biological and chemical weapons found a niche within the criminal network as they were proven to be a useful fear tactic, had the potential for a large amount of damage, and could be manufactured at home. This made biological weapons easier to obtain unauthentically. There didn't need to be a record of a gun purchase, no licenses were needed, and many of the ingredients can be found at accessible areas such as grocery and hardware stores. In this respect, we are not

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[196] Ronczkowski, Michael. *Terrorism and Organized Hate Crime : Intelligence Gathering, Analysis, and Investigations* (Boca Raton: CRC Press, 2012), 30.
[197] Ronczkowski, Michael. *Terrorism and Organized Hate Crime,* 35-36.

talking about the big biological and nuclear weapons that were being worked on at specified research centers like Fort Detrick but simplistic elements of them that can be created on a smaller, cheaper scale and accomplish an end goal. Most domestic terrorists and other criminals who are inclined to use weaponry, specifically bioweapons, are more interested in accomplishing an external task than ensuring a high body count. The fear component surrounding biological agents was crucial to this and, by 2001, the ever-evolving discussion surrounding the potency of biological weapons was gaining speed. The Federal government, academia, and the military were analyzing biological weapons potential at the same historical moment that Ivins and others were working in personal labs with materials like anthrax.

While the biological weapons industry was developing, the sociopolitical platform within the United States was as well. As the United States solidified its place in the post-war world as a global superpower, concerns of becoming like Icarus and flying too close to the sun began to circulate as soldiers who had experienced biological weaponry firsthand combined with the increasing domestic attacks gained public forum. Colin Powell, a veteran of the Gulf War, was quoted that biological weapons scared him, "even more than tactical nuclear weapons."[198] If a trained soldier is afraid of the weapons, then the public definitely has something to be concerned about. What was different in this period, aside from continuing weapons development and continuing

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[198] "Bugs in the System, Biological Weapons, the Frail Ban on Biological Weapons," *The Economist (London)* 359, no. 8226, (2001): 3.

societal concern, is the increase of domestic terrorism acts and the increasing use of biological weapons as mediums.

5.2 Domestic Terrorism – More Than a Platform

Bush's election platform highlighted a nuanced approach to foreign policy. Bush stated that he was no longer interested in focusing solely on Russia as the United States' prime enemy but it is unclear if he was nodding to the budding of domestic terrorism encounters across the globe and within the United States.[199] Bush's foreign policy was backed by ideologies and pre-conceived notions rather than factual basis, which led the United States to be viewed less favourably by international bodies.[200] The United States' foreign policy previously entertained a pragmatic approach whereas Bush's policy was stern, autocratic, and ultimately lost legitimately throughout his term as President.[201] He adhered strongly to the 1997 Statement of Principles of the Project for the New American Century (PNAC) which was signed by prominent politicians.[202] This order specifically stated an active role towards American hegemony stating, "we need to accept responsibility for America's unique role in preserving and extending an international order friendly to our security, our prosperity, and our principles."[203] This

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[199] Paul Boller Jr, "Bush, Gore, and the Supreme Court," 410.
[200] Ibid.
[201] Ilan Peleg, *The Legacy of George W. Bush's Foreign Policy: Moving Beyond Neoconservatism* (Boulder: Routledge Publishing, 2009), 5.
[202] Ilan Peleg, *The Legacy of George W. Bush's Foreign Policy, 8.*
[203] Ibid.

statement informed a large portion of Bush's foreign affairs and situated itself within the concept of American exceptionalism wherein the Americans would protect the American way of life by intervening globally.

The Federal Bureau of Investigation was adjusting to its relatively new role of domestic counter-intelligence, which became streamlined in 1998.[204] The Bureau, as well as the media and public conception, had begun the increased use of the term, "terrorism" as did Bush administration officials and speech writers. The anti-terrorism methodology and sentiment is unique to the 21st century in response to a trend of governments looking inward as opposed to outwards.[205] While the FBI was encountering this policy priority for relatively the first time, it was not a new concept in the United States but one drawn from the Cold War policies suspecting "red spies" were around every corner.

5.3 Wake Me Up When September Ends - 9/11 and the Anthrax Attacks

September 11th, 2001 is burned into the memories of many Americans who witnessed the attack on the Twin Towers in Manhattan. This event shocked the world as television stations cancelled regular programming to cover the unfolding events. The

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[204] Adam Svendson, "The Federal Bureau of Investigation and Change: Addressing US Domestic Counter-Terrorism Intelligence," *Intelligence and National Security* 27, no .3 (2012): 373. doi:10.1080/02684527.2012.668080.
[205] Ibid.

Twin Towers had the most dramatic impact on the American public which has had a lasting impression but the attacks impacted the entire country. Airports were shut down around the world for investigation and just under 3,000 people lost their lives with numerous more injured. 9/11 is significant for the obvious effects of a terrorist attack but more so because it shattered the myth of American exceptionalism on the world stage as it proved that the United States was not an impenetrable fortress.

While the city attempted to regain normalcy a second threat emerged. On September 18, only a few days following the fall of the Twin Towers, white powder identified as *Bacillus anthracis* was found inside a letter mailed to the *New York Post*.[206] This was the start of a series of infected letters to be distributed throughout the country. Anthrax had been popping up throughout military and bioweapons history with mixed results. In Tokyo, we saw anthrax used as a back-up weapon that was ultimately ineffective but it established its name as a bioweapon. While the average American was not familiar with the nature and effects of anthrax infection, the general public was certainly aware of its existence and association as a biological weapon due to the recent attacks, media coverage, and surface reports from Fort Detrick. With the focus in the fall of 2001 being primarily on the physical attack on the Twin Towers, possibility of a domestic biological threat was not at the forefront of the collective mentality.

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[206] Susan Candiotti, Eileen O'Connor, Terry Frieden, "Anthrax Letter Found at New York Post," *CNN* (Atlanta, Georgia) October 21, 2001.

Letters laced with anthrax were sent via the United States postal system to the National Broadcasting System as well as the *New York Post*.[207] Considering that both letters were sent to major news outlets, it can be deduced that whoever sent the letters, wanted media attention. This suggests that the intent was not to remain private for purposes of individual profit, for instance, through a blackmail scheme. Three other infected letters were received by the American Broadcasting System, Columbia Broadcasting System, and American Media Inc shortly after, more media companies.[208] The FBI in conjunction with the CDC determined that all the letters has been sent from a single processing plant in New Jersey and had been mailed by the same individual.[209] At this point, it wasn't clear why the news outlets had been selected or what/who the intended target was. It appeared that there was intent to gain media attention but no single target identified. This heightened public fear and anxiety as it was impossible to predict where would be struck next.

To complicate the already strange attack, between September 22 and October 1, nine individuals became ill as a result from working with the contaminated letters which escalated the attack in criminal status.[210] It was being treated as an isolated incident until more letters began to appear. On October 9, the offices of the Senators Tom Daschle and Patrick Leahy received contaminated letters, which changed the profile to

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[207] William Johnstone, *Bioterror,* 3.
[208] William Johnstone, *Bioterror,* 4.
[209] William Johnstone, *Bioterror,* 3-4.
[210] William Johnstone, *Bioterror,* 6.

a political attack.[211] Throughout October, more postal workers and those who had come into contact began to fall ill and some were taken to hospital. The initial impression that the first letters were isolated events began to dissolve. As more letters surfaced, Centre for Disease Control director, Dr. Jeffrey Koplan stated, “there seems to be a potential for not just hundreds and just thousands, but maybe tens of thousands and maybe more letters to be potentially at risk for some level of cross-contamination.”[212] The postal distribution centers were reorganized in 1990 to large centralized processing plants intends to increase productivity.[213] Due to this revision, countless items of mail were at risk for anthrax contamination because they were mixed in with the infected letters, which made it impossible to localize the source or effectively contact trace.[214]

By the end of November 2001, twenty-two people were confirmed to have ingested anthrax and five people had died.[215] The public response fanned by the media coverage, backed by the confusion and lack of answers, and in the context of 9/11 created a massive amount of fear and chaos regardless of the low levels of infection. While twenty-two people were confirmed to have been infected, thousands of individuals across the country reported white powdery substances in their mail and people were observed to be opening their mail outside the home as a precaution.[216] :

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[211] William Johnstone, *Bioterror,,* 9.
[212] Ryan Ellis, Creating A Secure Network,” 169.
[213] Ibid
[214] Ibid.
[215] William Johnstone, *Bioterror,* 17.
[216] Lee Clarke and Caron Chess, “Elites and Panic: More to Fear Than Fear Itself,” *Social Forces* 87, no. 2 (2008): 1001. doi:10.1353/sof.0.0155.

Forty-six percent reported a belief that anthrax was contagious and, in some cases, neighbors ostracized others they believed to be infected.[217] In response to massive disasters like 9/11, communities tend to create tight bonds and become unified but due to the introduction of the anthrax attacks, this was not the case in situations of hoarding medical supplies, society responded in an opposite way.[218] The U.S. Government Accountability Office determined that this response was due to immense fear within the American public stemming from lack of communication and lack of understanding.[219] The health infrastructures were not clearly articulating the protocol, the government was not clearly articulating risk, and doctors were not sure how to handle anthrax contamination.[220] While there had been threats and criminal acts involving anthrax, the success, as far as potency and infection were concerned, was very low. Even the experiments being done at Fort Detrick at a higher level found that anthrax was too volatile and substantive to be an effective weapon. The medical field had very little experience in treating anthrax contamination and therefore, could not articulate a cohesive protocol. Very specific subsects of people working within the American military had the knowledge to address anthrax manufacturing and anthrax preventative. Even though a trial scenario had been run in June 2001, it appears that the information gathered was for the purposes of impact as opposed to testing preparedness measures.

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[217] Ibid.
[218] Lee Clarke and Caron Chess, “Elites and Panic,” 1002.
[219] Ibid.
[220] Lee Clarke and Caron Chess, “Elites and Panic,” 1005.

The United States' postal system was severely impacted by the anthrax letters since it was the medium that facilitated movement and the highest chance of internal contamination. Combined with an impressive decline in mail services as fear surrounding a previously monotonous occurrence became life-threating, the postal system encountered a massive deficit alongside nation-wide fear.[221]

In the span of one week, four postal workers tested positive for anthrax contamination in New Jersey and Washington D.C who had come into contact with the infected packages.[222] Two of the workers succumbed to the infection and the postal system was in complete disarray.[223] At this point, the postal and health systems did not understand what they were dealing with and had no concept of how to control it or protect the remaining workers effectively. The chaos spread over the coming weeks as letters appeared in other states including Florida and South Dakota.[224] The fear intensified as there appeared to be no clearly identified target as newspapers, photographers, senators, and ordinary citizens alike received letters with possible anthrax traces.[225]

The United States, specifically New York City and Washington, D.C., were now faced with two terrorist attacks within a week of each other. Resources had been

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[221] Ryan Ellis, "Creating A Secure Network," 161.
[222] Susan Jones, *Death in a Small Package,* 226.
[223] Susan Jones, *Death in a Small Package,* 239.
[224] Ibid.
[225]Susan Jones, *Death in a Small Package,*243-245.

dedicated to the efforts of rebuilding and assisting individuals coping with immense loss and trauma and now, they were in for another round. Both terrorist attacks harnessed mass fear and chaos while providing little closure or understanding to the victims. There were no leads, identifiers, or an idea of the scope of the problem; city officials had no idea what to expect. Luckily, there were some protocols and policies in place from the Clinton administration to combat biological weapons attacks that gave the Bush administration a place to start.[226]

While the legacy of bioterrorism preparedness is associated with the Bush administration, the Clinton administration is responsible for having a reformed bioterrorism platform at all.[227] Clinton's aim was along civilian and preliminary lines. The Bush administration then used his efforts as the foundation for their global military and technological initiatives.[228] President Bush was obviously interested in testing how the Clinton protocols would hold up during a real attack because he ordered operation "Dark Winter" to be carried out in June 2001.[229] "Dark Winter" ran a simulation in a testing facility to test the potency of biological agents in a controlled setting. Throughout the Dark Winter Scenario session report from the United States Senate, published in October 2001, are numerous praises for the ability to have a trial run in June

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[226] William Johnstone, *Bioterror*, 60.
[227] Susan Wright, "Taking Biodefense Too Far," *Bulletin of the Atomic Sciences* 60, no. 6 (November, 2004): 56. doi:10.2968/060006013.
[228] Susan Wright, "Taking Biodefense Too Far," 60.
[229] The Dark Winter Scenario and Bioterrorism, Before the Subcommittee on Emerging Threats and Capabilities of the Committee on Armed Services United States Senate, First Session, iii (2001) Mary L. Landrieu, Senator, Chairman.

considering they were then dealing with the very real anthrax attacks.[230] The report does little to propose how the anthrax attacks were going to be solved but thank those involved and reference a “herculean” task of researching the biological agent.[231] Without having the groundwork laid by the Clinton administration, President Bush and his advisors would have been starting from the ground up to build and develop a viable response plan. Clinton gave Bush something to test.

5.4 I Don’t Know Who Did it but it Wasn’t MY Citizens

Instead of understanding the perpetrators of the attacks as terrorists within their own actions and intent, the systemic Islamophobia targeted the entirety of the Muslim population within the United States.[232] The *New York Times* accused a Muslim student who, realistically, could not have been expected to have the knowledge required to refine anthrax and weaponize it.[233] In the face of national fear, all logic was abandoned and instinct took over. The instinct was molded by the culture of violence within the United States and the intrinsic racism that has been ingrained for centuries. The Islamophobia was further fueled by President Bush who continuously stressed that he believed the letters were sent by terrorists in Iraq who were funded by Russia.[234] There

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[230] Ibid.
[231] Ibid.
[232] Khaled A. Beydoun, *American Islamophobia: Understanding the Roots and Rise of Fear (*Oakland, California: University of California Press, 2018), 73.
[233] Delinda Hanley, “While Media Spotlights One Anthrax Suspect, Another is Too Hot to Touch,” *The Washington Report on Middle East Affairs* 21, no. 7 (2002): 18.
[234] Susan Jones, *Death in a Small Package,* 243.

was no evidence to corroborate this claim but there was military potential to invade Eastern countries. Despite losing members of their faith, their jobs, their families – despite suffering in the exact same was as non-Muslim Americans, they were left out of the national mourning and their right to grieve was stripped from them.[235] Continuing in the pathways of historically ingrained racism and biases deters from the ability to examine a traumatic event objectively and often impedes investigation.

The United States has an intrinsic history of Islamophobia but it ramped up in 2001. The Gulf War, Afghanistan War, 1993 attacks on the Twin Towers in New York, re-vamped U.S. foreign policy with imperialistic undertones, and the fact that the culprits were identified as Muslim in the 9/11 within three days of the attacks contributed to this increase. The letters contained Islamic language stating that they [the sender(s)] were enacting the "will of Allah".[236] At first glance, it appeared as though the terror from 9/11 had not ceased and was continuing in a second scheme that had yet to reveal its pieces. Regardless of the events, it is inappropriate to attribute acts of terror or crimes to an entire group of people. The perceived increase in attacks coming from the Eastern world seemed to be setting themselves up as Russia's replacement as American Enemy #1.

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[235] Khaled A. Beydoun, *American Islamophobia,* 94-95.
[236] Ibid.

Assuming Bruce Ivins was responsible for the attacks, he was able to take advantage of American prejudice to preserve his anonymity and redirect the search for the culprit towards an already marginalized group under scrutiny. After experiencing the 9/11 attacks and witnessing the extreme fear that rippled through America, he understood the power of fear and the results that could be obtained through harnessing it. In other words, fear is power. He first used Islamic idioms to "persuade" when he became inappropriately interested in Mara Linscott, a much younger colleague he did not want to part from.[237] Ivins became so attached to Linscott that a restraining order was necessary. While Ms. Linscott is not related to the anthrax case directly, her experience with Ivins serves to create a behavioural link to understand him more. He learned to use fear as an intimidation tactic when he had difficulty getting what he wanted. In that case, it was Mara. In 2001, it was the attention and funding of the United States' military.

There is not a lot of information about Ivins in his early years or even during the anthrax mailings and it is unclear why he specifically chose to attempt to frame members of the Muslim community is likely due to available opportunity. The Muslim religion was already highly criticized and racialized within the United States. Following 9/11 this systemic hatred increased towards the Muslim-American population. Some politicians and media outlets were heavily blaming Eastern countries and Muslim people

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[237] David Willman, *The Mirage Man,* 49.

for the attack so Ivins was provided with the perfect scapegoat. His colleague, Gary Matsumoto, stated in his findings when analyzing the spores, " …a technique used to anchor silica nanoparticles to the surface of spores called Aerosil and an Aerosil variant…Iraq's chemical and biological warfare labs imported tons…"[238] In Matsumoto's professional opinion, Ivins diverted the focus immediately to foreign soil that the United States' government already had a vested interest in. Some information about his views of his mother, who was of Prussian origin, suggest that he had xenophobic outlooks and attributed her undesirable behaviours to her foreign origin. It is possible he needed to attribute his own flaws to some other denomination to make sense of his impulses.[239]

President Bush had found himself in a rollercoaster of a first term. As a so-far unestablished president, the country was looking to him for the highest form of leadership. The civilians, rich, government officials, technicians, and international communities were watching his every move to see how he handled two brazen attacks against the United States of America.

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[238] Danny Shoham and Stuart Jacobsen, "Technical Intelligence in Retrospect: the 2001 Anthrax Letters Powder," *International Journal of Intelligence and CounterIntelligence* 20, no.1 (2007): 81. doi:10.1080/08850600600889027.
[239] David Willman, *The Mirage Man,* 47-48.

6 In the Process We Trust – The Investigation

6.1 Like Nothing They've Seen Before

As the letters had crossed state lines, the Federal Bureau of Investigation was brought in to take over the case. The FBI recruited experts from various fields to assist with the multiple components of understanding the attacks, containing, resolving, and ultimately, apprehending who was responsible.[240] In the science sphere, they requested assistance from multiple laboratories within Fort Detrick as there were few people within the United States that could be considered experts on anthrax.[241] Thousands of anthrax samples were subjected to testing. Twenty-nine laboratories using a mix of academic, government-run, and private, as well as three foreign laboratories in Canada, Sweden, and the United Kingdom.[242] The anthrax attacks highlighted the importance of science within legal matters and evidence analysis. Despite the impressive version of FBI agents projected through mainstream media, the actual Bureau falls short due to lack of

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[240] National Research Council, *Review of the Scientific Approaches Used During the FBI's Investigation of the 2001 Anthrax Letters* (Washington, D.C: National Academies Press, 2011), 55.
[241] National Research Council, *Review of the Scientific Approaches,* 57.
[242] Ibid.

script to follow.[243] The Bureau infamously maintains their independence and work solely within their own structure. The nature of this attack forced the FBI to rely on and include outside organizations for the better chance at finding the culprit and stopping the mailings. The FBI still tried to maintain independence by opting to not inform the assisting laboratories of the existence of all the other laboratories who were also involved.[244] It is significant that the agents and the Director were able to recognize their limitations and bring in additional support for expert advice.

Considering the amount of prestige carried by the Federal Bureau of Investigation indicating their ability to solve crimes more efficiently due to their highly trained agents and access to sophisticated resources, the public's expectations were equally high.[245] When the Bureau seemed to be lagging in announcing the perpetrator and a plan to stop the attacks that could infect anyone at random, media, Central Intelligence Agency (CIA), and the Pentagon began putting pressure on the investigation.[246] In retrospect, the investigation done by the National Research Council once the case had been closed, did reveal a significant lack of communication between government departments further demonstrating the deep mistrust within the

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[243] David Malakoff, "Poor Methods Weakened FBI Investigation of 2001 Anthrax Attacks," *Science Magazine (*Washington, D.C.) December 22, 2014.
[244] National Research Council, *Review of the Scientific Approaches,* 57.
[245] Tim Weiner, *Enemies,* 418-422.
[246] Timothy Maier, "Is FBI Closing In on Anthrax Killer?," *Insight on the News* 19, no. 15 (2003), 22.

organizations as well as the broader society.[247] In hindsight, it is always easier to find reasons that the FBI needed to take more time and could not see the entire picture. At the time, it resulted in extreme frustration. As more letters were received, it became less likely that the anthrax attacks were connected to 9/11 events, Al Qaeda, or even Eastern territories which pushed the FBI to create a new profile with new language of the white, antisocial, loaner terrorist.[248] It seemed that when the threat was domestic and white, "terrorist" was no longer a fitting descriptor.

6.2 Any Scientist Will Do

A potential person of interest who entered the FBI's field of vision was Steven Hatfill. Considering the rarity of anthrax, it became apparent that whoever was behind these attacks needed to possess a certain degree of expertise relating to refining anthrax into a useable spore powder. All eyes turned to Fort Detrick – the research facility cloaked in mystery with a history of escaped specimens and lack of public confidence. Also considering that most people who would know how to do this would be educated in anthrax and epidemiology, the FBI deduced that they were likely looking for a researcher with access and a background in refinement. Dr. Steven Hatfill had a

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[247] Caron Chess and Lee Clarke, "Facilitation of Risk Communication During the Anthrax Attacks of 2001: The Organizational Backstory," *American Journal of Public Health* 97, no. 9 (2007): 1578-1579. doi:10.2105/AJPH.2006.099267.
[248] Gwen D'Arcangelis, "Defending White Scientific Masculinity," 122.

background in microbial genetics, biochemistry, and experimental pathology that would provide him with the expertise to refine and carry out the postal attacks.[249] As an employee of Fort Detrick, Hatfill also had the required training that would allow him to perpetrate the attack.[250] Despite continuously returning to search his place of residence and maintaining an active investigation, substantive evidence that Hatfill was the perpetrator was not found.[251]

As pressure mounted and the FBI was no closer to solving "Amerithrax" (a combination of "America" and "Anthrax" stemmed from the FBI case name), on August 6 2002, they took Steven Hatfill into custody even though he did not fit the pre-existing profile and there was a significant lack of evidence.[252] He protested that he was a "virus guy" not a "bacteria guy" as his defense.[253] Hatfill had no motive beyond a knowledge of anthrax capabilities that would suggest he could be the culprit.[254] The FBI recognized that whoever refined the powder and weaponized it needed to have a profound knowledge of the bacilli.[255] They also recognized that this was likely done by someone

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[249] Marilyn Thompson, "The Pursuit of Steven Hatfill," *The Washington Post* (Washington, D.C.), September 14, 2003.
[250] Guy Gugliotta and Susan Schmidt, "FBI Returns to Hatfill Apartment," *The Washington Post, (*Washington, D.C.) September 12, 2002.
[251] Ibid.
[252] Gwen D'Arcangelis, "Defending White Scientific Masculinity," 129.
[253] David Freed, "The Wrong Man," *The Atlantic* (Washington, D.C.) May 15, 2010.
[254] Ibid.
[255] Susan Jones, *Death in a Small Package,* 244-245.

who is antisocial and awkward. Steven Hatfill was extremely charismatic and socially attractive. The FBI was grasping at straws in an attempt to appease the public.

After spending $250,000 to drain a pond belonging to Hatfill after receiving an anonymous tip, the FBI still found nothing to warrant a formal charge.[256] The pond was a fishing hole on his property that grew suspicious when the FBI continued to find no evidence of anthrax spores at the other locations.[257] A diver allegedly found vials and gloves hidden in the pond that may have contained refined anthrax.[258] The rest of the search came up empty and the "vials and gloves" were reported to have been a homemade turtle trap. After continuous dramatic raids and searches, the FBI still had nothing despite Attorney General John Ashcroft publicly stating that they would have a culprit in custody within the month.[259] The Bureau eventually had to admit that Hatfill had been arrested under false pretenses and could not have been involved in perpetrating the attacks.[260] The media portrayed the investigation to that point as a waste of time and resources while American citizens remained paralyzed by fear of opening their mail and the highly trained agents charged with protecting them were no further along than they were at the beginning.[261] Hatfill was compared extensively to Richard Jewell. Jewell had been falsely accused of the 1996 Olympic bombing, the

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[256] Timothy Maier, "Is FBI Closing In on Anthrax Killer?," 22.
[257] Marilyn Thompson, "The Pursuit of Steven Hatfill," September 14, 2003.
[258] David Freed, "The Wrong Man," May 15, 2010.
[259] Ibid.
[260] Gwen D'Arcangelis, "Defending White Scientific Masculinity," 131.
[261] Rachel Smolkin, "Into the Spotlight," *American Journalism Review 24,* no. 9 (2002): 50.

failed investigation into which was also a famous FBI embarrassment.[262] Public sympathy was building and as Hatfill was a trusted government official working on the bioweapons international policy, it was seen as being stabbed in the back by his friends and coworkers. This furthered the mistrust and doubt of government organizations as it appeared that the FBI was more interested in just wrapping up the investigation than ensuring they arrested the right criminal.

6.3 The Media – Judge, Juror, Executioner

The media played a major role in putting pressure on the government, Department of Defense, Fort Detrick, and the FBI. We have professions entirely dedicated to handling “bad press” and most institutions hire specific media personnel to provide statements to the press while regular employees are barred from uttering a word. This comes from recognition of the media’s power to sway public opinion. All are familiar with the phrases “don’t trust the media” and “don’t believe everything you read” but media outlets and propaganda bombard the average person constantly throughout an entire day. It is unreasonable to expect that seeing a constant view point projected would not have an impact on the mentality of the masses.

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[262] Marilyn Thompson, “The Pursuit of Steven Hatfill,” September 14, 2003.

With respect to the anthrax attacks, the media and the culture of fear engaged in coverage of the letters. Each day was tense as American citizens and the Department of Defense held their breath to see if another letter would be reported. This level of suspense and drama was straight out of the thriller novels written and movies produced in the 1970s about biowarfare technology and the media was making it come alive. Excessive focus on terrorism incited panic and fear across the nation and rightly so.[263] Specifically, Fox TV amped up the fear by heavily reporting on any comments regarding terrorism in the United States and misconstruing the statements by manipulating the context.[264] CNN aired images of violent bombings in Afghanistan and filmed actions such as beheadings and violent threats toward the U.S. army.[265] All of these images and horrifying stories were laced with Islamophobic trends and over-used "Taliban" and "Al-Qaeda" for views. Credible sources such as the CDC lost public support and confidence because the media reports were so overwhelming that government organizations were painted as untrustworthy.[266] An argument could be made that this attests to the low education rates within the United States but the point is null and void. The important aspect is that most people in the United States were getting their "facts" about the anthrax crisis and terrorism risk from media outlets which had their own agendas and a vested interest in generating click bait. With regards to the 2001 anthrax

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[263] Douglas Kellner, "Spectacles of Terror and Perpetual War," in *Media Spectacle and the Crisis of Democracy: Terrorism, War, and Election Battles* (Abingdon, Oxon: Routledge Publishing, 2016), 35.
[264] Douglas Kellner, "Spectacles of Terror and Perpetual War," 37.
[265] Ibid.
[266] Scott Barrett, "Spokesperson and Message Control: How the CDC Lost Credibility During the Anthrax Crisis," *Qualitative Research Reports in Communications* 6, no. 1 (2005), 63. doi:10.1080/17459430500262190.

crisis, regardless of the pitfalls of the FBI's investigation, it was successful. The goal of "terrorism" is to incite fear and it did that successfully.

6.4 Smart Enough, Good Enough

By 2002, the Bush administration and the Federal Bureau of Investigation were growing increasingly desperate to fulfill their promises to the American public that a perpetrator would be found and held accountable. At the same time, the FBI was under fire for an "embarrassing" investigation regarding Dr. Steven Hatfill so they were interested in salvaging their reputation.[267] They needed a new viable suspect. The investigation determined that one hundred people from Fort Detrick in Maryland had access to the anthrax batch RMR-1029 along with another research center that the FBI refused to name that had access to an identical batch.[268] The Bureau alleged to have DNA from the first letter that linked to Bruce Ivins, yet the DNA was destroyed.[269] Bruce Ivins was a veteran researcher at Fort Detrick who specialized in biological weapons with a specific interest in anthrax. When USAMRIID took over the operations in the early 1980s, Ivins' research was redirected to developing an anthrax vaccine. He was extremely possessive of his research and had a reputation for being explosive if

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[267] Rachel Smolkin, "Into the Spotlight," 50.
[268] Rachel Ehrenberg, "FBI Describes the Science Used to Trace Source of Anthrax Spores," *Science News* 174, no. 6 (2008), 8.
[269] Ibid.

colleagues tried to interfere. When the FBI banned him from his research labs for twenty-four hours on November 1, 2007 during the preliminary investigation into the anthrax attacks while they further investigated his potential as the culprit, he was hospitalized for severe depression.[270] He had the knowledge, access, and potential intent to be the culprit.

Forming a base for some criticism regarding the investigation into Bruce Ivins, the FBI did not seem to have a lot of evidence to reasonably suspect Ivins as the perpetrator. Their key evidence was a DNA link between his laboratory and the first letter that was mailed out.[271] While this may seem like substantive and indisputable evidence, it was not. It is not unusual that his DNA would be present within his own laboratory. While his DNA being on the first letter is suspicious, that evidence was allegedly destroyed during the Hatfill case (raising more questions about the investigation's legitimacy) and does not explain the other letters.[272] In short, right from the beginning of their interest in Ivins as a suspect, there was room for reasonable doubt and the FBI ran the risk of repeating the Hatfill mistake twice on the same case.

This sentiment was amplified by the FBI previously announcing that the strain could be identified and traced by a specific genetic code which turned out to be

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[270] Sarah Pruitt, "When Anthrax-Laced Letters Terrorized the Nation," *History*, last modified October 4, 2018. https://www.history.com/news/anthrax-attacks-terrorism-letters
[271] Rachel Ehrenberg, "FBI Describes the Science Used to Trace Source of Anthrax Spores," 8.
[272] Ibid.

untrue.[273] Stepping back to examine from a birds-eye view, these mistakes are simply that – mistakes. They are evidence of an organization that was still evolving within itself attempting to do the best they could with an unprecedented standard. Society holds the governing bodies to a higher standard than that where there is no room for mistakes. Especially when those mistakes results in lives lost. As the Bureau had already rushed in an attempt to end the crisis publicly before they had actually found evidence to convict, more doubt was shed on the investigation by the public and other sectors alike when Bruce Ivins became the person of interest.[274] The media outlets also contributed to the overall fear and panic that rippled through the country through the use of "outrage tactics" that villainized the FBI and government groups.[275]

Gwen D'Arcangelis identifies the media pitfall of the "mad scientist" trope regarding Ivins. It was a manufactured ideal that was not necessarily modelled off evidence from the case but may have been a convenient story to portray.[276] Bruce Ivins fit the stereotypical American as a white male from the middle class. He had some quirks and was socially awkward so he would never be mistaken as an "alpha male," he was typically American, thus contrasting with the stereotypical criminal or terrorist. The

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[273] Susan Jones, *Death in a Small Package,* 253.
[274] Rachel Smolkin, "Into the Spotlight," 50.
[275] Kristen Swain, "Outrage Factors and Explanations in News Coverage of the Anthrax Attacks," *Journalism and Mass Communication Quarterly* 84, no. 2 (2007): 337. doi:10.1177/107769900708400209.
[276] Gwen D'Arcangelis, "Defending White Scientific Masculinity," 132.

"mad scientist" trope created a loophole where American exceptionalism can still thrive because the loaner white male turned violent is portrayed as a deviant.

6.5 A Trial of Your Peers

In 2008, the Federal Bureau of Investigation declared the anthrax case closed and Bruce Ivins as the sole perpetrator, though he died by suicide prior to being formally convicted.[277] The FBI portrayed the suicide as a product of Ivin's unbearable guilt, some found this conclusion to be convenient more than factual.[278] His death before the courts could achieve an admission of guilt robbed the American people of closure and many used the anthrax trial as a proxy for 9/11 as well. Ivins definitely had the ability and the anger to lash out without assistance but unsealed court documents left room for reasonable doubt and the possibility of another culprit.[279] Isikoff identifies a letter written to a competitor in the field of anthrax vaccines, Gary Matsumoto, weeks before the first mailing of spores.[280] Matsumoto was never interviewed by the FBI despite the controversial message in the letter and reported that the FBI was "connecting dots that don't connect."[281] Paul Kemp, Ivin's lawyer, accused the FBI of exploiting Ivin's

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[277] "Anthrax Case Closed," *Nature* 463, no. 7284 (2010): 1.
[278] Susan Jones, *Death in a Small Package,* 261.
[279] Michael Isikoff, "The Case Still Isn't Closed," *Newsweek* 152, no. 8. (2008): 6.
[280] Ibid.
[281] Ibid.

psychiatric issues and ignoring evidence in favour of building a targeted case around Bruce that would not have stood up in court had it been heard by a judge.[282]

The National Research Council of the National Academies of Science were invited to conduct their own research investigation in light of the skepticism surrounding Ivin's guilt brought on by the earlier Hatfill investigation.[283] There was miscommunication between the government and the American people about the purpose of this investigation but it was intended to analyze the role of science within public health and policy while shedding light on areas of prevention that were hit the hardest in the attacks.[284]

The investigation by the National Research Council combined with the creation of conspiracy theories surrounding both 9/11 and the anthrax attacks reflect a broader societal mistrust of the United States government that hinders the ability to pass further protocols. Many policies and protocols were enacted under the guise of "protecting" the American people from terrorist threats. Reminiscent of the HIV/AIDS crisis, laws had to permit coercive power to those enforcing the protocols while walking the thin line between state control and voluntary compliance.[285] One of the largest acts, and most far-reaching and controversial, was the Homeland Security Act. This Act created new a

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[282] Ibid.
[283] National Research Council, *Review of the Scientific Approaches*, 26.
[284] Ibid
[285] Lawrence Gostin, Scott Burris, and Zita Lazzarini, "The Law and the Public's Health," 114.

new branch of government specifically dedicated to terrorism prevention by way of enhanced public security. The means of public security involved increased surveillance that some members of the public and political representatives found infringed on their rights under the Constitution. After experiencing two terrorist attacks back to back that were enacted in extremely different ways, the cultural sense of dominance and security was shattered. The existence of a realistic threat determines the defensive behaviours implemented by a governing body.[286]

6.6 So Did He Do It?

Regardless of whether an individual believes that Bruce Ivins was the true culprit in the 2001 anthrax attacks or merely a convenient scapegoat for the United States' government to close the investigation with a FBI win, the culprit was a product of the United States' military programs. The FBI was able to narrow the list to only 100 people within the entirety of the United States of America that would have the knowledge, training, and access to be able to refine anthrax, handle it properly, and execute the attack.[287] So perhaps Bruce Ivins was just a scapegoat but he is a harbinger for the American bioweapons projects that were initiated by the United States government. Since the Department of Defense has yet to accept the blame for the Dugway Sheep

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[286] Frank Smith, *American Biodefense: How Dangerous Ideas About Biological Weapons Shape National Security*, (Ithaca, New York: Cornell University Press, 2014) 14.
[287] Rachel Ehrenberg, "FBI Describes the Science Used to Trace Source of Anthrax Spores," 8.

Incident in the late 1960s, it is incredibly unlikely that they will accept responsibility for the 2001 anthrax attacks. The anthrax attacks had a domestic terrorism aspect behind it but in many ways, was just another escaped containment from Fort Detrick and the bioweapons projects.

The investigation of the 2001 anthrax attacks was messy, arguably inconclusive, and lacked satisfaction for the American public and the American judicial system as no one as actually brought to justice. In a way, the United States biological weapons manufacturing choices were the true culprits on trial and Ivins was the scapegoat. Despite the discord of whether Ivins truly did commit the offence, the point remains that someone who had training in biological weapons manufacturing to a high level of sophistication was behind the attack. This wasn't the result of a makeshift pipe bomb by a low-level criminal desperate for cash. This required a highly educated scientific background, expertise in anthrax specifically, and access to the equipment to do it. This does not necessarily implement Fort Detrick per se but it is a niche market with very few individuals meeting that criteria. Considering that both arrested suspects worked at the Fort Detrick research center lends a supportive beam to the allegation. For simplicity, we'll go with Ivins as the culprit. If he intended to prove the validity and potential of his life's research, he succeeded just maybe not in the way he intended. Not many lives were lost but the culture of fear that the attacks purveyed throughout American society (and arguably internationally) led to the creation of an entirely new branch of government – the Department of Homeland Security.

7 Welcome to the Machine – Age of Homeland Security

7.1 Big Brother is Watching You

In the aftermath of 9/11 and the anthrax attacks, the United States of America was coming to terms with a very different reality. The legacy of the Cold War was one of fear of impending doom that never came. In 2001, doom took a swing shattering the belief that America was an impenetrable giant. Struggling with this realization and extreme feelings of vulnerability, the United States' government became engaged in imperialistic excursions in the name of American revenge as well as domestic political changes to ensure that a tragedy like this never happens again.

George W. Bush's administration enacted a quick-to-violence response. The ill-defined "name of security" was used to bolster and justify the presidency's actions regarding pre-emptive warfare, maltreatment of suspected terrorists, and forceful entrance into Afghanistan and Iraq in retaliation to 9/11 and the anthrax attacks.[288] Invading Afghanistan in 2001 was one of the first orders declared by President Bush as a revenge mission even though the 9/11 attacks were the result of an independent terrorist group and the anthrax attacks were a result of domestic terrorism. In 2003, the U.S. military also invaded Iraq in the name of "national security" but minimal evidence

[288] William Walker, *National Security and Core Values in American History*, (Cambridge: Cambridge University Press, 2009) 262-265.

was provided for the invasion.[289] Both Afghanistan and Iraq established a reputation of incredibly violent wars with immense bloodshed and numerous American deaths.[290]

On the home front, the Bush administration took a different approach to the use of biological weapons than his predecessors. In the 1970s, Nixon responded to the public outcry regarding the escaped experiments from Fort Detrick with a ban and transformed manufacturing to strictly defensive. In the 1990s, Clinton took bioterrorism precautions seriously and created the platform for further policies to be developed. Following the events of 2001, President Bush turned the lens on the American public as opposed to his election platform focus of international protection. Protecting America from itself. The Department of Homeland Security was created and with it, the Homeland Security Act which continue to be points of controversy within American politics.

In 2001, in direct response to the attacks, President Bush and his administration passed the USA Patriot Act in a political blink of an eye stunning international organizations.[291] The entire goal of this Act was to enact punishment for terrorists and enhance investigation into terrorist threats.[292] This Act can be seen as covering all the bases as it does not limit the United States government, aims, or technologies to one

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[289] Sheldon Alberts, "U.S. Security Hinges on Iraq: Bush: Televised Speech to U.S.," *National Post,* (Toronto, Ontario), June 29, 2005.
[290] Ibid.
[291] Michael Ronczkowski. *Terrorism and Organized Hate Crime*, 64.
[292] Ibid.

subsect of terrorism but rather, encompasses any form of terrorism that comes into contact with the United States of America.

While the Patriot Act did not focus directly on domestic terrorism, domestic terrorism did get a further Act that focused on its occurrences. The Homeland Security Act went beyond the foundation laid by the Clinton foundation with regards to bioterrorism preparedness. This Act is a fully thought-out policy complete with official protocols, aims, and communication to the public. This codification of a bioterrorism policy with specific emphasis on response is the first of its kind. It goes beyond simple responsiveness to potential threats to standardize procedure and created a plan of action to actively search for threats within the United States.[293] Beyond bioterrorism monitoring, communications and intelligence technologies became a central part of government organization training under this Act.[294]

The Department of Homeland Security and the Homeland Security Act have become President Bush's legacy due to the tremendous impact that they had on the operations of government groups and the political impact. The Department of Homeland Security was created to instill a "culture of relentless resilience" as a response to terrorist and domestic acts against the government of the United States.[295] The DHS itself is a massive organization that has over 240,000 employees and numerous branch

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[293] Michael Ronczkowski. *Terrorism and Organized Hate Crime,* 62.
[294] Michael Ronczkowski. *Terrorism and Organized Hate Crime,* 63.
[295] "Mission Statement," Department of Homeland Security, accessed June 12, 2021. https://www.dhs.gov/mission

organizations focusing on cybersecurity to ground operations.[296] While multiple government organizations are involved in the Department, it relies on the cooperation and teamwork of the CIA, FBI, and Immigration and Naturalization Services (INS) to run cohesively.[297] These three organizations are the biggest players as they represent the biggest roles. The CIA is responsible for gathering of intelligence and surveillance, the FBI is the muscle and enforcement, INS serves as the international component when searching for various potential connections. While international and domestic terrorism are treated as two separate entities, sometimes, they overlap when an established international terrorist group seeks enrollment or cooperation from an American citizen.

The existence of the DHS is a highly controversial topic because, as a report submitted by Senator Tom Coburn states, despite the annual budget granted to the DHS of $61 billion, the Department is doing little to achieve its goals and focuses on the American citizens as opposed to international threat.[298] Aside from the financial concerns that tend to appear within every government action, there are concerns stemming from within the DHS, particularly at the lower levels. While the CIA, FBI, and INS are the backbone of the Department and call the shots, the groundwork is done by various law enforcement positions. Of course, if an international strike, large political coup, or massive attack should occur, the largest agencies would be stepping in.

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[296] "About", Department of Homeland Security, accessed June 12, 2021. https://www.dhs.gov/about-dhs
[297] Michael Ronczkowski. *Terrorism and Organized Hate Crime*, 68.
[298] Roberta Zimmerman, *Department of Homeland Security: Assessments, Recommendations, and Appropriations* (New York: Nova Science Publishers, 2015), 3.

However, the regular law enforcement agents are doing most of the day-to-day investigating as well as being on the ground for the big events.[299] The Department of Homeland Security is dedicated solely to terrorism and more directly, domestic terrorism. The lower law enforcement officers need to be concerned with local level crime, state level affairs, and now domestic and international terrorism leading to resistance and backlash from overworked, underpaid professionals.[300]

7.2 Back on the Chopping Block

"Reform" became the buzz word of Americans coping with the events of 2001. Bush's re-election campaign was centered on his commitment to "homeland security", paying homage to the Act he was able to establish.[301] Concerns about bioterrorism preparedness as a way to establish national security has dangerous repercussions as Frank Smith highlights in his book and acted out within the Ivins case. Smith argues that decisions about bioterrorism policy and preparedness that attempt to protect national security actually result in poor decisions that inhibit security, such as, training those with pre-existing tendencies to refine and use harmful substances for independent gain.[302]

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[299] Michael Ronczkowski. *Terrorism and Organized Hate Crime,* 70-71.
[300] Ibid.
[301] Douglas Brook and Cynthia King, "Civil Service Reform as National Security: The Homeland Security Act of 2002," *Public Administration Review* 67, no. 3 (2007): 403. doi:10.1111/j.1540-6210.2007.00723.x.
[302] Frank Smith. *American Biodefense,* 7.

At the start of his presidency, President Bush campaigned in 2000 on promises to improve national security.[303] Within the first couple months of his presidency, Bush's administration attempted to pass the Freedom to Manage Act, which allowed agencies to propose deleting existing statues, as well as the Managerial Flexibility Act, which provided more power to agencies to hire specialized personnel for the purposes of defense, although to no avail.[304] Similar powers were granted to government bodies under the Homeland Security Act of 2002. That the bills were not accepted by the Senate prior to 9/11 and the anthrax attacks suggest a lack of public need for these reforms. After 9/11 and the anthrax attacks there was increased vulnerability and a desire for a safer United States of America. While most of the Homeland Security Act focuses, as suggested, on Homeland Security measures, the Bush administration passed agendas that were previously voted down in the Senate by interlacing them with larger aspects of the Homeland Security Act.

Congress supported the Homeland Security Act as it progressed making few amendments but the real battle was in the Senate.[305] Senators were unsure if it was realistic to expect the United States government and its departments to handle that much power and authority.[306] It is important to note that the argument over if they

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[303] Douglas Brook and Cynthia King, "Federal Personnel Management Reform: From Civil Service Reform Act to National Security Reforms," *Review of Public Personnel Administration* 28, no.3 (2009), 206. doi:10.1177/0734371X08319286.
[304] Douglas Brook and Cynthia King, "Federal Personnel Management Reform," 208.
[305] Douglas Brook and Cynthia King, "Civil Service Reform as National Security," 402.
[306] Ibid.

should hold that much power was not the subject of the debate. The extreme permissions that this Act allowed led to a hard lesson for the American people in what can happen when you trade privacy for national security out of fear. 9/11 and the anthrax attacks had shattered the psyche of the American public and government officials. In 2002, no culprit had been found for the anthrax attacks and the FBI had no viable leads. The threat was not over. The Homeland Security act served as a psychological band-aid suggesting that the American government would be able to stop horrendous events in the future with more power. As discussed earlier, in times of disaster, communities generally develop a sense of inter-reliance and camaraderie. Due to the nature of the anthrax attacks, the anonymity of the sender, and the false belief that anthrax was contagious, this did not happen. It's possible that the government protections were substituted for the sense of togetherness that did not occur post-trauma.

The Homeland Security Act received dramatic media catastrophizing of the contents of the Act that had success in reducing some of the unchecked powers.[307] Using the same techniques to instill a fear of Muslim terrorists, the media created a fear of government control. Language is a powerful tool and Bush's administration transformed "terrorist"/ "terrorism" to become synonymous with "assassin", "mass

[307] William Safire, "You Are Suspect," *The New York Times* (New York, New York), November 14, 2002.

murder," and implicitly political.[308] Indeed, it was so successful that it's difficult to remember an alternate definition was ever in use. In 2003, Bush attempted to use similar language to describe Cuba's Fidel Castro and enact emergency measures to initiate a war and boycott with Cuba.[309] Then, he turned the "war on terror" into the "war on drugs" and began labeling anyone in possession of illegal narcotics a "terrorist" inciting more fear and scaling back the public health endeavors to curb substance abuse.[310] Despite quelling the media's embellishments and senator's objections, George W. Bush proved their point that unrestricted political power such as that granted under the Homeland Security Act is a slippery slope towards "undemocratic" state control.

Like most aspects in life, windows of opportunity arise presenting the perfect chance to seize underlying goals. This happens in policy too.[311] The combination of 9/11 and the anthrax crisis created the perfect storm for congress to pass laws Bush's policy advisors were already considering.[312] George W. Bush and his administration had a civil service agenda that they had been trying to implement into government policy.[313] The general idea behind the agenda was to create department heads of each level of

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[308] Elaine Cassel, *The War on Civil Liberties: How Bush and Ashcroft Have Dismantled the Bill of Rights.* (Chicago: Lawrence Hill Books, 2004): 146.
[309] Elaine Cassel, *The War on Civil Liberties,* 148.
[310] Elaine Cassel, *The War on Civil Liberties,* 149-150.
[311] Elaine Cassel. *The War on Civil Liberties,* 29.
[312] Douglas Brook and Cynthia King, "Civil Service Reform as National Security," 400.
[313] Ibid.

government that would govern the actions of their department as they saw fit.[314] These department heads were from the Office of Homeland Security and the state governors were resistant to overhead power being directly present. The United States' government were in a heightened state of paranoia.[315] The paranoia was not irrational considering America had just experienced two very different and damaging attacks within two weeks. However, the Department of Defense and the FBI began looking around every corner for terrorists within the country. This concern translated to the American people. The American people wanted change and assurance that they would never be forced to handle so much loss or fear at the hands of another and they were not prepared to wait.

7.3 Homeland of the Free

Experiencing a threat results in nation-wide fear which requires research and development to avoid having to feel mass vulnerability.[316] A natural response to fear is the desire to feel protected; a craving for complete safety**.** In large scale attacks such as this and following on the heels of another attack that scarred the nation, privacy was traded for security. Especially in situations where there are numerous victims but only few who fully understand the risk. As a result, many policies and protocols were enacted under the guise of "protecting" the American people from terrorist threats. The fear was

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[314] Ibid.
[315] Frank Smith, *American Biodefense,* 15.
[316] Ibid.

heightened by realizing that the United States was not the impenetrable superpower defended by reputation and ego alone. After experiencing two terrorist attacks back to back that were enacted in extremely different ways, the mythological cultural sense of dominance and security was shattered. The existence of a realistic threat determines the defensive behaviours implemented by a governing body and discussions of bioterrorism and biodefence were back on the table.[317]

Bush made defending against terrorism a priority within his government. The White House Press Secretary released numerous documents that outlined the President's response to terrorist and bioterrorist threats. Two key government reports, *Biodefense for the 21st Century (2004)* and *Medical Countermeasures Against Weapons of Mass Destruction (2007)* highlighted the key pillars of biological weapons attitudes in the Homeland Security age. Biodefense for the 21st Century led with a blanket international statement that "biological weapons in the possession of hostile states or terrorists pose unique and grave threats to safety and security of the United States."[318] As a direct change from Nixon's decree, the document clearly states that while prevention and defense are nice sentiments, they are not enough to ensure protection and the military will be taking an offensive stance with active development.[319] The order lays out the intended trajectories to improve the United States bioweapons programs

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[317] Frank Smith, *American Biodefense,* 14.
[318], "Biodefense for the 21st Century," Office of the Press Secretary, April 28, 2004
[319] Ibid.

and preparedness for these events. Despite the outright statement that the United States will be engaging in a more active role, the majority of the statement does pertain to prevention and decontamination procedures.

The Medical Countermeasures directive highlighted the importance of keeping weapons of mass destruction out of the hands of perceived terrorists and bolstering the American armory.[320] The main difference, aside from being presented years later and in a subsequent presidency, is the emphasis on vaccines and pathogen identification. Biodefense for the 21st century spoke of "grave fear" of terrorist and the intense need to avoid biological weapons landing in the wrong hands.[321] Medical Countermeasures suggested what the White House proposed to do about it if/when a bioterrorist attack happened on American soil which focused on public health and medical preparedness.

> We will employ an integrated approach to WMD medical countermeasure development that draws upon the expertise of the public health, life science, defense, homeland security, intelligence, first responder, and law enforcement communities, as well as the private sector, to promote a seamless integration throughout the product development life cycle.[322]

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[320] "Homeland Security Presidential Directive/HSPD-18-Medical Countermeasures Against Weapons of Mass Destruction," Office of the U.S. President, January 31, 2007.
[321] "Biodefense for the 21st Century," Office of the Press Secretary, April 28, 2004
[322], "Homeland Security Presidential Directive/HSPD-18-Medical Countermeasures Against Weapons of Mass Destruction," Office of the U.S. President, January 31, 2007.

The core intentions of this directive are to bring attention to the plethora of agents that could be used in a bioterrorism attack and push for uniting separate agencies towards a common goal. Prior to the DHS and these acts, government agencies enjoyed autonomy and independent action. This policy is pushing strongly for a cohesive action that requires cooperation and shared intelligence to be successful. There is no clear solution for this presented in the directive but it does announce that the military will be collecting samples of unknown pathogens and research centers will begin stockpiling vaccines in case of outbreak.[323] This is significantly different from the pre-2001 directives and initiatives as it is primarily focused on when something goes wrong. Previous bioterrorism and biological weapons preparedness and policies focused on weaponry and mutually-assured destruction. In 2007, we were seeing a switch to handling an inevitable outbreak similar to the one already experienced. Both of these policies have stricter wording and actively plan for an impending bioterrorist attack. This is a significant change from pre-2001 bioterrorism policies that focused primarily on creation of biological weapons and defense measures as opposed to an active initiative.

The Department of Homeland Security was able to create its own assessments of the situation. Considering the nature of the DHS and its primary objective focusing on terrorism, it is not surprising that their book, *Bioterrorism Risk Assessment,* focuses on this too. It would appear that the book was written to simultaneously inform the public of

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[323] Ibid.

the role of the DHS while also solidifying the need for the department. The latter could be in response to pushback about the levels of control that were granted to the government with the creation of this sector. The book heavily relies on fear of terrorism. It has statements about the lack of public health ability to stop a bioterrorism threat if there was one and the inability to stop the spread.[324] The entirety of the report reflects a dire situation and reveals and underlying agenda, there seems to be an underlying agenda to prove that the Department is valuable and needed. In practice, biological weapons research had been taking place within the United States since the World War eras. The Department of Defense may not have had a perfect plan laid out but they were not exactly hard up either.

In the multiple documents presented spanning the years from 2002-2007 we see a shift in narrative from the previous decades regarding biological warfare and manufacturing. Contrary to the disdain of the 1970s and the defensiveness of the 1990s, the early 2000s were full steam ahead and biological weapons/bioterrorism were here to stay. There was a complete shift from recognizing that tinkering with biological agents could have disastrous results to a mindset that not actively developing these weapons ultimately undermined national security. The Presidential directives and DHS book present the changing ideologies. The Homeland Security Act (2002) grants unprecedented government control and establishes a brand new branch of government

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[324] Department of Homeland Security, *Bioterrorism Risk Assessment: A Call For Change* (Washington, D.C: National Academies Press, 2006), 6.

specifically tasked with protecting the United States from potential terrorist threats. *Biodefense for the 21st Century (2004)* welcomes the United States to a new age of biodefense as the title suggests. It outlines a clear directive to actively participate in biological weapons manufacturing and execution with specific interest to ensuring other countries do not possess the same. DHS's book, *Bioterrorism Risk Assessment* (2006) creates a public description of how ill-prepared the government bodies are for a biological attack in the United States and stress the importance of the Department and its agendas. Lastly, Medical Countermeasures Against Weapons of Mass Destruction (2007) bring vaccines and medical preparedness to the forefront. Each of these narratives identify a stark difference from the previous regimes segregating the Bush era into one of anti-terrorism directives and initiatives.

Fort Detrick did not disappear during these years either. As the United States premier research center for biological warfare agents, switching the political position on bioterrorism and the use of biological agents impacted the Fort directly. In December of 2001, only three months after 9/11 and the anthrax attacks, Fort Detrick held a technology exposition to showcase their new developments.[325] The description of the expo states that it was to display the medical achievements of the Fort but considering their role in biotechnology and the timing, it is likely that this expo was an effort to deter future terrorists (domestic and international) by flexing the muscles of the bioresearch

[325] "Fort Detrick Technology Expo." *Commerce Business Daily*. Washington: U.S. Dept. of Commerce, Office of Field Services, 2001.

Fort. Following President Bush's $1.7 billion dedicated to bioterrorism funds, the Fort began to attract outside research attention from organizations like the National Institute of Allergy and Infectious Diseases (NIAID) who were surprised at the level of sophistication within the Fort's laboratories.[326]

Not all the press was positive about Fort Detrick's position in the age of Homeland security. USAMRIID began assisting the CIA and FBI with bioterrorism training and education but were subjected to intense scrutiny as it was commonly believed that the Fort was responsible for the anthrax attacks in the first place.[327] Further, the Department of Defense had a budget of $50 million to work on developments at the research center which was clearly out-budgeted by the new grant of President Bush that was being allocated to other research sites and organizations like NIAID.[328] The period following 2001 arguably became the heyday of bioweapons research and Fort Detrick was being systemically blocked from participating in the frenzy. While the value of the research center and the value of what USAMRIID had to offer the Department of Homeland Security were recognized, both left a bitter taste following years of incidents which culminated in the 2001 anthrax attacks. While the attacks were not sanctioned by USAMRIID, Department of Defense, or an official

[326] Enserink, Martin. "Fort Detrick. On Biowarfare's Frontline," 1954.
[327] Ibid.
[328] Ibid.

project of the Fort, they provided the perpetrator with government training, sophistication, the means, and the equipment necessary to do it.

Fort Detrick saw new leadership in the new era as well. In 2005, the newly formed Department of Homeland Security set to developing a new research lab at Fort Detrick designed to solely focus on the development of biological weapons and biodefense countermeasures.[329] This new laboratory was 160,000 square feet and cost over $121 million to construct.[330] While no link was clearly stated in the article, this development was likely part of Bush's Project BioShield which focused on preparing vaccines and other biological defenses to ensure security against bioterrorism to the tune of $2.8 billion.[331] In 2007, Major General George W. Weightman was assigned to head Fort Detrick.[332] Weightman had previously retired from the United States Army where he oversaw the Walter Reed Medical Centre but was removed from his post after six months due to reports of inhospitable living conditions and severe maltreatment of patients.[333] He did not gain expertise in biological weapons at Walter Reed but he seemed to be more interested in the impact of disease and bioweapons than treating those who suffered from it. Along with a new Major General, the Fort also saw a new

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[329] "Nat. Biodefense Analysis and Countermeasures Centre to be Built at Fort Detrick," *Daily Record, (*Glasgow, Scotland), February 4, 2005.
[330] Ibid.
[331] Laura DeFrancesco, "Throwing Money at Biodefense," *Nature Biotechnology,* 22, no. 4 (2004), 376.
[332] Martin Weil, and Josh White, "Former Walter Reed Commander to Lead Fort Detrick." *The Washington Post*. (Washington, D.C) November 14, 2007.
[333] Ibid.

company move in: Battelle Memorial Institute.[334] Battelle was a private company committed to technological research and innovation tasked with overseeing the new laboratory built by DHS. While there is not a lot of information about their specific role and agenda, their presence is relevant. Between 2001 and 2007 Fort Detrick flaunted their strength and innovation at a public exposition, built and funded entirely new laboratories to focus solely on biological warfare, and brought in new management along with expanding their base of private investors and privatized research corporations. The public perception still had ripples of uncertainty. Especially those who lived in close proximity to Fort Detrick reported feelings of heightened fear due to the rapid rate of expansion and enthusiastic return to bioweapons testing.[335]

7.4 Wake Up Sheeple – Public Perceptions

Following in the footsteps of strange beliefs, hoaxes and imitation artists picked up where Ivins left off.[336] Copycat criminals continue to be an enigma that elude criminal psychiatrists because the motivations change drastically between perpetrators. Anthrax seems to be a particular favourite to imitate, possibly because it was such an innovative threat in 2001, resulting in more than two thousand false attacks between September 11

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[334] Wilson P. Dizard III. "Battelle Unit Will Lead New Biodefense Research at Fort Detrick: FINAL Edition." *The Washington Post*. (Washington, D.C) December 25, 2006.
[335] Fredrick Kunkle. "Fort Detrick Neighbors Jittery Over Expansion; Bioweapons Work Possible, Some Fear: FINAL Edition." *The Washington Post.* (Washington, D.C) February 27, 2006.
[336] Stefan Riedel, "Biological Warfare and Bioterrorism," 404.

and October 15, 2001.[337] Anthrax threats have actually surpassed bomb threats within the United States.[338] An increase in reports shortly after the initial letters in 2001 is to be expected. People who are afraid and under stress tend to jump at shadows and with no predictable pattern of targets, anyone could potentially be targeted.

Anthrax is unique in that the hoaxes and false reports continued long after the case had been closed.[339] Hoaxes, like the initial attack, serve a dual threat. The first is the use of resources to disprove the threat to public safety and the second to strain public health resources that provide testing and reduce anxiety induced by the panic.[340] In 2005, a woman who worked for the United States Department of Health left a voicemail for her boss that she had infected the workplace with anthrax after she did not get the tax break she felt she was owed.[341] In 2008, The Washington Post released an article detailing the extreme amount of anthrax hoaxes that public officials were dealing with. The article stated that federal agents had responded to more than 30,000 domestic anthrax threats since 2001 that turned out to be false alarms.[342] The FBI even

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[337] Susan Jones, *Death in a Small Package,* 242.
[338] Leonard Cole, "Anthrax Hoaxes: Hot New Hobby?," *Bulletin of the Atomic Sciences* 55, no. 4 (1999): 7. doi:10.1080/00963402.1999.11460347.
[339] Alexander Leask, Valerie Delpech, and Jeremy McAnulty, "Anthrax and Other Suspect Powders: Initial Responses to an Outbreak of Hoaxes and Scares," *NSW Public Health Bulletin* 14, no. 11-12 (2003): 219. doi:10.1071/NB03059.
[340] Alexander Leask, Valerie Delpech, and Jeremy McAnulty, "Anthrax and Other Suspect Powders," 220.
[341] Ruben Castaneda. "Bethesda Woman Accused in Fla. Anthrax Hoax: FINAL Edition." *The Washington Post*. (Washington, D.C) August 3, 2005.
[342] Mimi Hall. "White-Powder Scares Take Toll: Thorough Responses Cost Lots of Time, Money." *USA Today (*Arlington, Va.). October 13, 2008.

mentioned to the *Pittsburgh Post-Gazette* that they were detaining anthrax hoax artists who had committed hoaxes multiple times.[343]

The Homeland Security era in the United States between 2001 and 2007 also saw increased consumer purchases of gun and ammunition driven by the public's feelings of fear and vulnerability cause by the back-to-back terrorist attacks of September 2001. Abandoning the defensive stance of the previous administrations, George W. Bush re-organized the approach to security and biological weapons to an offensive measure. Fort Detrick gained further funding and had the public opportunity to show off their potential and innovation. Considering the amount of hoaxes using anthrax following 2001, these measures may be worthwhile. It's true that anthrax refinement and mobility requires expertise but criminals are smart too. Perfectly refined pure anthrax may not be a threat but some form of modified knock-off that has similar key effects is a possibility. The American public are still responding to threats of anthrax by the end of this period and into the modern era which states that it is still very much a threat in the public eye. The panic and fear of 2001 lingered through the defense period regardless of Homeland Security agents.

2001 birthed two main streams of conspiracy theories in response to uncertainty and terror. First, that 9/11 was an inside job organized by Bush's chief advisors to

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[343] Jason Dearen "Feds Say Suspect in Hoax Anthrax Scare Did It Before." *Pittsburgh Post-Gazette* (Pittsburgh, Pennsylvania) .October 31, 2008.

create an excuse to go to war with Afghanistan.[344] The second theory follows the same narrative: Bruce Ivins was acting under direction of a government agency (which one varies by retelling) to reinforce fear of Eastern nations and re-support the need to go to war with Afghanistan.[345] There are numerous variations of each of these theories ranging from the involvement of the Illuminati, to belief that George W. Bush is actually a lizard looking for food, to an agreed upon treaty with Bin Laden that benefitted both sides of the party. The main points of each variation remain as stated above: the projected narrative to the public did not reflect what two thirds of the U.S. population believed actually happened.[346]

The Age of Homeland Security brought a legitimacy to the threat of bioterrorism and biological weapons as a whole that previously did not exist. The Patriot Act, Homeland Security Act, and the creation of the Department of Homeland Security took presidential predecessor's defensive measures and implemented them into a fully formulated action plan focused on deterrence, prevention, and intelligence. The combination of these policies and organizations relied on interorganizational cooperation and cohesiveness whereas the independent government agencies had previously enjoyed autonomy. The instances of domestic terrorism that were on the rise during the Clinton era had reports of low success, inability to be properly deployed, and

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[344] Michael Barkun. *A Culture of Conspiracy: Apocalyptic Visions in Contemporary America* (California: University of California Press, 2013): 165.
[345] Michael Barkun, *A Culture of Conspiracy,* 181.
[346] Joseph Uscinski and Joseph Parent, "Conspiracy Theories are for Losers," in *American Conspiracy Theories* (New York: Oxford University Press, 2014), 6.

needing to rely on subsequent terrorism measures in conjunction with a biological agent leading the Department of Defense to believe that they were relatively not useful as powerful weapons. Specifically, anthrax was difficult to control, contain, refine, and deploy making the spores appear as a fruitless endeavor. The events of 2001 proved that with enough fear, the medium doesn't matter. Bioterrorism and biological weapons had transcended into dangerous weapons that did hold potential for massive impact.

8 Life, the Universe, Everything – Concluding Thoughts

8.1 Bioweapons Permanence

Prior to 2001, biological weapons seemed to promise many opportunities for research and endless possibilities in levels of defense following a long string of unstable politics from World War I until the end of the Cold War.[347] Continuing an intrinsic culture of fear that has become ingrained in American culture, domestic bioterrorism was born out of the very institutions created to quell threats against American democracy.[348]

Domestic terrorism within America prompted a new phase of the biological weapons movement as “common” criminals began to experiment with their potential as well. Previously, the technology enjoyed gatekeeping by elite officials and trained professionals who took pride in their experiments under direction of the United States military. The rise of domestic terrorism was troubling for the obvious reason but enhanced by the use of biological agents to achieve their goal. These weapons had not been conclusively agreed upon at the government level nor had they been explicitly canonized. Yet criminals were using the fundamentals of the sophisticated weaponry to turn against the nation as the hoax is powerful enough to force change even without actual anthrax.

From the World Wars to the Age of Homeland Security, biological weapons continued to be the recipients of funding, political and public interest, and a source for

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[347] Sonia Ben Ouagrham-Gormley. *Barriers to Bioweapons,* 35-40.
[348] Geoff Bunn, *The Truth Machine: A Social History of the Lie Detector,* (Baltimore: John Hopkins University Press, 2012), 10.

debate because they are the physical manifestations of fear. Fear of these same weapons being used against them and fear of not being prepared. Even though public perception and opinion about manufacturing and researching biological weapons waver throughout the decades, the underlying acknowledgement that if nothing else, knowledge of these weapons is vital perseveres. This period witnessed a constant debate between knowledge and fear for which holds the real power. In 2001, the United States was unprepared and fear emerged as victor. This period of instability, vulnerability, and mass chaos solidified the United States bioweapons and bioterrorist programs unlike the decades prior. Following anthrax released on the American public, there was no more debate about the potential of the weapons or better assignment of funds for the first time since their conception in the World War period.

Hoaxes and conspiracy theories about the 2001 attacks transcend the United States and have contributed to international relationships. The United Kingdom has not experienced a biological attack on its citizens or government yet they have implemented a protocol for it solely based off the American experience.[349] Russia was a young democracy in 2001 and while they had tensions with the United States, learned the lesson from the attacks and implemented policies of their own yet strongly maintained

[349] Dan Jones, "Structures of Bioterrorism Preparedness in the UK and the US: Responses to 9/11 and the Anthrax Attacks," *British Journal of Politics and International Relations* 7, no. 3 (2007): 344. doi:10.1111/j.1467-856X.2005.00189.x.

that the U.S. should not be in charge of international terrorist regulation.[350] A report completed by Polyak et al, the research team analyzed 70 countries and found that 76.4% of these countries experienced communications regarding bioterrorism and contact as a result of the 2001 anthrax crisis in the United States.[351] This incident caused the global community to recognize that public health was now also a security measure prompting new protocols, overhauls to systems, and an increased urgency for better communications as a direct result of the American experience.[352] Especially following the announcement of war with Afghanistan in light of the attacks, the United States lost international support and Western Europe began to distance themselves as well.[353]

Bioterrorism has claimed fewer lives than "traditional" terrorism methods involving explosives, guns, and other forms of ammunition, but that does not diminish its sociological and psychological effect on a population.[354] Fear begets fear regardless of the format that it is delivered in. Perhaps a breath of relief is that while bioweapons technology is advancing and refining, so too is medical technology and understanding. As such, the heath field is learning how agents interfere with human's biological makeup

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[350] David Farber. *What They Think of Us: International Perceptions of the United States Since 9/11* (Princeton: Princeton University Press, 2007), 96.
[351] C.S. Polyak, J.T. Macy, M. Irizarry-De La Cruz, J.E. Lai, J.F. McAuliffe, T. Popovic, S. P. Pillai, E.D. Mintz,& Emergency Operations Center International Team, "Bioterrorism-related anthrax: international response by the Centers for Disease Control and Prevention." *Emerging Infectious Diseases, 8*, no. 10 (2002), 1057. doi:10.3201/eid0810.020345.
[352] Polyak, et al "Bioterrorism-related anthrax," 1058.
[353] David Farber, *What They Think of Us,* 152-160.
[354] Stefan Riedel, "Biological Warfare and Bioterrorism," 405.

and there is just as much research focusing on repelling the effects of a biological attack.[355] After the Cold War, the people living in the aftermath came to terms with nuclear warfare as a constant part of their reality. Post-9/11 society has come to terms with the constant existence and threat of bioweapons technology.

8.2 The New World Order

The legacy of bioterrorism research and manufacturing did not cease with Bush. In 2009, President Barrack Obama followed the lead of the 1970s and called for reduction in nuclear and biological weapons.[356] His policy, the National Strategy for Countering Biological Threats, aimed to reduce risk of malicious use of life science technologies by eliminating their use as mass weapons.[357] The protocol was careful to stress that his administration did not believe biological warfare to be unfounded or that they aimed to leave America defenseless. They aimed to take a defensive approach but in a different way from the predecessors. Obama's initiative was to focus on intelligence and an intense comprehensive risk approach.[358]

The difference between biodefense and biosecurity within Obama's preparedness plan is that he proposed to return to an internal focus as opposed to the

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[355] Stefan Riedel, "Biological Warfare and Bioterrorism," 406.
[356] Gregory Koblentz. "From Biodefence to Biosecurity: The Obama Administration's Strategy for Countering Biological Threats." *International Affairs (London)* 88, no. 1 (2012): 131. doi:10.1111/j.1468-2346.2012.01061.x.
[357] Ibid.
[358] Gregory Koblentz. "From Biodefence to Biosecurity," 132.

external focus of the Bush era. While President Bush and his administration solidified the platform and outlined the way it would work through the Department of Homeland Security, President Obama got to sift out the snags in the plan. The biggest issue with Bush's original plan was the proposal that government agencies were going to work cohesively together as well as with public health. Obama's bioterrorism position focused on rectifying the practical issues in an attempt to actually get the organizations working together.[359] Key advisors to President Bush were used to develop this new strategy so in some ways, it is a continuation of the previous policy but working on the foundation to build a better system.[360]

Also in line with the historical trends, in 2018 President Donald Trump announced that he would be bolstering bioterrorism defense and biological weapons manufacturing in his National Biodefense Strategy Order.[361] Ultimately, bioterrorism was not a key aim for the Trump administration and his lack of stance combined with budget cuts led to nervousness from bioterrorism researchers.[362] Popular newspapers and magazines attributed Trump's response (or lack of) to the Covid-19 pandemic of 2020 as a direct result of his failures within national biodefense.[363]

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[359] Gregory Koblentz. "From Biodefence to Biosecurity," 133.
[360] Gregory Koblentz. "From Biodefence to Biosecurity," 136.
[361] "Trump Administration Releases New National Biodefense Strategy," *KFF Daily Global Health Policy Report* (Washington, D.C.), September 19, 2018.
[362] TOM RIDGE AND JOSEPH LIEBERMAN, "How Donald Trump Can Protect America from Bioterrorism" *The Times* (London, United Kingdom), DECEMBER 13, 2016
[363] Chauncey Devega, "Dr. John Gartner: 'Donald Trump is the Most Successful Bioterrorist in Human History,'" *The Salon* (San Francisco, California), July 13 2020.

Even as late as Donald Trump's presidency, anthrax hoaxes were still occurring. President Trump's daughter-in-law, Laura Trump, had to be rushed to hospital after opening a letter addressed to her husband that contained the ominous white powder signature to anthrax.[364] That anthrax hoaxes continued to be prevalent speaks to the fear that the original attacks caused. Eighteen years later anthrax still has the potential to send people running to the ER and cause media coverage with a full FBI investigation. This does not happen with something that people are not afraid of. Furthermore, people are still using anthrax hoaxes as a way to get what they want. In the above examples there are personal as well as political aims and the culprits are using a familiar method that was known to get results to do it.

Biodefense and biological weapons hold an appeal for governments even though they continue to perform poorly in tests and in actual attacks. Yet, governments, including the United States, continue to run research programs, invest money, and create entire election platforms around bioterrorism and biological warfare. The fear that these weapons can induce is the real power. It does not matter to the investing governments if the body count is low as long as the control mechanism is high and mass fear is the best way to do that. We discussed that President Trump handled the Covid-19 pandemic poorly and this is mainly due to fear of the virus and fear of an incorrect response. The rhetoric was built up through the global marketplace and

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[364] Jake Pearson Washington. "Anthrax Letter Hoax Targets Trump's Daughter-in-Law." *Irish Independent*. (Dublin, Ireland) February 13, 2018.

international television of the deadliness of the virus, the high contagion rate, and stressors that it was so serious that no one should have personal contact with their families. For the first time ever, including during the World Wars, the Olympic games were postponed and Christmas was effectively cancelled across the globe. While the medical impact was great, the compelling deterrent throughout the course of the pandemic with the greatest pull was fear.

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