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Unintended Protection Factor: Fallout Shelters and their Influence on the Public Perception of Nuclear Weapon Tests

By

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Abstract

While we presently look upon fallout shelters with a sense of morbid curiosity or complete disregard, their influence has outlasted their occupants. After the closure of World War II in 1945, the initial foundations and experience of civil defense in the United States was rapidly expanded upon in 1949 with the creation of the Office of Civil and Defense Mobilization, OCDM, as the military and atomic technology race between the Soviet Union and the United States showcased the risks of a nuclear exchange on the American heartland. One of the earliest and most controversial programs established by the OCDM was the fallout shelter program. The program's efforts, and the shelters themselves, would become a focal point of public animosity towards the federal government. A growing extent of this anger was focused on the above ground nuclear weapon tests the United States was conducting until their outlawing with the Partial Test Ban Treaty in 1963. While there has been considerable research into the failures of civil defense and the critical response from the American public towards the department, little has been done to link fallout shelters to impacts and influences on national security. The focus of my research is understanding how the relationship between public knowledge and the fallout shelter program contributed to the questioning of national security policy and how the United States government attempted to maintain national security interests as the public perception of nuclear weapon tests shifted away from the federal policy. I argue that through federally provided information, seminars, and design competitions for fallout shelters, the American public became acutely aware of the effects of nuclear weapon tests, such as radioactive fallout, and sought to protect themselves against long-lasting damage. Overall contributing to the American public becoming increasingly skeptical of United States policy and questioning the legitimacy of its actions. This reaction highlights the importance of how federally funded programs can create public reactions that run counter to national security concerns and influence greater social discourse.

Keywords: Cold War, civil defense, fallout shelters, nuclear weapon tests, knowledge.

Introduction

Immediately following the end of the World War II in 1945 the United States government began performing nuclear weapon tests at a rapid pace to maintain its nuclear and military leverage over the Soviet Union. The atomic fire that ushered the end of World War II now ushered in a cold conflict that risked going beyond total war to total annihilation. The Cold War was under way, and the US government quickly realized the destruction seen in Hiroshima and Nagasaki could happen to any of their cities after their nuclear monopoly was broken by the Soviet Union's first nuclear bomb test in 1949. On December 1, 1950 the Federal Civil Defense Administration, FCDA, would be formed in order to meet the expressed demands of preparing US citizens for the event of a nuclear attack. The administration would be built off the foundations of the Office of Civilian Defense, OCD, an office formed at the start of Word War II with the explicit goals of preparing citizens for firefighting after air raids and preparing scrap metal drives. While the FCDA and later civil defense departments would follow a similar path of civilian preparation as the OCD, they were now dealing with the equivalent of a hundred bombing raids in a single nuclear strike. The idea of a metropolitan area being turned into a burnt, scared, and radioactive hellscape is something we often associate in works of fiction. However, the setting of a nuclear wasteland is something that is not entirely fictional nor long displaced from recent memory. Survivors of the Hiroshima and Nagasaki bombings remain as living reminders of the catastrophic events, and the recent Russian invasion of Ukraine in February of 2022 has stoked fears of a possible nuclear detonation[1]. The nuclear fear we experience today was reality for Americans and the wider world in 1945 as the nuclear bombings

[1] Charlotte Morabito. "Nearly 70% of Americans are worried about a nuclear attack, according to APA survey." *CNBC*. Published April 5, 2022. https://www.cnbc.com/2022/04/05/hypothetical-nuclear-attack.html.

of Hiroshima and Nagasaki gave a true and firsthand account to the devastation that nuclear weapons could unleash. This clear and present danger required solutions that would enable the survival of the US and its allies while providing the average citizen their own chance of survival in the case of a nuclear exchange. To this end, the US government, through the FCDA, worked on expanding its nuclear arsenal while, with the help the FCDA, also providing its citizens public programs and information meant to increase the odds of their survival in the case of a nearby nuclear detonation through. The most well-known of these programs was the fallout shelter program which worked to promote research and public acceptance of public and private fallout shelters. It was through these means that the US government believed it could maintain its political and military dominance over the Soviet Union while also protecting its own population and garnering their support against communist infiltration or aggression. However, the US government would not account for the ability for the average citizen to utilize the materials provided to them to formulate their own counter claims on the narrative established by the US government early in the Cold War. Citizens with the power and money available to them began to develop viewpoints that reflected an expanded nuclear knowledge. This knowledge would spur on further development of civil defense activities before reaching a critical mass and gradually shifting out of favor of the US government's actions towards nuclear weapons and civil defense activities. The gradual transition away from publicly supported civil defense programs and its relationship with evolving national security concerns is something that remains predominantly unexplored, but can provide us a wealth of insight into how the public and federal level of American society maintained and interacted with one another's collective pool of knowledge.

The desire of the federal government to protect their citizens focused on a variety of active, but chiefly, passive programs. The active programs and events were predominantly meant for members of civil defense organizations or government employees. These were primarily rehearsal scenarios run by, and for, state or federal officials while also extending into schoolhouse rehearsals or the occasional air siren and radio alert test. The passive programs were not intended to directly interfere with day-to-day life but were made available to those who appealed to them. These programs and approaches included traveling exhibits on the dangers of a nuclear attack, government handouts, public seminars, newspaper ads on first aid after an explosion, and various other activities. Through these materials the federal government worked to distill essential information down to the general public on how to properly prepare for the worst-case scenario. The programs, while funded with federal money, were operated and managed by state level officials to ensure greater adaptability and independence for said state officials or individuals themselves. This focus on greater independence for state governments and individuals helped to create the idea that its success was community dependent. By leaning into themes of independence alongside connecting with local communities, civil defense enabled the marriage of American individualism with community participation and preparation. This created the framework for how civil defense was able to initially penetrate public fears and become a part of American daily life.

Similar to civil defense itself, fallout shelters were conceived as logical, if not cost-effective, for the government to ensure that the population of the nation would not be, essentially, out in the open if the bombs were to fall. Per the government's own doctrine, attempting to evacuate entire city centers would be practically impossible. This was especially evident with missile technology advancing and the advent of ballistic missile submarines which enabled a

strike within thirty minutes on a continental target if positioned off the coast. Fallout shelters had, in essence, become the only remaining option to protect oneself in the case of an attack.

While the United States was working on accelerating its anti-missile technology, the ability to intercept all the expected incoming soviet missiles was considered near impossible. Thus, greater emphasis was placed on fallout shelters by the federal government. The government sponsored this focus by allocating funds to the FCDA who, in turn, actively worked towards normalizing the existence and use of fallout shelters. The FCDA pursued this through greater publication of shelter related articles, funding research into shelter construction, continuing to pressure citizens into build their own shelters, and expanding surveying efforts to identify suitable spaces located within preexisting buildings for public shelters. However, these attempts to advance the knowledge of nuclear technology and employment of fallout shelters would create an adverse effect on Americans as a whole and their perception of nuclear weapons.

As the Cold War evolved, so did the American perspective on nuclear weapons and fallout shelters. Gradually, as nuclear weapons testing continued in the Nevada desert into the early 1960s, the public awareness of nuclear technology and weapons began to shift away from the national security narrative espoused by elected officials. Public outcry against nuclear weapons had gone from negligible in the early 1950s to a deafening chorus at the beginning of the 1960s. While atmospheric tests would end in 1963 with the signing of the Partial Test Ban Treaty, civil defense faced similar public disdain. Tied into the idea of a necessity for survival, though not on a national level, fallout shelters were targeted as being the epitome of a failed state program. The reorganized OCD and its fallout shelters would continue to be ridiculed by public pundits and scientists until the OCD's formal dismissal and reformation into the Federal Emergency Management Agency, or FEMA, in 1979. In the span of just over a decade nuclear

weapon tests and fallout shelters had gone from matters of national security and public safety to the former being a threat to public health and the latter becoming a national embarrassment. This relationship between enhancing nuclear weapons while promoting civil defense is where my research lies. I am seeking to understand how the public perception of the federally funded fallout shelter program and its attributed publications contributed to the American public questioning an essential national security policy and how the United States government attempted to maintain national security interests as the public perception of nuclear weapon tests shifted away from the federal policy. This topic also correlates with another purpose of this research. The information that was available to the public was provided by federally sponsored researchers attempting to enlighten and prepare the population in case of a nuclear attack. However, this information would be utilized to counter the narrative of nuclear deterrence through force as voiced by the federal government. From this I seek to underline how the public perception of nuclear weapons correlates with the formation and change of public knowledge and the advent of wider anti-nuclear sentiment.

When examining the historiography of literature surrounding the Cold War and the topic of national security or nuclear weapons, many authors typically view the aspect of national security, the public perception of fallout shelters, and civil defense in general, as separate entities. One of the most notable authors in the fields of national history and policy, John Lewis Gaddis, mentions civil defense only in passing in relation to international events. Understandably, national security policy through the Cold War was widely influential on the development and establishment of both the United States of America today and the newly formed states and governments that freed themselves from the more physical yolk of colonialism. Yet, the personal and social implications of a Cold War society would not be addressed by academics

until the tail end of the Cold War in the 1990s. By this time, historians began to look below the level of Cold War politics and more on the civil programs, citizens, and the social connection generated between communities and their respective social strata. Each of these texts explore the peculiarities surrounding the various government agency offshoots and cultural phenomena that were either synonymous for the Cold War era or were the initial foundation of current political policies. Notable sources covering these intricacies cited in this research include works by Spencer R. Weart, Guy Oakes, and Toshihiro Higuchi, each of which detail the shortcomings of the US government's actions and policy[2]. From these secondary sources, a general theme emerges that typically fixates, or eventually notes, the perceived failure by the government in obtaining their national security or civil defense goals while ignoring the absurdity of the situation in general. Similar to the singular focus of higher altitude historians as Gaddis, this micro level research is invaluable. It is, however, also limited in its scope and is unable or unwilling to cross examine the confrontation between the upper and lower echelons of American society. The purpose of my research is to highlight this missing examination in order to demonstrate how the early half of the Cold War provides examples of this correlation between the micro and macro levels of Cold War history.

The methodology for my research follows in the similar vein as the numerous authors that have come before me in their own contribution towards their area of study. My secondary sources will include the works of the authors I have cited previously, along with a host of historians that focus on aspects of the Cold War. This will extend into works dealing with

[2] Weart's *The Rise of Nuclear Fear* provides a detailed analysis of the peculiar mix of fascination and fear within American society towards nuclear technology. Oakes' *The Invisible War* focuses on the history of American civil defense activities from the start of the cold war to its eventual demise in the late 1970s. Higuchi's *Political Fallout* examines how nuclear technology and related events have had a serious impact on environmental as public health in the US and across the globe.

popular media, fallout shelters, anti-nuclear movements, and other aspects of Cold War culture. These works are meant to provide the background as to what information was available to the general public and how they interpreted such information. In order to ground my research in a particular perspective within the United States, these documents will include newspapers from townships in the greater Chicagoland area. The purpose of selecting Chicago, and the area in its immediate vicinity, as an anchor for comparison of public perspectives was due primarily to the availability of sources as well as the region's distinction of being part of the American heartland. A region originally considered safe from conventional warfare, but now a prime target for nuclear warfare. With town records regarding the construction of fallout shelters being scant as it is, these newspapers assist in detailing some of the more stand out cases that brought local as well as national attention. While not providing a complete picture as to the actual level that fallout shelters were incorporated within rural families, it has been noted by academics that, due to the American spirit of freedom and privacy, that we do not have any realistic way of knowing who built their own shelters and how many were built in the time period of this research let alone the entire Cold War.

Many of my secondary sources can be divided into two camps. The first being the "critical reception" camp which address a particular aspect of American culture, politics, society, and pull apart its history in intricate detail to note the choices and influences that resulted in some of these aspects becoming ridiculed or abandoned in due time. Sarah Robey, whose recent publication*, Atomic Americans*, helps to highlight several of the larger themes I will be seeking to address and connect concepts relating to national understanding and societal nuclear underpinnings. While such academic works are not blatantly attacking the agencies or people that inhabited this time, they do, however, dispute the rationale behind the decisions taken and

considered by the characters they are examining. The other camp that I have unofficially notarized is that of intense magnification. Each of the authors that fall into this group work on dusting off the finite details that surround some of these specific topics or instances. Monteyne's rigorous examination of fallout shelter bureaucracy and design helps to establish his penmanship over many of the other authors. Of course, Monteyne's book is one of the more comprehensive sources I utilize on the wider history and development of the fallout shelter. In a similar style, I intend to utilize several secondary sources that focus on the media aspect of American Cold War culture. Steffen Hantke provides a great source on the gradual militarization of American society through an examination of the growth of science fiction amongst American media following World War II. It is with these sources that I intend to demonstrate some of the wider and more interlinked aspects that surround the Cold War and retain influence in some way, shape or form.

The primary sources I attribute in this research are predominantly government records. Many of these documentary sources are expected to be included since part of this research is focused on the US government's financial and political investiture into their nuclear weapons program and civil defense agencies. The documents include civil defense yearly reports, military surveys of operations, congressional records discussing department expansion, nuclear weapon testing records, local government activity reports as it relates to civil defense, and, of course, local newspaper articles through the 1950s to the late 1960s. Whether financial or progress reports were created by either the US military or civil defense agencies, it is important to scrutinize these reports in terms of the goals they have achieved or are striving towards. However, the optimism demonstrated through their reports may not reflect the shifting public opinion against the agency's own goals or their justification for the expansion of their funding. This includes the testing of a new nuclear weapon or the construction of additional public fallout

shelters. Therefore, the scrutiny against these reports is to further demonstrate how the federal and public perspectives and fields of knowledge worked in tandem before sperating in their cooperation. Newspaper articles, including opinion pieces, assist in providing substance to this comparison. Each of these sources contain a wealth of information that provides a greater level of insight than if we were to simply take a more cursory glance over such a significant time in American foreign and public relations.

In the understandings of the social and political world there tends to be a separation between the camps of study. The social perspective seeks to analyze changes in society from the root up or how the upper echelons of society influence the lower and vice versa. These studies provide us with an understanding of how our society and public knowledge adapt and change with time. The political perspective typically take a wider scaled approach. They often center themselves on abstract concepts of national security, foreign relations, state development and other concepts of an imprecise nature. Through their research we can gain insight into the wider workings that implicate the political systems that impact people from across the globe and how its influence is filtered down to local governments and eventually the people themselves. Both of these camps typically work separately, and this is where I seek to make a distinction. In my period of research, the federal government was preparing and issuing federally funded research to the civilian population. This transfer of official knowledge to public knowledge was meant to assist the civilian population in their general preparedness in the event of a catastrophic nuclear attack. While the government continued to disseminate their research and fallout knowledge to the public, the public experienced a gradual shift of opinion. The earlier patriotic and nuclear supportive population had now shifted towards a more skeptical and growing anti-nuclear front against the government's nuclear policies and activities. While this event has been touched on by

secondary sources, their arguments largely lie on why the civil defense programs were a failure and analyze the population's disapproval of them. However, these sources do not go any further than this claim. They do not try to examine the road that runs between the two camps of thought. I believe this valley of research is opportune for study.

The topics of nuclear weapon testing and fallout shelters are topics that have enjoyed a great level of research and focus by various historians, some of which I will be citing. However, while the two topics have not been accurately compared in their influence upon one another, it begs the question why such research is important. As detailed before, the Cold War and its affiliated civil defense programs are often looked back upon by both academia and the general public today as a nonsensical period in recent history. This viewpoint has developed into the notion that the actions taken and programs supported through the Cold War are based around foundation of ignorance to the reality of the situation, i.e., that nuclear war is unwinnable and surviving one is a fate worse than death. This tinge of discomposure from academia created an atmosphere implying the information gleamed from current studies on the topics are the limit of what can be accessed from their field. Consequently, the only interest that comes from the wider public is that of morbid fascination mixed with a ridiculing of 1950s and 60s culture. By prolonging this perception, academics are boxing themselves into hypothetical alcoves that stifle the ability for them and future historians to delve further into said field.

These long-standing perceptions tie into the underlying theme of disregarding historical objects, personal accounts, or entire periods based off of general assumptions. The fact that fallout shelters existed proves that civil defense was successful in their own right. In the first decade of their revival, civil defense programs were able to unite political parties and communities together in the goal of collaborative protection and preparation. It is the later half of

civil defense history when they experienced their downturn, where historians and the public center their understanding. This persistent perspective ignores the influence and significance that civil defense and fallout shelters contributed to American life and society. Fallout shelters were the physical manifestation of the average citizen's concern, fear, and insurance for the future. The worldview that drove communities and individuals to constructing such structures should not be disregarded but analyzed to understand where one placed themselves in such a global perspective and what factors influenced its change over time. The development of these worldviews and the gradual shift of support away from nuclear weapons also helps us to understand where government outreach fails and where its impact become counter intuitive.

While we presently enjoy only a handful of limited nuclear threats, American citizens of the Cold War lived in the real and persistent threat of a nuclear exchange that was more acutely present in the first half of the Cold War. These citizens utilized the information made available to them through the federal government to protect themselves against threats foreign and later domestic. Without an understanding of how the mindset of these individuals and the pooling of their public knowledge changes over time in relation with their physical and metaphysical world, we are not only doing a disservice to further our understanding of a pivotal moment in US history, but we are also inviting arrogant perspectives of our past to prevent meaningful advancement in historical studies.

Section 1: Background on the Cold War

> I do not know whether or not this [is] the psychological time for this country to extend the Monroe Doctrine, as it applies to this hemisphere, to the entire world. Perhaps it is…. Possibly other countries may respect us for what we have done or tried to do for human liberty in the world; but I for one suspect that some the nations in the world respect this country of our because we hold the atomic bomb.
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> *Senator Zales Ecton of Montana, March 25, 1947*[3]

On April 25, 1945 the armed forces of the Soviet Union and the United States met one another on the banks of the Elbe River in eastern Germany. The meeting of the two armies helped to signal the end of World War II in Europe as the official surrender of Nazi Germany would come only days later on May 8th. With the western front of the war officially concluded, there was a great deal of elation amongst the allied states. In essence, there was a growing chorus that felt that the end of the conflict would help to usher in a new period of peace, prosperity, and unity amongst the various states. Although, much of this elation came from more western allied states, the government of the Soviet Union had their own idea to what peace and unity would and should look like. For General Secretary Joseph Stalin these notions were less rational than they were realistic. The Soviet Union had survived a war that saw themselves on the brink of destruction, therefore, in order to prevent such an event from occurring again, Stalin and his party members sought to extend the Soviet Union's borders, both literally and figuratively. This led to Soviet authorities handpicking the governments of neighboring states they had liberated from German occupation. Much of this had already been agreed upon in February of 1945 during the Yalta Conference where British Prime Minister Winston Churchill, American President Franklin D. Roosevelt, and General Secretary Joseph Stalin met and discussed the future political

[3] 80th Congress- 1st Session. March 25, 1947. Vol. 93, Part 2.

landscape of Europe. During this meeting, the former two leaders agreed upon many of the points presented by Stalin, including the respecting of each other's spheres of influence over neighboring states and regions along with the removal of Germany's industrial ability[4].

While the proposals made by Stalin can be seen as a precursor to entrapping eastern Europe into a more permanent sphere of influence, President Roosevelt was noted for trusting Stalin's intentions and being more optimistic of future relations with the Soviet Union. However, after the death of Roosevelt, President Harry Truman approached Soviet relations from a more cautious and skeptical route. While Truman hoped to maintain positive relations with the Soviet government, he felt their attempts to cement their presence in eastern Europe represented a threat that could emerge in time. His fears, along with Churchill's doubt, which was carried on by newly elected Prime Minister Clement Attlee, were validated once Stalin pressured both national leaders in enacting harsher punishments towards Germany at the Potsdam Conference in July of 1945. Taking place only weeks after the official surrender of Nazi Germany. Stalin's actions prior to the conference, such as the forceful reincorporation of the Baltic states and the occupation and installation of soviet backed governments in eastern European countries, led Truman to consider his own hardline approach to counter growing Soviet influence[5].

While the Potsdam Conference provided the initial framework from which the west would begin to perceive and interact with the actions of the Soviet Union, the war with Imperial Japan was still ongoing. However, only days after the conclusion of the conference the United States would drop the first atomic bombs on Hiroshima and Nagasaki on August 6th and 9th respectively. The devastation that the weapons brought on the Japanese cities led to the Japanese

[4] John Lewis Gaddis. *The Cold War A New* History. London, England: 2005. 12-20.
[5] Ibid. 30-32

Emperor Hirohito to announce the nation's surrender on August 15th which was formalized on September 2nd. Truman had, in fact, been informed of the success of the Manhattan Project, the secret joint American and British project to develop a nuclear weapon, in the final days of the Potsdam Conference. While he had informed and worked with the British government on the project, he kept the program secret from Stalin and soviet officials, only commenting to Stalin that the United States had a new weapon to use against Japan. This attempt to keep the Soviet government in the dark was a failure from the start as Stalin was already aware of the project through espionage networks within the United States and the Manhattan Project itself. In the span of less than a year the former allied states of World War II were now quickly drawing into their own pacts. This became evident after Truman's address to Congress on March 12, 1947 where he laid out the foundations of what is now known as the Truman Doctrine. This doctrine, proposing the aid, support, and defense of states against communist aggression and Soviet influence, would be part of the foundation that would lead to the creation of the North Atlantic Treaty Organization in 1949. This action was followed by the Soviet Union with the creation of the Warsaw Pact in 1955[6]. Within a decade, the world had gone from fighting through a global conflict to the creation of atomic weapons and the growing possibility of a third world war occurring.

The rapid disintegration of political trust and cooperation between the former allies was all occurring as the world was beginning to unravel the secrets of atomic power and technology. Initially, the United States attempted to maintain a monopoly on the technology, providing basic research to remaining allied nations including France and Great Britain for nuclear energy production, while seeking to provide their allies with the protection of their own nuclear arsenal.

[6] Ibid. 95, 98.

However, it could be argued that government officials were both optimistic in the ability to remain the primary nuclear state in their alliance and ignorant in how rapidly scientific advancement would progress in the allied states. The event that would spur on proliferation of nuclear weapons was the successful test of the Soviet Union's first atomic bomb in 1949. Going by the code name *First Lightning*, the bomb was completed thanks to the information stolen by spies in the Manhattan Project and German scientists who had been kidnapped and forcefully transplanted into Soviet Union proper to help accelerate the project. *First Lightning* could be seen not only as the Soviet Response towards American policy of containment, but as the commencement of the nuclear arms race and the military buildup that would occur from it.

Leaders at Potsdam Conference 1945. Left to right: Joseph Stalin, Harry Truman, and Winston Churchill.[7]

[7] *President Truman (center) speaks with Soviet Prime Minister Josef Stalin (at left) and British Prime Minister Winston Churchill (at right). They are attending the Potsdam Conference*. July 17, 1945. National Archives and Records Administration, Office of Presidential Libraries. https://catalog.archives.gov/id/198775

Soon after President Truman put forward the idea of containment his doctrine would soon be put to its test. In June 1950 the communist North Korean forces under Kim Il-Sung launched an all-out invasion of the US backed and supported South Korea. The peninsula, which had been split along the 38th Parallel between the communist north and western backed south, was seen as the first test for the United States' newest policy. The US and several of its allies would rush to the defense of South Korea and would turn the tide to nearly unite the entire peninsula. However, the involvement of the Peoples Republic of China, PRC, would result in the conflict drawing down to a stalemate that concluded in the peninsula remaining divided roughly along the same border as before[8]. While the United States government had already been working on funding anticommunist movements and strengthening governments in opposition to communist influence, the Korean War was its first direct conflict with communist forces following World War II. The United States had, up until the war, been drawing down its military and moving towards a more peacetime military presence. The conflict was a harsh and rude awakening in the discrepancies the US military assumed following World War II in how they focused resources and research[9]. The conflict also demonstrated the increased risk that direct conflict brought with the advent of nuclear technology. Truman had implied nuclear retaliation if the PRC intervened into the conflict and even had military leaders select military targets for just such a scenario. However, when the PRC did intervene Truman pulled back from such rhetoric and, in response to contrary statements made by the acting military commander in Korea, General MacArthur, had him relieved from his position[10].

[8] Ibid. 40-46, 48-50
[9] David Fitzgerald. *Militarization and the American Century: War, the United States and the World Since 1941*. London; New York: Bloomsbury Academic, 2022. 56-59.
[10] Gaddis. *The Cold War A New History*. 48-50

The Korean war had helped to demonstrate to the United States government that nuclear weapons were not the silver bullet to post-World War II diplomacy. With the Soviet Union and PRC unwilling to waver in the face of such threats the US moved away from nuclear aggression but to nuclear safeguarding in order to maintain peace of NATO aligned nations and allies under the protective shield of their own nuclear umbrella. However, in order to do so they would require a great deal of financial support for the military and Atomic Commission while pursuing approval from the public they were now seeking to protect.

Section 2: Matters of National Security

> All our history shows that the American people do not want to be spoon fed or mollycoddled by misguided, even if well-intentioned, public officials. All our history shows that our people will support adequate national security programs, and the expenditures required for them, once they understand why such programs are necessary.
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> *- Senator Chester E. Holifield of California 1955.*[11]

The successful test of the Soviet Union's first nuclear bomb represented a sudden and dramatic shift in national politics and national security. Previously, the United States sought to ensure the security of its oversea allies with the threat of its own nuclear arsenal. It was understood by many, both in the military and among elected officials, that the United States was now in a race to maintain numerical dominance over their Soviet counterparts. This was, in the very least, with the hope that the larger the nuclear stockpile the more cautious the Soviet Union will become in their foreign affairs. This was most evident in the evolving situation in Europe

[11] February 16 1955 Vol 101 Part 2 84th Congress 1st Session, 1622.

who would remain the most at-risk of an immediate nuclear exchange. Thus, by maintaining a significant military presence in Europe supported by nuclear weapons, including that of European allies, the US was able to continue their containment policy. The increasing nuclear stockpile, however, also enabled both powers to increase the explosive yield of their weapons. This resulted in escalating political and scientific maneuverings to demonstrate either state's ability to outmatch or counter the other.

Early on in the Cold War the United States positioned itself to have the interests and safety of the first world in mind while also protecting other nations against the aggressive spread of communism. This policy centered on utilizing its nuclear stockpile, or threat of a nuclear escalation, as a means of countering Soviet influence in the first world. However, the government was not well understanding as to the entire effects that are included with a nuclear detonation. To this end, government officials, military leaders, and associated scientific bodies felt the need to conduct an increasing amount of nuclear tests. These tests are often conducted at half or a quarter of the yield expected from one of the nuclear weapons in the US stockpile. From these tests, and their associated experiments, the United States was able to enhance their own understanding of the wider effects that the explosions have. With every test that took place in either the Pacific Ocean, Nevada desert or Aleutian Islands in Alaska, each was designed to purposely examine the damaging effects that were unleashed on specific objects at certain distances and with certain protective measures applied to them. This can be clearly seen in Senator Vinson's remarks while speaking in favor of a bill for nuclear testing on ships.

> At the present time there is in existence no accurate information obtained by exact or scientific means as to the effect which an explosion of an atomic bomb would produce upon a ship, submarine, or other water-born vessel. It is necessary that such information be obtained as soon as possible. It can only be obtained by test.
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> *Senator Carl Vinson of Georgia, 1946*[12].

In some tests the experimental focus was on humans themselves. In several operations conducted in the Nevada Desert, US armed forces simulated military maneuvers prior to and after a nuclear detonation. This was done in order to gain training experience in operating in a nuclear battlefield while also seeking to understand how soldiers responded to the blast and visual experience of the weapon. From these weapon tests the United States government believed it was gaining essential information to both improve their own nuclear payloads and provide greater protections to the citizens and soldiers themselves.

1951 Frenchman's Flat, Nevada, members of 11th AB Div. kneel on ground watching an atomic bomb test.[13]

[12] United States, Congress. 79th Congress 2nd Session. Vol. 92 Part 2. March 11, 1946. 2117.
[13] *Nevada - Frenchman's Flat - members of 11th AB Div. kneel on ground as they watch mushroom cloud of atomic bomb test*. Nevada, 1951. Nov. Photograph. Library of Congress.

Alongside the enhancement of scientific knowledge and military expertise, the tests served as a useful political propaganda tool. For obvious reasons already stated, the development of the United States Nuclear stockpile was meant to deter agitating communist states from seeking to expand their influence to non-communist states. The tests acted as an international demonstration to the wider world on the continued development of the US nuclear capability. This would, however, create the adverse effect of having the Soviet Union work on catching up to the US by developing higher magnitude nuclear weapons. This was demonstrated by the detonation of the fifty megaton *Tsar Bomba* which remains the largest nuclear device ever detonated. The US stockpile was also intended to be insurance against any foreign intervention in already ongoing crisis as seen early on in Greece and later in Korea. In the latter conflict, the United States attempted to keep out Chinese and Russian influence with the threat of a nuclear response if either state intervened. This position proved ineffective as the Russian air force would actively assist in clearing American air force patrols while the Chinese military actively engaged American forces on the ground. The weapons did, however, provide a basic type of insurance of avoiding any direct conflict with a state that held onto nuclear weapons.

While each test was not successively larger than the last one, both the US and Soviet Union utilized such events as international propaganda. These exceedingly powerful tests brought greater concern from the nonaligned "third world" states than it did to bring either world power to the table. Ironically enough, the *Tsar Bomba* would be detonated in the 1961 while the US and Soviet Union were in the preliminary stages of finalizing a nuclear treaty. Within the decade of the 1950s and into the early 1960s, the United States government works to simultaneously protect their citizens from the threat of a nuclear war and ensure they continued to support the actions and policies of the federal government. While this support was needed for

foreign interests, several factors played their own part in maintaining the public's influence and support for the development and continued testing of nuclear weapons.

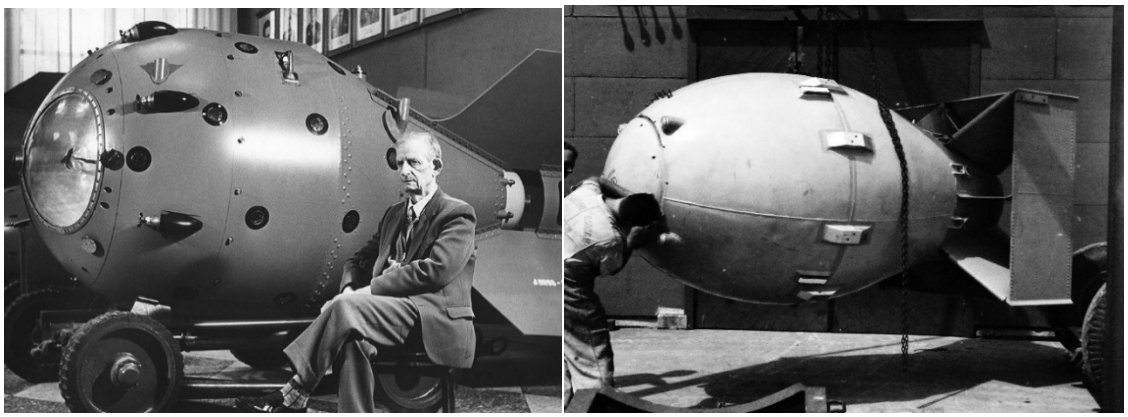
One of the earliest perceived threats that was being targeted by the US federal government were ideologies, groups or individuals, who were seen as insider or rebellious threats. At the turn of the 20th century, the United States had experienced a rise in violent attacks and even occupations from differing sources. These violent actions were often perpetrated by anarchists and some labor unions[14]. While the reaction of the US government, or the lack of initial action, often created the backlash the American public or federal government faced, it created a great fear amongst Americans. Much of this violence and subsequent fear mongering would lead to the eventual creation of the House Un-American Activities Committee, or HUAC, in 1938. The committee's purpose was to effectively root out citizens who were suspected of either acting as insider agents or were sympathetic towards communism. While the committee could and did question individuals on other various background and ideologies, it became the primary tool of elected officials to accuse and summon citizens, celebrities, and popular individuals who they believed to hold communist or socialist sympathies. The committee and the political weight of the notorious anti-communist J. Edgar Hoover would provide the spring board for senator Joseph McCarthy of Wisconsin to launch a public search for suspected communist sympathizers in the early 1950s[15]. This state-funded investigation would, in essence, signal the climax of the Second Red Scare and peak of the committee's power and influence over US politics and society.

[14] Beverly Gage. *G-Man: J. Edgar Hoover and the Making of the American Century*. New York: Viking Press. 75-77.
[15] Ellen Schrecker et al. *The Age of McCarthyism: A Brief History with Documents*. Boston: Bedford Books of St. Martin's Press, 1994. 237-239.

McCarthy was not alone in the evolving fear of insider threats within the US government. Prior to McCarthy's short-lived accent to public fame, President Truman had issued Executive Order 9835 which required federal employees to take a test to determine if an employee's loyalty was compromised. While the order was far reaching, the fear amongst elected officials and the general public regarding Soviet infiltration, spying, and sabotage was genuine[16]. Communist insiders were able to transfer blueprints and schematics of the Manhattan Project back to Soviet scientists to accelerate their own nuclear program. Spies and their networks were also being uncovered across various levels and departments of the federal government. The Federal Bureau of Investigation, led by the established J. Edgar Hoover, became the dominant arm in dealing with domestic espionage as well as rooting out communist or soviet insiders[17].

While Senator McCarthy had led his own personal crusade against individuals and ideals that he felt threatened to undercut American ideals, he was not alone in his goals. McCarthyism, or the Second Red Scare, was a culmination of rabid communist fear in the early half of the Cold War. This fear was in many ways justified once it was understood that Soviet spies and sympathizers had passed along information and schematics for the US government's new and powerful atomic bomb.

[16] Michael J. Sulick. *American Spies: Espionage Against the United States from the Cold War to the Present*. Washington, DC: Georgetown University Press, 2013. 21-24.
[17] Gage. *G-Man*. 339-342.



Left: Yulii Khariton, one of the leading scientists of the Soviet nuclear program, sitting next to the first Russian nuclear Bomb, *First Lighting*[18]. Right: The *Fat Man* nuclear bomb, the first of two bombs dropped on Japan, on Tinian Island in the Philippines for final assembly.[19]

However, even Presidents Franklin Roosevelt and Truman both stated that the HUAC was "un-American" itself and created greater division than healing. McCarthy's unsupported claims of Hollywood communist circles would assist in burying both his career and the HUAC as well, a committee the senator was never on. These facets of anti-communism continued to be applied in the mindset of elected officials who continued to push for increasing and maintaining the nuclear budget against Soviet threats. These remarks were meant to echo to the American public as well those who could see the plight of combating communism abroad.

Although the idea of a communist takeover, and the philosophy itself, were viewed as foreign interference, the growing influence and weight of the American military-industrial complex was seen as a natural extension of expanding US military strength. Although such industries did not have direct control over the United States' nuclear material, they were

[18] "Street in Moscow to be named after physicists Ilya Frank and Yulii Khariton." *Joint Institute for Nuclear Research*. May 5, 2017. Accessed March 9,2023. http://www.jinr.ru/posts/street-in-moscow-to-be-named-after-physicists-ilya-frank-and-yulii-khariton/

[19] *Tinian Island, August 1945. Atomic Bomb, Fat Man, being worked on in cradle outside building #2*. August 1945. Office of Chief of Engineers. National Museum of the U.S. Navy. The selection of these photos is meant to illustrate the design similarities between the US and Soviet nuclear programs and how the Soviet program was assisted by espionage against the US.

contracted by the federal government to help with producing airframes that could deliver nuclear weapons, later on assisting to design and build the missiles that could strike the Soviet Union. These delivery devices were, of course, only a small fraction of the United States military arsenal. This arsenal, majority of which was either scrapped or sold to other countries following the end of World War II, was in a desperate state in the early half of the Korean War. The US military understood that a nuclear arsenal was not enough to keep communist forces at bay in order to keep in line with the Truman Doctrine. The annual spending for the US military would more than triple from 1948 to 1951 and would never fall to back below pre-Korean War levels[20]. This refocus on military power and ability was reflected across the media available to the American public. Science fiction films often spliced in military testing tapes or combat footage to demonstrate the military might of the US armed forces fighting back alien invasions which often, though not subtly, made overtures to the threat of destruction from a Soviet attack[21]. This revitalization of the military and its associated industries would dispel any lingering hopes of friendly cooperation between the US and the Soviet Union in the Cold War. This formalized the American citizen's relationship with the concept of a large and active military presence at home and overseas.

While the internal threat of communist insiders remained a heightened threat for the US in the early half, and arguably the entirety of the Cold War, there were some further internal and even personal aspects that played into the expansion of the program. Having participated in and won two global conflicts, and nearly recovered from the Great Depression, the United States and general population were riding a wave of optimism in the later half of the 1940s in the hopes of

[20] Office of Management and Budget. Table 6.1—Composition of Outlays: 1940–2028. Historical Tables. https://www.whitehouse.gov/omb/budget/historical-tables/

[21] Steffen Hantke. *Monsters in the Machine: Science Fiction Film and the Militarization of America After World War II*. Jackson: University Press of Mississippi, 2016. 58-64.

peace and prosperity at home and abroad. These grand dreams and desires were no sooner squashed than they were created. As is often the case, the reality of the wider world would crash these dreams in a chaotic manner. In this case, it would be through the detonation of the Soviet's first atomic bomb in 1949. While federal officials were already aware of the gradual shift in trust and cooperation with the Soviet Union, the detonation came as a shock to all levels of American society. A weapon that the United States had achieved with the work of selected allies was accomplished by the Soviet Union through their own espionage efforts in the US and in occupied Europe. This shock doubled as a betrayal by the Soviet Union, who the US had assisted and funded through the early half of World War II, and as a wakeup call that the US was not the sole inheritor of atomic power. Politically, the event would prove to be one of the final wedges to separate the US and Soviet Union apart as former allies. Socially, the US and general public now grappled with the fact that the nation they saw as a brother in arms was now the latest near-peer threat to the US, and arguably the rest of the world. Anger would soon follow in the wake of the dismay that had swept the country. Americans and politicians voiced support in ensuring the protection of allies against communist influence as another way of metaphorically striking back against the Soviet Union's betrayal. The response also brought another emotion, fear. The weapon that had wrought the devastation across Hiroshima and Nagasaki that Americans were well aware of, could now be used against them. Initially, the Soviet Union lacked the ability to directly strike the US mainland with its missiles. The US, promoting its air defenses and early detection as its first line of defense in the 1950s, lacked a sufficient anti-missile program. So, while the US would require more than a decade before it would adequately, and theoretically, intercept most Soviet missiles, the short-term solution was to expand the nuclear arsenal. Thus, the expansion of nuclear weapons and their testing was seen as essential to maintaining the

United States' authority abroad but also reassuring the American public of their military ability[22]. In effect, the US wanted to ensure its nuclear fist was bigger than the Soviets. But if the United States and its allies weren't able to dodge or catch the Soviet Union's nuclear hit, who would protect those at home?

Section 3: Civil Defense and the Citizen

> The threat of atomic attack can be met, if we have an alert and well-trained civil defense corps in every city and county in Illinois. …this requires constant and unceasing preparations. Civilian volunteers are needed in every phase of civil defense. Radiological monitors, rescue teams, firefighters, auxiliary police, medical and first aid personnel, and many others. Disaster does not wait for preparedness. Make civil defense your business today.
>
> *General Robert M. Woodward, 1957.*[23]

Just as the federal agencies looked to combat foreign threats, officials recognized the need to protect and prepare citizens from the physical threat of a nuclear war. To accomplish this matter, the United States government and Department of Defense needed to shift gears in its nuclear armament to divest in the protections of their citizens. This was creating a unique situation within the federal government. Instead of a tacit limit to their arsenal, military leaders within the Department of Defense were now required to increase their stockpiles in order to counter the escalating threat from Soviet nuclear weapons. At the same time, officials were increasingly advocating for the preparation of population centers in the case of an attack. In times of war and conflict, the threat of violence, both intentional and unintentional, against

[22] Oakes, *The Imaginary War. 11-20.*
[23] "The H-Bomb over Illinois" *The Illinois Civil Defense Agency*. 1956

civilian populations has persisted throughout the history of humanity[24]. A nuclear weapon, even when used on military targets, could affect civilians living near or at a greater distance. Targeting population centers would also result in the government diverting resource and manpower in order to aid in rescue efforts in areas affected.

The concept of civil defense is not necessarily a new concept to the United States and its population. As detailed in my introduction, prior to the end of World War II, the United States had in place the Office of Civil Defense (OCD) which, apart from a meager employment of 75 federal employees, assisted communities across the US in air-raid preparation, coordinating fire departments in the case of enemy bombing, and organizing much-appreciated scrap metal drives for the war effort. At the conclusion of World War II, the OCD was officially terminated as the US government no longer felt the need for such a federal office. Even with the office terminated the federal government still considered the need to prepare some basic level of civil defense. For President Truman, the growing risk of expanding Soviet influence could not be ignored and requested plans for the preparation of a national policy against the soviets as well as national action to prepare the population for a worse-case scenario. Thus, in 1947 and later in 1948, Truman spoke to Congress to address this growing Soviet influence and how he believed the US and western world could counter it. These speeches would come to form the basis of the Truman Doctrine as the US sought to contain the further spread of communist or socialist influence. In order to better prepare the nation militarily and socially for any such conflict, Truman advocated for the 1947 National Security Act during his speeches, which would create the National Security Resources Board, NSRB. The board was created after events in World War II proved natural resources could not be protected by hope and sheer will alone. Along with the protection of such

[24] Oakes, *The Imaginary War*. 6-7.

resources, the board was created in order to ensure the various industries of the United States would be able to mobilize in the case of a military conflict. This idea of mobilization and preparation of the civilian sector for war then expanded to the idea of civil defense, thus leading to the board assuming the responsibilities of civil defense planning later in 1947[25]. The closure of the 1940s would cement the rivalry between the US and Soviet Union and set the stage for the Cold War with the western aligned states forming NATO in 1949 and the Soviet Union testing its first atomic bomb only a few months later. With the cat out of the bag on US nuclear supremacy, President Truman believed it necessary to reinstate a federal agency to lead the charge in protecting and preparing American citizens for the event of a nuclear conflict. Truman thus authorized the creation of the Federal Civil Defense Administration, FCDA, on December 1, 1950. In 1951, Congress would approve the administration as a separate agency within the executive branch, granting it a greater degree of freedom and allottable funding in pursuit of its objectives. It was within this early period of the Cold War that the first public reading materials began to circulate with the purpose of improving the general public's awareness and interaction with civil defense and nuclear hazards.

This expansion of agency would not end with Truman, however. In 1958 the FCDA was superseded by the Office of Civil and Defense Mobilization, OCDM, in 1958 by the order of President Dwight D. Eisenhower. Within a few more years the office had its civilian preparedness functions transferred to the Department of Defense's Office of Civil Defense in 1961. Eventually, as funding was chipped away from the office, the OCD would be abolished in 1979 with the Federal Emergency Management Agency, FEMA, taking over its responsibilities. Within this period of federal offices and agencies trading and relinquishing responsibilities the

[25] Ibid, 38-41, 48.

United States would go through a rapid escalation of their military development alongside their nuclear capabilities. This, in turn, ties directly into the resources allocated and message developed by the federal government to their citizens in response to increasing tension and possibility of nuclear conflict with the Soviet Union.

Once limited to scrap-metal drives then terminated unceremoniously, civil defense was returning to American life to assume many of its same roles but with twice the budget and three times the danger. This sudden influx of federal funding saw the first directors and administrators of the agencies hit the ground running with several reports being funded and published to Congress regarding the state of civil and military defense in the US. This included analyzing how to control panic, researching possible procedures to evacuate or protect population centers, and the early effects of fallout on the human body. Understanding where the US stood on their level of defense, the agencies worked quickly to determine what could be done in order to ensure American citizens were prepared for a nuclear attack. There were two major methods for this preparation. The first was community preparation. Civil defense officials began to coordinate with their respective regional offices to reach out to communities in their respective district to identify communities that could support wider community protections and activities. This was done to ensure local townships, municipalities, and the appropriate state government could handle, to a degree, the more personal minutia and actions entailed with civil defense activities. This includes launching rehearsal drills, stockpiling supplies, and practicing useful skills. Such activities also included ones on a more morbid note. For example, where to store bodies, how to medically treat people with limited medical supplies, or what to do if a person is likely to expire due to intense fallout exposure. The other side of this was that civil defense took on a much more personal role for communities. Instead of the distant federal government attempting to corral a

community together with preassigned duties, roles, and tasks a township or state government enabled such delineations to appear less foreign or obtuse. Civil defense officials also worked on mobilizing the public to assist in other voluntary actions. This included the monitoring of aircraft formations that were near the United States' periphery. This united effort by citizens worked towards creating a greater sense of community while also harkening towards anti-communism and American patriotism.

Medical faculty in Massachusetts treat simulated casualties as part of a civil defense exercise to gauge the staff and facility's ability to handle an influx of blast and fallout affected patients[26].

[26] Federal Civil Defense Administration. Region I. 1951-1958. "Emergency Hospital Exhibit [1955]." 1955. Photograph. *Digital Commonwealth*, Accessed April 25, 2023. https://ark.digitalcommonwealth.org/ark:/50959/h128rr032

Such endeavors did not mean that the federal government did not attempt to inform the American public through more direct means or to include them in larger scaled operations. The FCDA and later reorganized civil defense agencies continued to publish pamphlets, booklets, and even ad space within daily publications in order to reach the American public. This information could relate to how to properly set a broken leg, how to identify radiation sickness, or simply how to volunteer for the local civil defense.

In an attempt to inform the American public in a more interactive manner, President Truman authorized the "Alert America" traveling exhibit in 1951. The exhibit made its way to several major cities across the United States where its arrival was often accompanied by a test of the air raid/tornado siren. Within the exhibit, visitors would be able to see the hypothetical destruction of "city x" and see where the voluntary actions from civil defense would come to assist as well as how the knowledge other citizens had helped them survived the attack[27] The convoy itself was seen as a major success in drawing citizens to learn more about civil defense and how they can help in their own way. The convoy's stop in Chicago was in fact extended due to its popularity and went on to include free airplane rides by the Illinois wing of the Civil Air Patrol. To build upon this success, President Eisenhower would approve Operation Alert during which a handful of cities would conduct city-wide mock air-raids to both test communication equipment and to demonstrate to citizens the need for them to prepare for such events[28]. Indeed, the desire to demonstrate the real-world danger of such a threat even went as far for observers to be invited within the United States' Nevada testing grounds to witness some of the nuclear detonations. Few such events did occur however, but while not many outside of the United States

[27] Michael Scheibach. *Alert America!: The Atomic Bomb and "the Show That May Save Your Life"*. Jefferson, North Carolina: McFarland & Company, 2019. 26, 53-56.
[28] Oakes, *The Imaginary War*. 84-87.

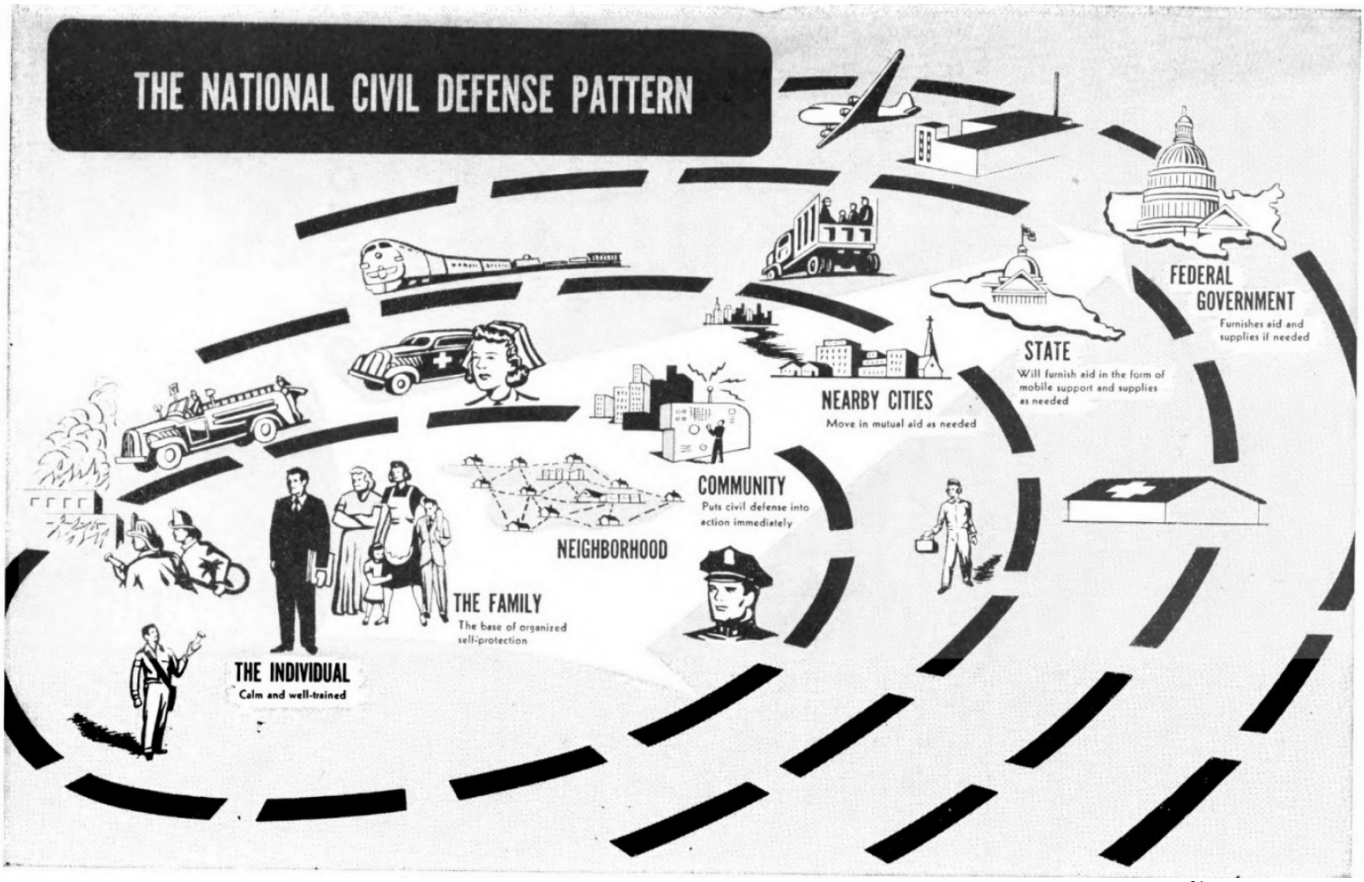
military were allowed to witness a test in person, the civil defense department utilized test footage to demonstrate to the public the destructive power the weapons had.

Media of various sources would also play its own part in influencing the American perspective towards the positive aspects and even necessity for civil defense agencies and programs. Steffen Hankte details in his research that the perspective of the American landscape was a central aspect that was appreciated and admired by author Philip Wylie who believed civil defense to be a worthwhile expenditure. Wylie's 1954 novel, *Tomorrow*, examines how proper preparation would save the residents of the fictional Midwestern town of Green Prairie while those who stood by or negated their tasks, would lead to more suffering amongst the community[29]. Alongside science fiction depictions and abstractions of civil defense, the federal government also sponsored public television programs that worked to shift the perspective on how the US could survive an attack and what citizens could do to ensure such survival[30]. The films and novels published in this period, whether sponsored by the government, helped to instill the idea of a unity in preparation amongst the various age groups in the US.

By the end of the 1950s, civil defense was no longer a minimal aspect of life within the United States. Civil defense had found its way into every crack and crevice for the average American. Whether through government influence or general acceptance, civil defense became synonymous with national security. Individuals were, in essence, their own civil defense advisor and director. It was within their own power how prepared they wanted to be, whether just for themselves, their family, or their community. The civil defense program had encouraged and created a hypothetical web of communal self-sufficiency in regard to preparation. While this did

[29] Hantke. *Monsters in the Machine*. 121-25.
[30] Jacqueline Foertsch, et al. *American Cold War Culture*. Edinburgh: Edinburgh University Press, 2005. 149-54

not guarantee that all communities would be, or ever, fully prepared for a nuclear strike, it enabled the average citizen to further the safety and security of their families and communities by seeking sources of available federal knowledge. Through the acquisition of these sources, be it pamphlets or a federally funded television series, citizens could translate and disseminate this knowledge to their family, their workplace, their community, and their civil defense network. Just as the federal government worked to demonstrate how to effectively prepare for a nuclear strike, the citizens who acquired this knowledge would manifest it into the physical world through improvements in rehearsals. However, the citizens who had the time, money, and space would go on to invest in the most iconic of preparations.



A diagram detailing the intricate levels of importance and interaction of the national civil defense pattern[31].

[31] United States. National Security Resources Board. *United States Civil Defense*. Washington: U.S. Govt. Print. Off., 1950.

Section 4: Fallout Shelters

> We do not want a war. We do not know whether there will be a war. But we know that forces hostile to us possess weapons that could destroy us if we are unready. These weapons create a new threat-radioactive fallout that can spread death anywhere. That is why we must prepare. No matter where you live a fallout shelter is necessary insurance. It will not be needed except in emergency. But in emergency it will be priceless – as priceless as your life.
>
> *The Family Fallout Shelter, 1959.*[32]

One of the earliest goals of the civil defense department was to figure out how to properly protect civilians in the case of a nuclear attack. This, of course, was an existential threat that had no one single solution. Initially, directors of the department discussed the idea of having major population centers evacuate in the case of an incoming attack. However, researchers discouraged this idea as they argued it would require a sizable early detection and warning system which, even if active, would only provide at the most thirty minutes for cities housing millions to evacuate. Alongside an early warning system, the directors settled on the formation and creation of a fallout shelter program in order to best protect the country's citizens. The first discussions of fallout shelters and their design would begin as early as 1949. The department worked on designing a shelter for the average home owning citizen that would be able to properly house a small family while allowing space for supplies and to sleep. While this initial manual would be published in 1951, the department was already underway in detailing more designs that would be effective for those either without a basement or with yard space. These shelters, while more costly and time consuming to construct, were still considered within the range of the medium family income. Unlike blast shelters, which were built with the expressed purpose of surviving a

[32] *The Family Fallout Shelter*. Washington: Office of Civil and Defense Mobilization. 1959. 19.

direct or near-direct impact from a nuclear bomb, fallout shelters were focused on protecting the inhabitants from the damaging effects of radioactive fallout. The design of a fallout shelter mimicked that of a bomb shelter but greater emphasis on specific material or the amount of earth deposited above said shelter. Initially, there was some confusion as to whether the government should or could build blast shelters across the country to protect its citizens. This is best reflected in the transcript of a committee meeting with the acting director of the FCDA, John E Fondahl, the district's lead engineer commissioner Lieutenant Colonel T. J. Hayes, and the leaders from the District of Columbia. In their meeting the district leaders mention that the cities of Chicago and Seattle were looking to follow the lead of DC in proper civil defense preparations and had their own officials sitting in on the meeting[33]. While Hayes details the efforts by the district in identifying and preparing possible sites for new shelters, along with working with local businesses and landlords to identify suitable makeshift shelters, he also makes a note to explain that he cannot provide accurate information on the specifications for such shelters since the federal government is still working on producing a set of documents that will be distributed to the wider public[34]. In this moment, he and a member of the commission, Mr. Wadsworth, delve into the topic of survivability where Hayes attempts to explain what he means by sufficient shelter from effects.

> Mr. Wadsworth: Shelter from what?
>
> Col. Hayes: From all the effects.
>
> Mr. Wadsworth: From *all* the effects?

[33] United States, Congress, *Committee on the District of Columbia and Office of Civil Defense*. 1955. 5-6.
[34] Ibid, 30-1, 34-5.

> Col. Hayes: From all the effects. But your radioactivity falls off very greatly with distance. It is too expensive to try to provide a shelter which would protect everybody from bombs dropped directly overhead. It is probably too expensive to protect everybody if they were a quarter of a mile away, but it is possible that you could do it…half a mile away[35].

The two go on to discuss comparisons with bunkers built by Germany and England during World War II and if similar structures could be built as well. To which director Fondahl speaks up and details the issues with such designs. "If you build a shelter for an atomic air raid—that is, against the effects of atomic weapons—and use it actually in the best possible manner, then you get all of the effects of a gas attack. So actually what one provides is a disadvantage so far so the other is concerned[36]."

These shelters were often depicted as both a necessary insurance for the current age but also angled as being a useful accessory to a family home that could act as an extra space for various activities. The department of civil defense wanted to ensure American families that these shelter designs were both welcoming and financially viable for families in order to demonstrate how an investment in time, effort, and resources can help to relieve some of the stress that would accompany many families through the 1950s and into the 1960s. This became evident through the litany of pamphlet literature and research reports that the FCDA and later civil defense agencies would publish throughout the two decades. Alongside the federal agencies, private companies were also moving to capitalize on the rush on fallout shelters. In 1961 in Forest Park, Illinois an exhibit was hosted by several local shelter manufacturers to present and advertise their

[35] Ibid, 35.
[36] Ibid, 36.

latest designs and pre-fabricated models and options for families. The exhibit recorded more than thirteen hundred attendees including civil defense and local government officials[37].

The early focus on individual or family shelters would come to have a significant impact on the American perception of the fallout shelter and its uses to families. Some researchers even adjusted themselves as interior designers. David Meier from *Science Newsletter* details how shelters do not necessarily need to be limited to a utilitarian use but can serve as studies, guest rooms, and even a children's play room. He notes that David Feldman was hired by the OCDM to assist in decorating such shelters in order to demonstrate their multifaceted use rather than a single purpose, drab, dark room occupying a corner of a family's basement[38].

A cross-section model of a basement fallout shelter meant to demonstrate a more "lived-in" atmosphere for homeowners or shelter occupiers[39].

[37] Robert Dickerman. "1,300 Drop In to See Fallout Shelter: Prices Scaled to Fit Moderate Size Budget" *Chicago Daily Tribune*. Oct 22, 1961

[38] "Fallout Shelters' 'Lived-in' Look." *The Science News-Letter* 80, no. 16 (1961): 258–59.

[39] Ibid.

Although the concept for the fallout shelter was initially focused on the family home, the civil defense department soon expanded their attention to providing shelter accommodations for metropolitan and industrial areas. Early in the development of the fallout shelter program, the federal government sought to expand defensive structures to those within densely populated areas and core industrial centers. However, it soon became clear and creating new structures to specifically house hundreds if not thousands of people would be near impossible. The federal government thus devised of a national survey to be conducted to identify locations for shelters in preexisting structures. Aptly known as the National Shelter Survey, it was conducted through the 1950s through across the country from major cities to rural towns. The surveys would first request via the landlord if they could inspect the building for any identifiable space that could be utilized for an ad hoc shelter. In order to accurately understand if the space and building itself was suitable to be designated with a fallout shelter, the civil defense department developed the "protection factor" scale. The scale was meant to determine if the material of a building, its general configuration, and construction would prevent a significant amount of radiation from reaching the space being considered as a shelter. By using a series of calculations, surveyors would reach a number on a scale of 0 to 5000 and beyond, with the former being outside without any cover, and the latter being underground with lead shielding[40]. Understandably, very few if any preexisting structures were able to react in the ninety percentiles in these surveys. But the system was able enhance the abject ability of surveyors to properly grade the ability of a structure to protect in a hypothetical nuclear attack. Similarly, the factor scale allowed the public to understand their protection in a more quantifiable or numerical value that they could strive to.

[40] David Monteyne. *Fallout Shelter: Designing for Civil Defense in the Cold War*. Minneapolis: University of Minnesota Press, 2011. 47-59.

While the civil defense departments worked towards creating a general standard in the construction and grading of fallout shelters, citizens would utilize the information provided to them to develop their own designs and structures for the safety of themselves and their family. In the Chicago Tribune, the paper reports on the personal project of Michael M. Markel and his son Kurt from Hammond, Indiana. The paper details how the pair salvaged a junked seven foot high and eight diameter tank and, over the course of two weeks, installed the tank into their property as a fallout shelter. The tank was fitted with its own bunks, an air filter, and air-tight sealed doors[41]. While Michael's shelter was seen as an affordable and creative do-it-yourself project, other individual's efforts would land them in hot water. In central Illinois a local newspaper reports a Mr. Borchers was found guilty in court for building a fallout shelter without a permit. Even though the county had a federally hired engineer to testify that the defendant's project would be covered by the state, Mr. Borchers argued that, even with a permit, the current code requirements would have been "inadequate" for the shelter[42]. While a minor case, it nonetheless demonstrates how anxious some individuals were becoming in the development of their own perspectives of how safe or protected they could be. Although such cases represent a small minority of recorded fallout shelters, they help to illustrate how a citizen with personal experience and publicly provided knowledge on nuclear weapons can act upon the desire to protect themselves without having to follow the exact models or diagrams of the official fallout shelter program. These individuals were confident in their own designs, and displayed a level of trust in their constructions based on the information gathered by the federal government.

[41] Thomas Carvlin. "He's Ready for A-to-Z Bomb with His Homemade Shelter." *Chicago Daily Tribune* (1923-1963), Aug 25, 1955

[42] Puhek, Norman J. "Borchers Found Guilty Of Code Violation in Fallout Shelter Case." *Herald and Review* (Decatur, IL) Jan. 19, 1962

Photos and a diagram of Michael Markel's personal fallout shelter that he and his son designed in 1955.[43]

By the end of the 1950s fallout shelters had become a subtle yet engrained part of American society. Through efforts of federal and state officials, the number of officially designated public fallout shelters had seen a dramatic rise. They also hypothesized that, while not officially required to be registered with the state or federal officials, the number of private fallout shelters were likely on the rise as well. States across the country began to host design competitions, conventions on equipment and prefabricated structures, as well as symposiums by 1960 on possible issues and solutions relating to the occupation of fallout shelters[44]. The development of fallout shelters by private individuals, specialty businesses, and communities helped remind them of the constant threat from the Soviet Union and how their personal efforts were for the benefit of the nation. However, just as fallout shelters began to make themselves an

[43] Carvlin. "He's Ready for A-to-Z Bomb with His Homemade Shelter."

[44] Symposium on Human Problems in the Utilization of Fallout Shelters. *Symposium on Human Problems in the Utilization of Fallout Shelter*. National Academy of Sciences, National Research Council, 1960. In this symposium on the "human problems" relating to fallout shelters we are granted insight into a mixed of analytical and sociological research regarding human interaction with the structure or the concept of it. From the cross comparisons of polar expeditions with submariners to reports on the management of food sustainment of larger shelters the attendants of the symposium are clearly seeking out where the human response, or emotion, can be coopted or maintained under stressful environments. Similarly, this assists in other researcher's focus on management of supplies and general living space. This symposium is evidence that civil defense was attracting its own set of individuals seeking to expand the field of knowledge. Not only for the government but for the enhanced survivability of the nation's citizens.

average part of American life, the combination of federal and public knowledge had reached a zenith. The information the government gave out to enhance their citizens' understanding on how to secure adequate protection via a fallout shelter had evolved to an unforeseen entanglement of citizen's concerns regarding their own safety. The American public realized the bombs that they sought protection from were not just Soviet ones, but American ones as well.

Section 5: Turning Point of Public Knowledge

> "This 'enemy' is the error-riddled, but still widely held, theory that shelters are useless because if war comes, everyone is going to be wiped out anyway."
>
> *David Meier, The Science News-Letter, 1961.*[45]

> "Every American should vigorously oppose such masterful spending of our funds… Would our citizenry idly stand by and allow Mr. Kennedy to erect a Grand Coulee dam in the middle of the Mohave desert because some day there may be a river there?"
>
> *R.T. Bean, Chicago Tribune Op-ed, 1962.* [46]

By the beginning of the 1950s, the foundation of what we know and understand as stereotypical Cold War culture and phenomena had been established. The themes of economic prosperity and American patriotism had mixed in with nuclear weapons testing and civil defense media. This early period in the Cold War created a unique social and political landscape that entangled average Americans. They were caught up in the concept that a conflict, which did not physically exist, needed to have the population always prepared and ready. This meant citizens

[45] "Fallout Shelters' 'Lived-in' Look." 258.
[46] R.T. Bean. "Federal Subsidies for Fallout Shelters." *Chicago Daily Tribune*. February 20, 1962.

should prepare in several ways. The most obvious was to build a personal fallout shelter. As discussed previously, fallout shelters were deemed an adequate stop gap to a problem that had no reliable solutions except for global disarmament. However, alongside the operation of civil defense, citizens were also encouraged, swayed, and expected to support the efforts to continue the military buildup of the United States armed forces and nuclear weapons. This dual responsibility for citizens to maintain support for their country's stance on foreign policy would come to impact the structure of how the United States managed and appropriated the support from the American citizen in their drive to contain Soviet influence and continue expanding their nuclear arsenal and nuclear *knowledge*.

Within American society, and indeed across all societies, there exist pools of knowledge. The magnitude of these "pools" can range in depth and width. For example, a small township might have a narrow access on a variety of topics. But the depth of knowledge on these topics might extend for an impressive distance. For the average American in the late 1940s, the pool of public knowledge on nuclear understanding was initially limited. While the federal government would attempt to demonstrate the positive uses of nuclear technology, specifically through nuclear energy production, the first public recognition the American citizen saw of this technology was the wholesale destruction of two Japanese cities. This action was considered by many Americans as justified at the time. However, as the federal government began to expand the scope of their nuclear aspirations with more nuclear tests, the wider implications of the technology was quickly beginning to be understood by both higher-level government officials and the private individuals living across the country.

As the federal government sought to expand its current understanding of nuclear technology, the most public and recognizable method of doing so was the testing of nuclear

weapons in the Pacific Ocean and the Nevada Desert. In the 1950s nuclear reactors were beginning to provide the public with a growing amount of nuclear energy, yet Americans continued to understand the bomb as the first representation of nuclear technology. The tests themselves were not meant to expand the effectiveness of nuclear power reactors but to determine the distance from a nuclear explosion a house would be blown over or when exposed flesh would receive third degree burns. At the same time as wanting to demonstrate their own nuclear power, the federal government wanted to ensure the general public was fearful of *Soviet* bombs and not *American* ones. Some of the first pamphlets and handouts produced by the FCDA in the early 1950s discussed the dangers of radioactive fallout. Although it did not provide an in-depth analysis to wider health concerns attributed fallout, the information provided by the FCDA to American citizens was expected to be enough to warn them of the dangers that awaited them if they did not take proper precautions, i.e., maintaining a personal or community fallout shelter.

The point of this emphasis is to demonstrate the perception that nuclear technology had created for the average citizen. The positivist narrative of nuclear energy boasted by national leaders remained in the background to the yearly and even monthly nuclear tests. In a similar manner, fallout shelters fell within this same scope. Nowhere is this better explained than by Sarah Robey's *Atomic Americans*. She notes that in the late 1940s and early 1950s scientists were judged by the level of merit they provided in the advancement of the United States as a whole and not just to scientific advancement itself. This notion of patriotic scientists was tied in with the anticommunist sentiment that lingered throughout most of the 1950s. J. Robert Oppenheimer himself, one of the principal architects in the creation of the atomic bomb, was often singled out by Senator McCarthy as a possible communist sympathizer or Soviet insider.

This would eventually lead to concerns about Oppenheimer's loyalty and past connections later resulting in his security clearance being revoked by the Atomic Energy Commission. Although it was becoming more well known, the implication of security revocation and being publicly ostracized were enough to keep a significant section of the scientific community, specifically those working in the nuclear field and under government contract, from largely speaking out against the harassment and the risks that are incurred from atmospheric weapons testing[47].

At the same time, Americans were not sitting on their hands and feet waiting for the government to tell them everything. An excerpt from the summary of a civil defense drill in Chicago of 1951 details on fallout shelters,

> Here again national policy will affect local planning. But in the meantime, again, the community can search out what is already available and reasonably suitable for the purpose as an interim plan. …however, this does not mean that planning at the local municipal or state level must wait until the Federal government publishes the manuals. …Obviously the plans of Chicago will not be applicable in any other town or city exactly as developed here. However, we can leave here in the knowledge that so far no other way of starting out from the grassroots has been developed satisfactory[48].

Fallout shelters were a manifestation of American society. They represented the blending of American federal influence, communal cooperation, and private engineering. These structures, whether in the basement of private home, a newly constructed communal space, or a repurposed storage area in an apartment or manufactory, each was constructed or designated with the sense that, if the worse events were to follow, they could take solace that there was a chance they could survive and help to rebuild their communities. This sense of assisting community members

[47] Sarah E. Robey. *Atomic Americans: Citizens in a Nuclear State*. Ithaca [New York]: Cornell University Press, 2022. 68-75.
[48] Harris, Stanley G. *Chicago Alerts: A City Plans Its Civil Defense Against Atomic Attack*. Chicago Civil Defense Committee. Chicago, 1951. 245 246.

remained in the rural aspect of Midwestern communities. Surveys conducted by the University of Iowa in the 1970s note that more than seventy percent of respondents were willing to share their home or basement (if applicable) in the event of a nuclear exchange[49]. Thus, detailing that communities who had not yet received information about fallout shelters, let alone civil defense, were willing to develop their own place for survival. But there remained a sizable portion that remains disinterested or even hostile to the idea of preparing for a nuclear strike. Who or what caused this dispiritedness?

Scientists in the early Cold War proved to be the catalyst that would spark the beginning of skepticism amongst the wider American public. As the 1950s wore on and the rate of nuclear tests increased with their explosive yield, so too did the scientific community gain a greater understanding of the dangers that were incurred with nuclear technology. Scientists at the forefront of such knowledge held the essential position of the middleman between both the public and federal bodies of knowledge. Their position enabled them to translate this information into either body of knowledge for the increased efficiency of nuclear reactors and bombs, or to issue, in a sense, a scientific warning to what continued actions and tests could inflict upon the population. With such announcements and public appeals came the dreaded accusations of being a communist insider which risked the destruction of one's career and any future of returning to it. Yet, with the fall of the House Committee on Un-American Affairs in the first half of the 1950s, there grew an air of openness towards approaching the public with information that could have previously been seen as suspicious or possibly traitorous. But in the late 1950s more scientists began to speak out and warn of the unintended consequences of nuclear tests on the wider

[49] Yarbrough, Paul, Gerald E. Klonglan, and United States. Office of Civil Defense. *The Home Fallout Protection Survey and Resulting Changes in Shelter Adoption*. Ames, Iowa: Dept. of Sociology and Anthropology, Iowa State University, 1970. 96-98.

population. In places as far as Iowa cancer rates were noted to have a sharp increase within the decade that nuclear tests began in the Nevada desert. This created a panic within the federal government. One of the essential factors of national security, testing and maintaining nuclear weapons, was now being publicly linked with a manufactured public health crisis. The crisis of national interests was on display in the hearings before the Special Subcommittee on Radiation of the Joint Committee on Atomic Energy. Through these hearings the dangers of continued tests was laid bare, along with later arguments on the proper control over nuclear reactor waste handling. Yet push back from the federal government demonstrated their attempts to placate arguments for a ban on tests[50]. This highlighted the continued perception that the inability to properly test nuclear improvements was on par with being unable to demonstrate their continued nuclear capabilities. Yet the actions taken by the Eisenhower administration had proven to be more divisive towards nuclear technology than supportive. The most illuminating of these actions was the "Atoms for Peace" initiative that Eisenhower advocated for. The notion of utilizing nuclear weapons to create a canal or manmade bay illustrates a scientific disconnect with the field of public knowledge. As scientists warned of the escalating dangers of nuclear after effects, the government sought to counter such reports by noting how the destructive ability of these weapons could be meant for public good without fully comprehending the danger described by the scientific field. This no more obvious than with the creation of the Sedan Crater during Project Plowshare. In accordance with the efforts by President Eisenhower, the atomic commission detonated several nuclear devices to better understand how nuclear crater can work over an eleven-year period. The most impactful of these was the sedan detonation which created

[50] "Fallout from nuclear weapons tests. Hearings before the Special Subcommittee on Radiation of the Joint Committee on Atomic Energy, Congress of the United States, Eighty-Sixth Congress, First Session on fallout from nuclear weapons tests, May 5, 6, 7, and 8, 1959. Volume 1". *United States Congress*. United States, Washington D.C.. 1959.

a cloud radioactive dust that would travel across the Rocky Mountains and eventually disperse its radioactive particles across significant sections of Iowa. This event would be one of many that would begin to mark a larger public outcry by scientific bodies and later the general public.

It was in these fateful years between 1959 to 1962 that would mark the beginning of the end for civil defense and fallout shelters. With Americans already fully aware of the dangers of nuclear weapons, including the effects of radioactive fallout, the spotlight on increasing cancer cases led to questions on the validity for the need for such nuclear tests. The situation was not assisted by the diminishing return for increasingly expensive fallout shelter designs or materials that could no longer provide adequate shelter due to the ever-expanding explosive yields of newer nuclear weapons. The fallout shelter program of the early 1950s had a basic concept of protection against fallout for citizens to understand. As nuclear knowledge increased, and nuclear weapon magnitude doubled, fallout shelters standards remained roughly the same through the decade. The introduction of the National Fallout Shelter Survey and the protection factor scale was meant to rectify the issues the few recorded public shelters in populated areas would create an in inadvertent negative reaction. The national fallout shelter survey was intended to be a cost-effective way to identify locations that could be utilized as public fallout shelters. The immediate issues with the survey was that some communities lacked any suitable facilities for an ad-hoc public shelter. The protection factor scale did not assist the situation by shifting its quantifiable level of safety from the maximum of 5000 then to a 1000 minimum by 1958, 100 in 1960, and 40 in 1962 during the Cuban Missile Crisis[51]. It was here that scientists and observers of civil defense procedures began to pick into the program. As nuclear weapons were becoming

[51] Kenneth D. Rose. *One Nation Underground: A History of the Fallout Shelter in American Culture*. New York: New York University Press, 2001. 31-32.

increasingly powerful and numerous, the protection factor became less of an effective means to determine an exact level of protection as disagreements began to emerge over what the accurate minimum should be[52]. This disagreement over a proper minimum protection factor for fallout shelters, tied in with the rising costs of shelters, the development of more powerful nuclear weapons, and the increasing data on health risks caused by nuclear weapons tests all contributed to the citizenry of the US to utilize its acquired public knowledge from civil defense agencies to shift away from narrative promoted by the US government.

From this unraveling of the political narrative created by the federal government and supported through the civil defense agencies, the American public established that their fallout shelters were more of a band-aid on their own safety than on the wider threat of nuclear fallout of a general nuclear exchange. This created a social sense of a grim reality of the world and a sense of betrayal. A shelter was no longer an insurance investment but a reflection of an individual's own sense of reality and the world view they constructed around it. The fallout shelter was no longer a saving grace for families and communities, but a prison of neutered thinking. Those who had them were no longer seen as forward thinkers but as simpletons who could not face the reality of the world. Even before this gradual revelation through the 1950s, Americans who had built shelters and took part in civil defense preparations were nervous about openly admitting or letting others know about such actions[53]. This fear of social embarrassment became a reality in the late 1950s and early 1960s. Anyone found or assumed to have any association with civil defense, let alone owning a personal fallout shelter, was now in jeopardy of social ostracization. Gradually, after the Cuban Missile Crisis, support and cooperation with civil defense officials,

[52] Rose. *One Nation Underground*. 136.
[53] Henriksen, Margot A. *Dr. Strangelove's America: Society and Culture in the Atomic Age*. Berkeley: University of California Press, 1997. 203-204.

agencies, and various programs would begin falling. Support for civil defense had, in fact, been falling prior to the crisis in 1963. The crisis itself, while creating a momentary peak in support, would not be enough to see support in civil defense reaching its peak in the mid-1950s.

By the late 1960s and later 1970s, civil defense was operating on a limited budget and drawing little to no interest from the general public. The late 1960s saw public attention shift almost entirely towards the ongoing Vietnam War and the political mess that was the Watergate scandal. The Vietnam War was demonstrating that the excessive spending and planning of the military budget had not moved the conflict towards an end. Similarly, the death toll from the conflict was taking a toll on the American public's ideas on whether the government had their best interests at heart. This questioning soon turned into anger and protests would erupt across the nation in the streets and on paper. Petitions and letters of advocacy were penned across various institutions and those relating to civil defense were not spared. In the *Journal of Architectural Education,* Dr. Robert J. Heifetz of the University of Illinois Urbana writes a scathing critique on the current state of architectural schools and their associated disciplines. He argues that the Association of Collegiate Schools of Architecture, ACSA, cannot be moral neutral if they are accepting money from government programs while still enabling and promoting students to work for a government that continues to enable segregationist policies. Policies, Heifetz notes, that are linked to upcoming urban revival plans that do not include voices from African-American communities[54]. Because of this ongoing social inequality and cooperation between the ACSA and the federal government, Heifetz argues that the ACSA should stop all cooperation with the federal government and lists out several points for the association, and architecture fellows, to follow in order to refocus itself on those less privileged in American

[54] Heifetz, Robert J. "The Urban Crisis." *Journal of Architectural* Education. 23, no. 4 (1969): 31–32.

society. Several of these points focus on or tie into supporting anti-discrimination policies and student led organizations. Heifetz makes a particular note on the fallout shelter program. Arguing that the association should,

> [Support the] critique of the national fallout shelter programs, withdrawal of ACSA sponsorship of the OCD's summer institutes training architectural and engineering faculty to teach courses in shelter design; support of schools like Yale whose faculty voted against having such a program; and finally, censure of those schools which continue to accept invitations for running institutes on fallout shelter design[55].

Heifetz's disdain for the federal government's actions and policies at home and abroad are clear throughout his writing as he concludes that the ACSA must work on creating a new curriculum that works on combating racism within the field but also amongst the wider societal perspective. Heifetz's argument against the cooperation with the federal government on civil defense or fallout shelter matters was not unique. After the publication of an article detailing and discussing the National Shelter program in 1961, the *Science* journal received two complaints, both of which argue that the continued allocation of funds for fallout shelters is a waste of time and money at best and a danger to the basis of society at worse[56]. The author of the original article, Howard Margolis, responds to both articles to inform either respondents that his article is not attempting to dissuade or support the shelter program, simply that he is reiterating and examining the points of research by another institute[57]. These responses hint at the escalating apathy espoused and held by academic minds of the time and those increasingly maligned with the national security policy towards nuclear weapons.

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[55] Ibid, 33.
[56] Bauer, Raymond, Urie Bronfenbrenner, Morton Deutsch, Herbert Hyman, Eric Lindemann, Donald Michael, David Riesman, et al. "Shelter Program." *Science* 136, no. 3519 (1962): 910–12.
[57] Ibid, 912-13.

National trust in the government was further eroded after the Watergate Scandal came to light, revealing attempts by President Richard Nixon's republican party to cover up their involvement in an attempt to break into the Democratic National Committee headquarters. Further damage was done after it was revealed in court that the former FBI director J. Edgar Hoover had authorized the wiretappings and general spying of American activists[58]. Besides the occasional newspaper ad or air-raid siren tests the remnants of civil defense would continue to spiral into less and less significance for Americans. General interest was nearing an all-time low. Rural communities showed significant disconnect in the 1960s, with a survey conducted in Iowa noting that a majority of citizens were only aware of civil defense or just becoming aware. A majority, while having discussed what to do in case of a nuclear attack, did not have a private shelter nor had they located the nearest public shelter. Many who had originally intended to build their own shelter discontinued their efforts. Those who were interviewed instead focused on maintaining a basic level of supplies such as blankets or water[59]. However, as grim as such changes might seem, the human element emerges from this survey. When asked if they would be willing to allow in strangers into their future shelter a majority of respondents said yes. When asked who they would be willing to share their shelter with more than half said they would share it with anyone, including strangers[60]. However, this feeling of mutual support was not widely held in more populated areas. In a letter to the Chicago Tribune, a Mrs. J. Finn noted how the fire station in her neighborhood would logically make for a fallout shelter. However, she was

[58] Athan G. Theoharis. *Spying on Americans: Political Surveillance from Hoover to the Huston Plan*. Philadelphia: Temple University Press, 1978. 123-28.
[59] Yarbrough and Klonglan. *The Home Fallout Protection Survey* 188-89, 197-203. It should be noted that while respondents, during the second phase of questioning after some time had passed, answered that began collecting blankets and water these items were likely already within their domicile or could be easily preserved, in the case of water.
[60] Ibid, 97-97.

informed by the mayor's committee on civil defense that the firemen of the station were unwilling to work with the committee.[61]

The lingering vestige of the OCD was aware of its own situation but still continued to push for the preparation of civilians. The committee notes how the federal government, and even the public, became fixated on the idea of a mass evacuation of populated areas. An idea originally conceived, and dismissed, at the origin of the Cold War had now returned. The report notes that, while an evacuation could be possible, the OCD and related departments were understaffed, undertrained, and underpaid to manage such operations across the country. The difficulty also comes from the general public's lack of understanding in how to properly react and respond to such instructions[62]. The OCD had, in effect, entered into a metaphysical death spiral. As civil defense officials worked on preparing the general public for possible threats, they would be berated by the scientific field for providing an insufficient and even pointless response. The general public would then carry said critiques to the federal government who would, in turn, demand a new response by the agency and/or cut part of their funding. This cycle would continue until the OCD's official termination in 1979. The slow death and termination of the office would provide the unceremonious end to the first half of the Cold War and would inadvertently pave the way towards many of the social and cultural aspects that make up the latter half of the period. Fallout shelters had inadvertently become a relic of the federal government that American citizens had long trusted but now openly questioned and fought in the ensuing 1970s.

[61] Finn, J. "Voice of the People." *Chicago Daily Tribune*. November 5, 1962.
[62] *Civil Defense review: report by the Civil Defense Panel of the Subcommittee On Investigations of the Committee on Armed Services, House of Representatives, Ninety-fourth Congress, second session, April 1, 1976.* . Washington, U.S. Gov't. Printing Office.

Section 6: Conclusions

In November of 1983 the television movie *The Day After* was released to Americans audiences. During and after its release news outlets reported on the general perception by the public. Many reported feeling uneasy about the situation and renewed their interest in both maintaining a proper nuclear deterrence but also their own protection against such an attack. This response is no doubt ironic after years of continued disregard by the public and the federal government of civil defense activities. In response to this sudden interest in nuclear conflict, Michael Kilian writes a satirical TV programing timeline. The day begins with casual viewing but, after the airing of *The Day After*, the programing schedule morphs into a stream of war, violence, and fear concluding with a nuclear launch and a "sign off and prayer" by all channels[63]. While Kilian is primarily arguing that President Ronald Reagan is attempting to subtly shift American opinion in favor of increasing military spending, his opinion article highlights the overarching trend of the American public perception of nuclear conflict following the Partial Test Ban Treaty. That of dismissiveness and humor. By the 1980s, many Americans had shut out the wider Cold War and remained focused on their own livelihoods. Fallout shelters were now a fading memory even within the later Cold War era. What had begun with a steady stream of government funding and open public support had been whittled away to a shell of its former self, which would be subsumed by the Federal Emergency Management Agency.

Yet in the limited time of its existence, civil defense and fallout shelters had left an immense impact on the American social, cultural, and political landscape. While FCDA and OCD had failed to outright achieve any of its stated goals, the agencies achieved more in the long term towards the general education and enlightenment of the average American citizen

[63] Michael Kilian. "The Day After 'the Day After'." *Chicago Tribune*, Nov 22, 1983.

regarding the dangers of nuclear weapons and how they could prepare for them. This underlying goal was, arguably, the sole success for civil defense as the information gathered during the time for fallout shelters is still being utilized by FEMA and disaster organization in the US[64]. It was this underlying goal that would unintentionally alter the American perspective of trust towards the federal government. While it was generally understood and accepted by the American public that nuclear weapons and military spending was needed to adhere to the Truman Doctrine of Soviet and communist containment, there was also the sense of national unity alongside it. The United States entered into the first half of the Cold War with a united front against the spread of communism abroad and at home. Civil defense activities enabled citizens to play their own part in protection, or preparing, their nation against an attack. But, as we have seen, the overzealous testing and defense of nuclear weapons as a valid strategy coalesced with the rising skepticism surrounding public health and the validity of a fallout shelter's cost and their subsequent protection factor grade.

While previous scholarship and historiography of the period have focused predominantly on either the micro or macro goals for each respective field, this research demonstrates how something familiar can still provide us with a new window of opportunity for us to explore a topic or period even further. The analysis and perspective presented in this research is, of course, only one piece of the endless puzzle that is history and, more specifically, 20th century history. But it can be seen as one of the most critical aspects of this period that worked in tandem early on with the development of nuclear technology. Fallout shelters provided the information necessary for the individuals who built them, bought them, or studied them an understanding of

[64] *Shelter in Place for Nuclear/Radiological*. Federal Emergency Management Agency, US Department of Homeland Security. November 2021. Accessed April 27, 2023. https://www.fema.gov/sites/default/files/documents/fema_shelter-in-place_guidance-nuclear.pdf

how effective and, later on, ineffective they were towards a nuclear bomb. As more learned of the shelter's growing ineffectiveness more turned towards the source of their concern, nuclear tests in the American backyard. So if civil defense and fallout shelters inevitably drove more participants by highlighting the risks and health concerns of nuclear weapons, can the program be considered a failure? I would argue that the civil defense employees and shelter architects are all doing their best job for the general population. Regardless of how people respond, a civil defense official's primary job is to inform the public of national and public safety concerns. Even after the formal dismissal of the program in 1979, the spirit that guided many of its employees lived on afterward. In 1982, two employees from the Chicago Department of Health and Safety are reported by the Chicago Tribune to inspect the more than 2,000 remaining shelters across the city. As daunting as the work is for a two-man team, the director of the department, Charles Glass states that he is still focused on helping those across the city prepare, saying, "As a public safety agency, we would feel negligent if we didn't do everything in our power to protect the lives of the citizenry"[65].

Civil defense demonstrated that community cooperation can achieve something and the fallout shelter program proved that access to nuclear knowledge can save a life. Today, few fallout shelters are maintained or open to the public to explore. The structures remain a point of insignificance and ominous fascination amongst current generations and scholars. But if we were to take the time to explore these structure's background and analyze them beyond a singular academic field or social strata, we can gain a greater understand of how humanity reacts to constrained views and creates a reply that demonstrates emotion across an entire society.

[65] Dave Schneidman. "The fallout shelter falls into disrepair." *Chicago Tribune*. April 18, 1982

Bibliography

Primary Sources:

American Institute of Architects and United States. Office of Civil Defense. *National School Fallout Shelter Design Competition Awards: A Project of the Office of Civil Defense, Department of Defense*. Washington: U.S. Govt. Print. Off., 1963.

American Institute of Architects and United States. Office of Civil Defense. *National Fallout Shelter Design Competition-Community Center Awards: A Project of the Office of Civil Defense, Department of Defense*. Washington: U. S. Govt. Print. Off., 1967.

American Institute of Architects and United States. Office of Civil Defense. *1966 Architectural Awards: Buildings with Fallout Shelter*. Washington: U. S. Govt. Print. Off., 1968.

Barnes, Kathie. "Underfoot, 2 Weeks of Safety." *Elk Grove Herald*. (Elk Grove, IL) Jul. 23, 1969.

Bauer, Raymond, Urie Bronfenbrenner, Morton Deutsch, Herbert Hyman, Eric Lindemann, Donald Michael, David Riesman, et al. "Shelter Program." *Science* 136, no. 3519 (1962): 910–13.

Bean, R.T. "Federal Subsidies for Fallout Shelters." *Chicago Daily Tribune*. February 20, 1962.

Berrien, F. K., Carol Schulman, and Marianne Amarel. "The Fallout-Shelter Owners: A Study of Attitude Formation." *The Public Opinion Quarterly* 27, no. 2 (1963): 206–16.

Carvlin, Thomas. "He's Ready for A-to-Z Bomb with His Homemade Shelter." *Chicago Daily Tribune* (1923-1963), Aug 25, 1955.

Chaffin, A. D., And W. M. Mclellon. "The National Fallout Shelter Survey." The Military Engineer 54, no. 361 (1962): 335–36.

"City, County Ready for Attack: Millions Spent to Stock Fallout Shelters." Chicago Tribune. April 30, 1967.

Civil Defense review: report by the Civil Defense Panel of the Subcommittee On Investigations of the Committee on Armed Services, House of Representatives, Ninety-fourth Congress, second session, April 1, 1976. Washington, U.S. Gov't. Printing Office.

Dickerman, Robert. "1,300 Drop in to See Fallout Shelter: Prices Scaled to Fit Moderate Size Budget." Chicago Daily Tribune. October 22, 1961.

"Fallout from nuclear weapons tests. Hearings before the Special Subcommittee on Radiation of the Joint Committee on Atomic Energy, Congress of the United States, Eighty-Sixth Congress, First Session on fallout from nuclear weapons tests, May 5, 6, 7, and 8, 1959. Volume 1". *United States Congress*. United States, Washington D.C. 1959.

"Fallout Shelters' 'Lived-in' Look." The Science News-Letter 80, no. 16 (1961): 258–59.

The Family Fallout Shelter. Washington: Office of Civil and Defense Mobilization. 1959.

Finn, J. "Voice of the People." Chicago Daily Tribune. November 5, 1962.

Forman, Robert E. "Resignation as a Collective Behavior Response." American Journal of Sociology 69, no. 3 (1963): 285–90.

"The H-Bomb over Illinois" *The Illinois Civil Defense Agency*. 1956

Hutchings, Harold "Rockefeller Ask Fallout Shelter Law." *Chicago Daily Tribune*. February 22, 1960.

"In Time of Emergency" *Suburbanite Economist*. (Chicago, IL) Nov. 14, 1974.

Janis, Irving L., and Rand Corporation. *Air War and Emotional Stress: Psychological Studies of Bombing and Civilian Defense*. New York: McGraw-Hill, 1951.

Kelleher, Grace J. "A Damage-Limiting Shelter-Allocation Strategy." Operations Research 15, no. 2 (1967): 211–20.

Kilian, Michael. "The Day After 'the Day After'." Chicago Tribune (1963-1996), Nov 22, 1983.

Knott, Albert, United States. Office of Civil Defense, and Pennsylvania State University. Department of Architectural Engineering. *Designing Shelter in New Buildings: A Manual for Architects on the Preliminary Designing of Shielding from Fallout Gamma Radiation in Normally Functioning Spaces in New Buildings.* Washington: Dept. of Defense, 1967.

Kraus, Sidney, Reuben Mehling, and Elaine El-Assal. "Mass Media and the Fallout Controversy." The Public Opinion Quarterly 27, no. 2 (1963): 191–205.

Larson, Arnold B., Paul S. Martin, David Balber, and William Jaffe. "Shelter and Survival." *Science* 135, no. 3503 (1962): 601–4.

LeDoux, John C. "NUCLEAR RADIATION: Family-Type Fallout Shelter." *The Military Engineer* 52, no. 345 (1960): 33–34.

Moss, William W. "Pittman, Steuart L.: Oral History Interview." John F. Kennedy *Library Oral History Program*. John F. Kennedy Oral History Collection. September 18, 1970.

"National Fallout Shelter Design Competition. Community Center. Awards" *Office of Civil Defense* (DOD). Washington D.C.: 1967.

National Security Council. “NSC Meeting” U.S. Civil Defense Policy. Dec. 15, 1976.

Office of Management and Budget. Table 6.1—Composition of Outlays: 1940–2028. Historical Tables. https://www.whitehouse.gov/omb/budget/historical-tables/ Accessed April 8, 2023.

Pakeman, Mary. “A ‘Twin Level’ with Aluminum Siding and a Fallout Shelter.” *Chicago Daily Tribune*. October 7, 1961.

Pape, Daniel. “The Fallout shelter- A War Provoker?” *Chicago Daily Tribune*. November 19, 1961.

Papers of John F. Kennedy. Presidential Papers. National Security Files. Civil defense: General, November 1961: 13-19.

“Peacetime Utility in Fallout Shelter.” Chicago Daily Tribune. November 25, 1961

Phipps, T. E., and Albert W. Bellamy. “Civil Defense.” Science 139, no. 3555 (1963): 674–75.

Power, Thomas S., and Albert A. Arnhym. *Design for Survival*. New York: Coward-McCann, 1965.

Puhek, Norman J. “Borchers Found Guilty Of Code Violation in Fallout Shelter Case.” *Herald and Review* (Decatur, IL) Jan. 19, 1962.

Schneidman, Dave. “The fallout shelter falls into disrepair.” *Chicago Tribune*. April 18, 1982.

Starck, Ken. “Fallout Shelters May Have Gone Way of Hula Hoop.” *The Decatur Daily Review*. (Decatur, IL) July 15, 1962.

Sperry, Kathleen. “Fallout Shelter Survey: Civil Defense Says There Is No Place Like Home.” *Science* 158, no. 3803 (1967): 894–95.

United States, Congress, *Committee on the District of Columbia and Office of Civil Defense*. 1955.

United States, Congress, Committee on the Judiciary. *Communism in Labor Unions: Hearings*. Washington: U.S. Govt. Print. Off., 1954.

United States. National Security Resources Board. *United States Civil Defense*. Washington: U.S. Govt. Print. Off., 1950.

United States. Office of Civil Defense. *Annual Report - Office of Civil Defense 1962-66*. Washington: U.S. Government.

United States. Office of Civil and Defense Mobilization. *Annual report of the Office of Civil and Defense Mobilization for fiscal year 1959*. Washington, D.C: United States Government Printing Office. 1960.

United States Defense Policies in 1963. *88th Congress, 2d Session*. House Document No. 335. Washington: Library of Congress. 1964.

United States, Congress. *79th Congress 2nd Session*. Vol 92 Part 2. March 11, 1946.

Verne L. Brechner, Robert O. Bauer, Robert F. Wolff, Robert W. M. Bethune, and John B. Dillon. "Tests of Potassium Superoxide Canisters in a Small Fallout Shelter." *Public Health Reports*. 80, no. 3 (1965): 225–32.

Walsh, John. "Civil Defense: Housing Reverses Direction and Approves Fallout Shelter Program, Sequel Pending." *Science* 141, no. 3587 (1963): 1264–1311.

Waskow, Arthur I. "The Shelter-Centered Society." *Scientific American* 206, no. 5 (1962): 46–51.

Yarbrough, Paul, Gerald E. Klonglan, and United States. Office of Civil Defense. The Home Fallout Protection Survey and Resulting Changes in Shelter Adoption. Ames, Iowa: Dept. of Sociology and Anthropology, Iowa State University, 1970.

"1962-1976." Journal of the Illinois State Historical Society (1908-1984) 69, no. 4 (1976): 318–29.

Secondary Sources

Alison M. Scott and Christopher D. Geist --, et al. *The Writing on the Cloud: American Culture Confronts the Atomic Bomb*. Lanham, Md.: University Press of America, 1997.

Baldwin, Hanson W. "Civil Defense Program Is Open to Doubt." *The Decatur Review* (Decatur, IL) Jan. 9, 1962.

Barker-Devine, Jenny. "'Mightier than Missiles': The Rhetoric of Civil Defense for Rural American Families, 1950-1970." *Agricultural History* 80, no. 4 (2006): 415–35.

Barnes, Kathie. "Underfoot, 2 Weeks of Safety." *Elk Grove Herald*. (Elk Grove, IL) Jul. 23, 1969.

Bishop, Thomas E. *Every Home a Fortress: Cold War Fatherhood and the Family Fallout Shelter*. Amherst: University of Massachusetts Press, 2020.

Boyer, Paul S., and American Council of Learned Societies. *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age*. Chapel Hill: University of North Carolina Press, 1994.

Carrier, Jerry. *A Long Cold War: A Chronology of American Life and Culture 1945 to 1991*. New York: Algora Publishing, 2018.

Colomina, Beatriz. “Domesticity at War.” *Discourse* 14, no. 1 (1991): 3–22.

Dillon, Michael B. “Determining Optimal Fallout Shelter Times Following a Nuclear Detonation.” *Proceedings: Mathematical, Physical and Engineering Sciences* 470, no. 2163 (2014): 1–12.

Ekirch, Arthur Alphonse, and A. Roger Ekirch. *The Civilian and the Military: A History of the American Antimilitarist Tradition*. Oakland, Calif.: Independent Institute, 2010.

Fitzgerald, David. *Militarization and the American Century: War, the United States and the World Since 1941*. London; New York: Bloomsbury Academic, 2022.

Foertsch, Jacqueline, et al. *American Cold War Culture*. Edinburgh: Edinburgh University Press, 2005.

Gaddis, John Lewis. *The United States and the End of the Cold War: Implications, Reconsiderations, Provocations*. New York: Oxford University Press, 1992.

Gaddis, John Lewis. *The Long Peace: Inquiries into the History of the Cold War*. New York: Oxford University Press, 1987

Gaddis, John Lewis. *We Now Know: Rethinking Cold War History*. Oxford : New York: Clarendon Press ; Oxford University Press, 1997.

Gage, Beverly. *G-Man: J. Edgar Hoover and the Making of the American Century*. New York: Viking Press.

Geist, Edward M. *Armageddon Insurance: Civil Defense in the United States and Soviet Union, 1945–1991*. The New Cold War History. Chapel Hill: The University of North Carolina Press, 2019.

George, Alice L. *Awaiting Armageddon: How Americans Faced the Cuban Missile Crisis*. Chapel Hill: University of North Carolina Press, 2003.

Ghamari-Tabrizi, Sharon. “Death and Resurrection in the Early Cold War.: The Grand Analogy of the Disaster Researchers.” In *Aufbruch Ins Unversicherbare: Zum Katastrophendiskurs Der Gegenwart*, edited by Leon Hempel, Marie Bartels, and Thomas Markwart, 335–78. Transcript Verlag, 2013.

Grossman, Andrew D. “Segregationist Liberalism: The NAACP and Resistance to Civil-Defense Planning in the Early Cold War, 1951-1953.” *International Journal of Politics, Culture, and Society* 13, no. 3 (2000): 477–97.

Grossman, Andrew D. *Neither Dead nor Red: Civil Defense and American Political Development During the Early Cold War*. New York: Routledge, 2001.

Hammes, John A., Thomas R. Ahearn, and Mary P. Beussee. “Public Health Sanitation Aspects of Community Fallout Shelter Confinement.” *Journal of Environmental Health* 33, no. 4 (1971): 376–78.

Hantke, Steffen. *Monsters in the Machine: Science Fiction Film and the Militarization of America After World War II*. Jackson: University Press of Mississippi, 2016.

Harris, Stanley G. *Chicago Alerts: A City Plans Its Civil Defense Against Atomic Attack*. Chicago Civil Defense Committee. Chicago, 1951.

Heifetz, Robert J. "The Urban Crisis." *Journal of Architectural Education (1947-1974)* 23, no. 4 (1969): 31–34.

Henriksen, Margot A. *Dr. Strangelove's America: Society and Culture in the Atomic Age*. Berkeley: University of California Press, 1997.

Kieran, David, and Edwin A. Martini. *At War: The Military and American Culture in the Twentieth Century and Beyond*. New Brunswick, New Jersey: Rutgers University Press, 2018.

Kincade, William H. "Repeating History: The Civil Defense Debate Renewed." *International Security* 2, no. 3 (1978): 99–120.

Klonglan, Gerald E., George M. Beal, Joe M. Bohlen, and Iowa Agriculture and Home Economics Experiment Station. *Family Adoption of Public Fallout Shelters: A Study of Des Moines, Iowa*. Ames: Iowa Agricultural and Home Economics Experiment Station, Iowa State University of Science and Technology, 1964.

Knott, Albert, United States. Office of Civil Defense, and Pennsylvania State University. Department of Architectural Engineering. *Designing Shelter in New Buildings: A Manual for Architects on the Preliminary Designing of Shielding from Fallout Gamma Radiation in Normally Functioning Spaces in New Buildings*. Washington: Dept. of Defense, 1967.

Lacy, Bill, Rice University. Dept. of Architecture, and United States. Office of Civil Defense. *Industrial Architecture: Fallout Shelters*. Dept. of Defense, 1963.

Levine, Gene N., and John Modell. "American Public Opinion and the Fallout-Shelter Issue." *The Public Opinion Quarterly* 29, no. 2 (1965): 270–79.

Lieberman, Robbie. *The Strangest Dream: Communism, Anticommunism and the U.S. Peace Movement 1945-1963*. New York: Syracuse University Press, 2000.

Lichtman, Sarah A. "Do-It-Yourself Security: Safety, Gender, and the Home Fallout Shelter in Cold War America." *Journal of Design History* 19, no. 1 (2006): 39–55.

Lynn, Melda. "Suburbanites Eye 'Mass' Fallout Shelters." *Arlington Heights Herald*. (Arlington Heights, IL) Oct. 26, 1961.

Masco, Joseph. "Life Underground: Building the Bunker Society." *Anthropology Now* 1, no. 2 (2009): 13–29.

McEnaney, Laura, and American Council of Learned Societies. *Civil Defense Begins at Home: Militarization Meets Everyday Life in the Fifties*. Princeton, N.J.: Princeton University Press, 2000.

Monteyne, David. *Fallout Shelter: Designing for Civil Defense in the Cold War*. Minneapolis: University of Minnesota Press, 2011.

Morabito, Charlotte. "Nearly 70% of Americans are worried about a nuclear attack, according to APA survey." *CNBC*. Published April 5, 2022. https://www.cnbc.com/2022/04/05/hypothetical-nuclear-attack.html.

Moss, William W. "Pittman, Steuart L.: Oral History Interview." *John F. Kennedy Library Oral History Program*. John F. Kennedy Oral History Collection.

National Research Council. Advisory Committee on Civil Defense. Subcommittee on Livestock Damage. *Damage to Livestock from Radioactive Fallout in Event of Nuclear War: A Report*. Washington: National Academy of Sciences-National Research Council, 1963

Northcutt, Susan Stoudinger. "Women and The Bomb: Domestication of The Atomic Bomb in the United States." *International Social Science Review* 74, no. 3/4 (1999): 129–39.

Oakes, Guy. *The Imaginary War: Civil Defense and American Cold War Culture*. New York: Oxford University Press, 1994.

Office of Management and Budget. *Table 6.1—Composition of Outlays: 1940–2028*. Historical Tables. https://www.whitehouse.gov/omb/budget/historical-tables/ Accessed April 8, 2023.

Plummer, Brenda Gayle, et al. *Window on Freedom: Race, Civil Rights, and Foreign Affairs, 1945-1988*. Chapel Hill: University of North Carolina Press, 2003

Robey, Sarah E. *Atomic Americans: Citizens in a Nuclear State*. Ithaca: Cornell University Press, 2022.

Rohde, Joy. *Armed with Expertise: The Militarization of American Social Research During the Cold War*. Ithaca: Cornell University Press, 2013.

Rose, Kenneth D. *One Nation Underground: A History of the Fallout Shelter in American Culture*. New York: New York University Press, 2001.

Rothschild, Rachel. "Environmental Awareness in the Atomic Age: Radioecologists and Nuclear Technology." *Historical Studies in the Natural Sciences* 43, no. 4 (2013): 492–530.

Roy, Susan. *Bomboozled: How the U.S. Government Misled Itself and Its People into Believing They Could Survive a Nuclear Attack*. New York: Pointed Leaf Press, 2010.

Rutenberg, Amy J. *Rough Draft: Cold War Military Manpower Policy and the Origins of Vietnam-era Draft Resistance*. Ithaca: Cornell University Press, 2019.

Scheibach, Michael. *"In Case Atom Bombs Fall": An Anthology of Governmental Explanations, Instructions and Warnings from the 1940s to the 1960s*. Jefferson, N.C.: McFarland & Co., 2009.

Scheibach, Michael. *Alert America!: The Atomic Bomb and "the Show That May Save Your Life"*. Jefferson, North Carolina: McFarland & Company, 2019.

Schrecker, Ellen, et al. *The Age of McCarthyism: A Brief History with Documents*. Boston: Bedford Books of St. Martin's Press, 1994.

Sparrow, Arnold Hicks, United States. Office of Civil Defense, and Brookhaven National Laboratory. *Survival of Food Crops and Livestock in the Event of Nuclear War: Proceedings of a Symposium Held at Brookhaven National Laboratory, Upton, Long Island, New York, September 15-18, 1970*. Oak Ridge, Tennessee: U. S. Atomic Energy Commission, Office of Information Services, 1971.

Spencer, Brett. "From Atomic Shelters to Arms Control: Libraries, Civil Defense, and American Militarism during the Cold War." *Information & Culture* 49, no. 3 (2014): 351–85.

Sturdevant, Christopher. *Cold War Illinois*. Charleston, SC: The History Press, 2020.

Sulick, Michael J. *American Spies: Espionage Against the United States from the Cold War to the Present*. Washington, DC: Georgetown University Press, 2013.

Theoharis, Athan G. *Chasing Spies: How the FBI Failed in Counterintelligence but Promoted the Politics of McCarthyism in the Cold War Years*. Chicago: Ivan R. Dee, 2002.

Theoharis, Athan G., and John Stuart Cox. *The Boss: J. Edgar Hoover and the Great American Inquisition*. Philadelphia: Temple University Press, 1988.

Theoharis, Athan G. *Spying on Americans: Political Surveillance from Hoover to the Huston Plan*. Philadelphia: Temple University Press, 1978

Vesentini, Andrea. *Indoor America: The Interior Landscape of Postwar Suburbia*.

Weart, Spencer R. *The Rise of Nuclear Fear*. Cambridge, Mass.: Harvard University Press, 2012.

Wehrle, Edmund F. "'Aid Where It Is Needed Most': American Labor's Military—Industrial Complex." *Enterprise & Society* 12, no. 1 (2011): 96–119.

Westad, Odd Arne. *The Cold War: A World History*. First edition. New York, NY: Basic Books, 2017.

Whittow, John B. "Disaster Impact and the Built Environment." *Built Environment* 21, no. 2/3 (1995): 80–88.

Winkler, Allan M. “The ‘Atom’ and American Life.” *The History Teacher* 26, no. 3 (1993): 317–37.

Zarlengo, Kristina. “Civilian Threat, the Suburban Citadel, and Atomic Age American Women.” *Signs* 24, no. 4 (1999): 925–58.

Images:

Carvlin, Thomas. "He's Ready for A-to-Z Bomb with His Homemade Shelter." *Chicago Daily Tribune* (1923-1963), Aug 25, 1955

“Fallout Shelters’ ‘Lived-in’ Look.” *The Science News-Letter* 80, no. 16 (1961): 258–59.

Federal Civil Defense Administration. Region I. 1951-1958. "Emergency Hospital Exhibit [1955]." 1955. Photograph. *Digital Commonwealth*, Accessed April 25, 2023. https://ark.digitalcommonwealth.org/ark:/50959/h128rr032

“Fallout Shelters’ ‘Lived-in’ Look.” *The Science News-Letter* 80, no. 16 (1961): 258–59.

Nevada - Frenchman's Flat - members of 11th AB Div. kneel on ground as they watch mushroom cloud of atomic bomb test. Nevada, 1951. Nov. Photograph. Library of Congress. Accessed March 20, 2023. https://www.loc.gov/item/2006688661/

President Truman (center) speaks with Soviet Prime Minister Josef Stalin (at left) and British Prime Minister Winston Churchill (at right). They are attending the Potsdam Conference. July 17, 1945. Photograph. National Archives and Records Administration, Office of Presidential Libraries. https://catalog.archives.gov/id/198775

“Street in Moscow to be named after physicists Ilya Frank and Yulii Khariton.” *Joint Institute for Nuclear Research*. May 5, 2017. Accessed March 9,2023. http://www.jinr.ru/posts/street-in-moscow-to-be-named-after-physicists-ilya-frank-and-yulii-khariton/

United States. National Security Resources Board. *United States Civil Defense*. Washington: U.S. Govt. Print. Off., 1950.