

THE ATOMIC AMERICAN: CITIZENSHIP
IN A NUCLEAR STATE,
1945-1963

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ABSTRACT

Nuclear weapons technology transformed the meaning of American citizenship in the early Cold War. The nature of nuclear war forced Americans to reconsider the relationship between citizens and the state, raising the question: who was responsible for Americans' survival? As weapons technologies became more destructive, this civic debate intensified, demanding the involvement of policymakers, scientists, activists, and a surprising number of everyday Americans.

Using a framework I call *nuclear citizenship*, this dissertation illustrates how knowledge of the nuclear threat led American citizens to reimagine ideas of public safety and democracy. This research thus examines the intersection of federal civil defense policies, popular science, and antinuclear activism, revealing how nuclear weapons opened new avenues for political participation and challenged ideas about democratic practice in the post-World War II era. Put another way, the problem of public safety in the Atomic Age gave Americans a new language for discussing rights, responsibilities, civic duty, and the power of the state. Americans, I argue, used their understanding of nuclear science and technology as a means for pushing back against the Cold War state. American civilians were active participants in a public dialogue that ultimately came to conclude that nuclear weapons stood in the way of peace, prosperity, and human health. Scholars frequently examine nuclear history through the lens of classified federal policymaking, military advancements, or elite science. These narratives downplay the economy of nuclear information available to civilians, and the ability of average Americans to understand and act in response to nuclear knowledge. This dissertation reorients the historical understanding of the early nuclear era in the United States by

drawing attention to grassroots political engagement with nuclear science and technology. By utilizing a variety of local and federal records, personal correspondence, popular media, and civic group documents, my research gives agency to a range of unconsidered actors. My work thus adds nuance to larger scholarly conversations about the relationship between science, the state, and civilians, and changing currents of political activism in the postwar era.

For RJB

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CHAPTER 1

INTRODUCTION

On November 25, 1958, the news service United Press International ran a story about nuclear fallout shelters.¹ “Just the sound of a musket shot from the camp site where Washington’s patriots withstood the frigid winter of 1776,” it read, “Paul Pazery stands ready for whatever the Atomic Age has to offer.” Pazery, to whom the article refers as a “Nuclear Age Noah,” had recently completed a four-year project to build two nuclear fallout shelters for his family of six in Valley Forge, Pennsylvania. The article ran in newspapers nationwide, closing with Pazery’s words: “at first people thought I was a crackpot, spending all this time and money [nearly \$4,000]... but they don’t think so anymore, with all the saber rattling in the news.”²

Pazery’s story is typical of what appeared in any number of newspaper articles that ran across the country in the 1950s, featuring local “optimists” preparing for the worst version of the future but hoping for the best for themselves, their families, and their nation. Less often, however, did a news outlet so explicitly connect the nation’s history to the modern conditions of the Atomic Age. Valley Forge evoked the patriotic idealism of 1776 so completely that the editors at the United Press did not notice that the article’s author had misdated the episode: the Continental Army spent the deadly winter of 1777-78 at the site.

The invocation of national origin stories was a familiar trope in Cold War

¹ United Press International Anthony Zecca, “‘Optimist’ at Valley Forge Has Backyard Bomb Shelter,” *Lodi News-Sentinel* (CA), November 25, 1958.

² \$4,000 in 1958 amounts to approximately \$33,000 in 2016 dollars.

political and cultural rhetoric, but the usefulness of Pazery's story extends beyond its association with the nation's founding. For the Continental Army, the period spent at Valley Forge was the lowest point of the war. Undersupplied and cut off from aid, thousands of troops died of exposure, malnutrition, and illness. Thus Valley Forge also represented historical survival and perseverance in the hardest of times. Like Washington's unforgiving winter, the forthcoming nuclear war that Pazery and others imagined would be long, isolated, and cold.³ But, as it had in the Revolution, the reward for survival would be nothing less than the triumph of American democracy.

For postwar Americans, I argue, surviving the Atomic Age became inextricably tied to matters of civic pride and membership in the national community. Policymakers and civilians alike devoted a great deal of energy to the project of adapting American culture to accommodate the exigencies produced by nuclearization. For example, images of survival invoked the nuclear family and home, despite the fact that a nuclear attack could shatter both. The nuclear revolution carried the potential to disrupt the American way of life, and not only in the catastrophic aftermath of an attack on American soil. As I argue, by way of their sudden and deep-rooted role in domestic and international politics, the very existence of nuclear weapons in the world threatened to upset longstanding assumptions about how American democracy was supposed to function. In the postwar world, where the need to staunchly defend American culture against threats from enemy nations became urgent and instrumental in waging the Cold War, nuclear weapons were a powerful political force with which to reckon.

The cultural work that went into integrating *the nuclear* with American

³ Although the term *nuclear winter* did not come into popular usage until the 1980s, the ethos of deprivation and scarcity was germane to discussions of nuclear war.

democracy was, in fact, much more difficult than comparing the Cold War to the American Revolutionary War. Indeed, Americans in the early Cold War repeatedly encountered troubling questions wrought by the nuclear revolution: Who, in a representative democracy, is responsible for public safety on the national scale? How do citizens imagine themselves within the national community when faced with priority of individual survival? What do nuclear weapons mean for transparency and accountability in government? What should be the role of scientific experts within structures of government? The prevalence of these questions, among others, reveal that nuclear weapons created a new and unprecedented arena for debating individual and collective rights in the United States and threatened to destabilize the very basis of American citizenship.

If citizenship can be understood as a set of rights and responsibilities that define the relationship between citizens and the state, American conceptions of citizenship came under extreme new pressures in the Atomic Age. The resulting contentious debates surrounding survival, responsibility, and national community revolved around what I call *nuclear citizenship*. In other words, nuclear citizenship is the way Americans came to define their relationship to the federal state as something fundamentally tied to the ability to survive nuclear war. Nuclear citizenship gives us a way to understand how nuclear weapons came to be a conduit for discussing rights and responsibilities, one that reached Americans at a deeply personal level. For individual citizens, many of whom felt that their lives were jeopardized by the Cold War contest, the political became personal. Never before had basic survival taken on such overtly political tones. Put another way, the body politic became intimately tied to the bodily survival of citizens. But images of

national survival and individual survival reflected back on one another again and again through a lens clouded by disagreements over exactly how to assure public safety.

To meet the new challenges of the nuclear threat, policymakers used the language of civic duty, portraying survival as the responsibility of each American and as a component of good citizenship. In some ways, nuclear survival as civic duty meshed well with the postwar political environment. Individual accountability in the interest of national safety, for example, was a common trope in anticommunist rhetoric. But in other ways, individual responsibility existed in tension with American civic traditions. In the nuclear context, Americans demanded that the state take more responsibility for public safety. In short, these Americans framed survival as an individual right that they believed should be guaranteed by the state. As the projected death tolls of an attack rose throughout the 1950s, the disagreement over the meaning of nuclear citizenship became fraught with apocalyptic overtones. Still, this urgency did little to resolve the ongoing debate.

By the early 1960s, it became apparent that American ideas about cultural citizenship could not easily adapt to the problems of the Atomic Age. The very discussions that sought to fit the nuclear revolution into the “American way of life” revealed long-standing fractures in American society about the meaning of American democracy. An increasing number of Americans came to believe nuclear weapons were not only incompatible with their expectations of American democratic culture, but also weakened the federal state’s claim to sovereign authority over its citizens.

Given the importance of the technological evolution of weapons in the Cold War, a brief note about terminology, technicality, and anachronism is merited here. The

earliest nuclear weapons—those developed during World War II and for the remainder of the 1940s—were *atomic* weapons that derived their explosive power from nuclear fission. By the early 1950s, both the United States and the Soviet Union were engaged in developing *thermonuclear*—or *hydrogen*—“superbombs,” which used a fission process to catalyze nuclear fusion. The explosive power that could be achieved through fusion was many orders of magnitude larger than earlier fission bombs. While both countries continued to develop and refine atomic *and* thermonuclear weapons throughout the Cold War, their staggering scale meant that they replaced atomic weapons in both strategic assumptions and popular imagination. In this study, I use the term *nuclear weapons* as a general category that encompasses both types of devices. Where further specificity is required, I will indicate atomic or thermonuclear. Finally, I use the term *Atomic Age* to denote the epoch beginning with the first atomic test in the summer of 1945 and continuing through the remainder of the Cold War. This term appeared in the cultural nomenclature with remarkable speed after the bombings of Hiroshima and Nagasaki, and Americans continued to use it well after the thermonuclear revolution, and even when they understood the difference between *atomic* and *thermonuclear*. Here, I wish to honor the language that my actors used at the expense of a slight loss of technical specificity.

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Within weeks and months of the end of World War II, popular media, the federal government, and social commentators began to broadcast frightening images of future wars. The Atomic Age, they argued, was a new era, one that held unprecedented dangers. As the official history of the Manhattan Project, released to the public on August 12, 1945, explained, a “weapon has been developed that is potentially destructive beyond the

wildest nightmares of the imagination.”⁴ The scale of destruction of a single atomic weapon was degrees of magnitudes larger than earlier weapons of war. In fact, as the public learned after the war, the bombings of Hiroshima and Nagasaki were between four and five times more deadly—and used fewer than one percent of the total aircraft—than the previous bombings of Tokyo, the most deadly conventional air raid series in history.

Even before many American troops had returned home from the Pacific, American popular media dared to imagine how World War III might look. In 1945, intercontinental ballistic missiles were more than a decade away from successful development, nuclear weapons technology was still in its infancy, and the United States would hold a nuclear monopoly until 1949. Yet as *Life* conjectured in November 1945, future wars would include unmanned long-range missiles delivering a barrage of atomic bombs across oceans and continents.⁵ The feature story in *Life*—and countless other popular nuclear imaginings—painted a terrifying but credible picture of the possibilities of wars to come.

In the decade following World War II, Americans saw many of their dystopian premonitions about proliferation come true. In August 1949, the Soviet Union tested its first atomic device. In response to the American loss of the atomic monopoly, the Truman administration gave the go-ahead for a crash program to develop thermonuclear—or hydrogen—weapons, devices with seemingly limitless explosive power. The United States successfully tested its first such device in November 1952. The Soviet nuclear

⁴ Henry DeWolf Smyth, *Atomic Energy for Military Purposes: The Official Report on the Development of the Atomic Bomb under the Auspices of the United States Government, 1940-1945*, (Princeton, NJ: Princeton University Press, 1945), 223.

⁵ “The 36-Hour War,” *Life*, November 19, 1945.

program responded in kind less than a year later, by which time Great Britain had also joined the “nuclear club.” All three nuclearized nations marched forward with their weapons development programs throughout the 1950s. By the end of the decade, these superpowers had created arsenals with thousands of warheads and advanced means of delivering them, through aircraft, long-range missiles, and submarines.⁶

With each weapons milestone, the reach of nuclear war’s destruction grew wider. The sheer scale of individual nuclear explosions meant that the bombing of any target—whether military, industrial, or political—would kill civilians. But the magnitude and character of this civilian threat changed over time. For several years following the end of World War II, the popular (and strategic) image of nuclear war involved a few atomic bombs targeting coastal cities—the key industry, transportation, and governing centers. But by the late-1950s, such imaginings had given way to an attack with hundreds of

⁶ Historians disagree about whether the “nuclear revolution” occurred in 1945 or in 1952, with the arrival of thermonuclear weapons. Given the intense public discussion of the future of war in the popular press and elsewhere in the immediate aftermath of World War II, I subscribe to the view that this revolution occurred in 1945. Also see Robert R. Bowie and Richard H. Immerman, *Waging Peace: How Eisenhower Shaped an Enduring Cold War Strategy* (New York, NY: Oxford University Press, 1998); Aaron L. Friedberg, *In the Shadow of the Garrison State: America’s Anti-Statism and Its Cold War Grand Strategy* (Princeton, NJ: Princeton University Press, 2000); Francis J. Gavin, *Nuclear Statecraft: History and Strategy in America’s Atomic Age* (Ithaca, NY: Cornell University Press, 2012); Richard G. Hewlett and Jack M. Holl, *Atoms for Peace and War, 1953-1961: Eisenhower and the Atomic Energy Commission* (Berkeley, CA: University of California Press, 1989); Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon* (Ithaca, NY: Cornell University Press, 1989); Robert Jay Lifton and Ricahrd A. Falk, *Indefensible Weapons: The Political and Psychological Case against Nuclearism* (New York, NY: Basic Books, 1982); Shane Maddock, *Nuclear Apartheid: The Quest for American Atomic Supremacy from World War II to the Present* (Chapel Hill, NC: University of North Carolina Press, 2010); Michael S. Sherry, *The Rise of American Air Power: The Creation of Armageddon* (New Haven, CT: Yale University Press, 1987).

atomic and thermonuclear warheads, reaching much farther into the North American continent, and blanketing large swaths of the heartland with radioactive fallout. By 1961, some strategic analysts placed the possible national casualty rate as high as 160 million.⁷

As the public reeled over doomsday imaginings, policymakers scrambled to assess the situation. Federal leaders wondered, in practical terms, what could be done to ensure the survival of the American people if a war should come. Most policymakers believed that the cost of building a national system of shelters was prohibitive. And, although some leaders pushed for plans to develop active defensive technologies such as surface-to-air missiles and sophisticated detection and warning systems, defense budgets overwhelmingly prioritized offensive weapons.

⁷ Herman Kahn, *On Thermonuclear War* (Princeton, NJ: Princeton University Press, 1960), 113. This shocking number deserves some interpretation, especially given that the entire population of the United States was approximately 180,670,000 in 1961. Here, Kahn is presenting the worst of the worst-case scenarios, assuming that the Soviet Union mounted a late-notice attack on Strategic Air Command (SAC) and targeted all urban areas with a population of 25,000 or more. Kahn argued, however, with more warning and fewer urban targets, the casualty rate might be closer to 90 million. Kahn was using these scenarios to argue for increased civil defense measures and the additional “hardening” of SAC, so it would be in his best interest to use sensational numbers. By implementing his recommendations, he argued, casualty rates could be reduced to 3 million. To use an earlier comparison for context, in planning materials for 1956’s nation-wide test exercise, the Federal Civil Defense Administration (FCDA) estimated that 20 million Americans—of a total population closer to 169 million—would be casualties in that hypothetical attack. 1956 was the last year that the FCDA published predicted casualty rates in part because officials wanted to avoid a panicked public reaction. See Dee Garrison, *Bracing for Armageddon: Why Civil Defense Never Worked* (New York, NY: Oxford University Press, 2006), 77-9. Over the course of the early Cold War, there were hundreds—if not thousands—of official and unofficial casualty predictions available to the American public. They ran the gamut from gross underestimations to hyperbolic exaggerations and everything in between. But the grim task of evaluating hypothetical casualty rates was a difficult undertaking because so many variables outside the control of the military—time of day of the attack or weather patterns, for example—could account for a margin of error in the millions.

After several years of difficult negotiation in the late 1940s, federal policymakers decided upon a public safety strategy that placed the primary responsibility for survival on American citizens. Civil defense, as it was known, encouraged civilians to rely on themselves—not the state—to assure their own survival by volunteering in safety training programs and by purchasing their own survival resources. The concept of civil defense was supported by a series of federal agencies, designed to provide states, cities, and individuals with guidelines for preparation. Nonetheless, these agencies left the specifics of planning up to local authorities and citizens themselves. And although the nature of the predicted nuclear attack changed over the course of the early Cold War, the nucleus of federal policy remained the same: self help was the key to survival.

Many Americans struggled with this new arrangement of responsibility. During congressional deliberations about the national civil defense program in 1950, Senator Brien McMahon wondered how a self-help mandate could work if “the first duty of a sovereignty is to protect its people.”⁸ Perhaps unintentionally, McMahon struck at the heart of the theoretical debate over civil defense: how could the state convince its citizens to assume the role of protecting the state? What obligation did citizens have to the state if the state was no longer willing or capable of carrying out its obligation to keep its citizens safe? Over the following decades, civilians and politicians continued to puzzle over this dilemma, using the explicit language of rights and responsibilities. Civil defense thus became a fraught area of contest in the fight to define nuclear citizenship, and it tested

⁸ Senator Brien McMahon of Connecticut speaking for the U.S. Joint Committee on Atomic Energy, Executive Session, Civil Defense, Unpublished Hearing, 81st Cong., 2d sess., March 23, 1950, 19, ProQuest (HRG-1950-AEJ-0031).

American ideas about liberalism and sovereignty.⁹

The move toward state-prescribed survival through self help thus represents an important, but often overlooked, aspect of the Cold War political landscape.¹⁰ At the same moment that the postwar state was consolidating power through expanding the architecture of national security, it was outsourcing public safety on a national scale to individuals through programs of self-help civil defense. Although the United States had a long national history of militias and other home guard programs, never before had civilian defense been designed to operate independently of, or in lieu of, federal military defenses. Especially when juxtaposed against the American experience of World War II, wherein the state deployed troops abroad to defend the home front, a citizen's defense obligations in the Cold War were more ambiguous. Instead of in trenches, in the air, or on

⁹ Robert B. Westbrook took up a similar challenge in his 1990 article on obligation in American political culture during World War II. He argues that Americans' willingness to support the war was not driven by an obligation to the political community or the state, but rather by cultural and moral imperatives to defend "the American Way of Life," defined as a rich... private experience." Robert B. Westbrook, "'I Want a Girl, Just Like the Girl That Married Henry James': American Women and the Problem of Political Obligation in World War II," *American Quarterly* 42, no. 4 (December 1990): 591. Westbrook calls heavily on earlier essays by Michael Walzer and other critics of liberal theory. See, for example, Michael Walzer, *Obligations: Essays on Disobedience, War, and Citizenship* (Cambridge, MA: Harvard University Press, 1970).

¹⁰ See Andrea Friedman, *Citizenship in Cold War America: The National Security State and the Possibilities of Dissent* (Amherst, MA: University of Massachusetts Press, 2014); Ellen Schrecker, *Many Are the Crimes: McCarthyism in America* (Princeton, NJ: Princeton University Press, 1998); Robert D. Putnam, *Bowling Alone: The Collapse and Revival of American Community* (New York, NY: Simon and Schuster, 2000); Mary L. Dudziak, *Cold War Civil Rights* (Princeton, NJ: Princeton University Press, 2000); Lizabeth Cohen, *A Consumer's Republic: The Politics of Mass Consumption in Postwar America* (New York, NY: Vitage Books, 2004); K. A. Cuordileone, *Manhood and American Political Culture in the Cold War* (New York, NY: Routledge, 2005); David K. Johnson, *The Lavender Scare: The Cold War Persecution of Gays and Lesbians in the Federal Government* (Chicago, IL: University of Chicago Press, 2004).

the high seas, nuclear war would be fought in basements and back yards. If civilians hoped to survive the next war, policymakers argued, they had no choice but to “enlist” to fight in the Cold War conflict.¹¹ The nuclear threat thus obfuscated traditional lines between civilian and soldier and added a layer of complexity onto established ideas of martial citizenship.¹²

Despite these tensions, civil defense remained highly visible in American life during the Cold War. Agencies and civic organizations distributed hundreds of millions of copies of instructional materials in the 1950s and 1960s. Federal and local civil defense organizations produced television programs, ran booths at county and state fairs, staged annual mock attack exercises, and created traveling exhibits that toured the nation.

While these civil defense initiatives were occasionally entertaining public spectacles, individual citizens were reluctant to engage personally in survival measures. Despite extensive propaganda campaigns, relatively few Americans built shelters in their homes or volunteered to participate in civil defense programs. Civil defense leaders, from the lowest-level neighborhood wardens to the highest reaches of the federal

¹¹ The issue of choice—choosing to participate in the Cold War conflict versus the non-choice of being a casualty of a war brought down upon you—is a critical aspect that is missing from Westbrook’s 1990 analysis. Westbrook, “American Women.” The exigencies of a nuclear attack would theoretically implicate all American civilians in a nuclear war, whether they were willing or not.

¹² Laura McEnaney explores this tension further in her work, which frames civil defense as a form of national militarization. See Laura McEnaney, *Civil Defense Begins at Home: Militarization Meets Everyday Life in the Fifties* (Princeton, NJ: Princeton University Press, 2000). For martial citizenship more broadly, see Eliot A. Cohen, *Citizens and Soldiers: The Dilemmas of Military Service* (Ithaca, NY: Cornell University Press, 1985); Suzanne Mettler, *Soldiers to Citizens: The G.I. Bill and the Making of the Greatest Generation* (New York, NY: Oxford University Press, 2005); Beth Bailey, *America’s Army: Making the All-Volunteer Force* (Cambridge, MA: Harvard University Press, 2009).

administration, consistently lamented low participation numbers and high levels of public apathy. By the late 1950s, this perceived apathy turned to actualized resistance as civic groups began to protest civil defense practices for their inadequacy in the face of thermonuclear war. Indeed, several Americans noted that Washington's unwillingness to fund civil defense while pouring billions of dollars into weapons proliferation constituted an egregious lack of concern for human life on the part of governing officials. However, when civilians discussed civil defense, whether out of support, apathy, or protest, they too used language that reflected its position as a part of democratic civic life.

Equally important to the construction of nuclear citizenship is how the public understood the role of nuclear science in American life. Before 1945, few average Americans had cause to learn about particle physics. The dramatic conclusion of World War II and the technological advancements that followed, however, forced Americans to think of such science as part of their everyday lives. Indeed, civil defense instructions demanded that Americans understand the workings of nuclear weapons, sometimes down to the smallest atomic particle. Federal agencies tightly regulated public access to nuclear information in the interest of Cold War secrecy. As such, the nuclear arms race created an elite class of scientists, advisors, and policymakers that operated within the protected space of Cold War competition. Such individuals seemed to wield great power over the safety and security of American civilians. As the 1950s wore on, this lack of governing transparency came under the scrutiny of several civic organizations, including the fledgling Committee for a Sane Nuclear Policy (SANE).

By the mid-1950s, several scientists outside the purview of the federal state began to question both the safety of nuclear weapons testing and the authority of the federal

agencies that managed testing. Using the burgeoning field of genetics, these scientist-activists campaigned to raise public awareness about the pathological and hereditary dangers of radioactive fallout. In response, the Atomic Energy Commission (AEC) launched a wide-ranging campaign in an attempt to quell controversy and improve public perceptions of nuclear testing. Like the AEC, activist scientists' information campaigns relied upon explaining science to the public, but they did so for very different ends than those of civil defense officials. Public debates about fallout invoked the problem of secrecy and responsibility in the Atomic Age, as their messages raised critical concern about whether or not the federal government was operating in a way that protected its people. Popular awareness about the dangers of fallout from nuclear weapons testing galvanized a significant and vocal minority of antinuclear advocates by the end of the 1950s. And as Americans came to realize that the AEC had withheld safety information from the public, the AEC's authority diminished significantly.

The public's access to scientific information thus drove important changes in nuclear citizenship over the course of the early Cold War. Popular science gave civilians a means to understand how nuclear weapons affected their daily lives. Indeed, the message of antinuclear campaigns was rooted in a populist appeal: the existence of nuclear weapons, whether in peace or wartime, constituted a danger to every man, woman, and child on the planet. Nuclear survival no longer depended on one's ability to survive in the event of an attack. Instead, many Americans came to realize that survival was always at stake and that this was a constant condition of life in the Atomic Age.

By the late 1950s, public attitudes toward nuclearization had become significantly more critical than had been the case earlier in the decade. First, many Americans came to

believe that nuclear weapons, as the instruments of modern war, constituted an unacceptable risk to the public, especially when civil defense initiatives seemed so insufficient. Some even deemed nuclear war unsurvivable, despite policymakers' assurances to the contrary. Second, the growing availability of information about public health and nuclear science led many to question the wisdom of nuclear weapons testing and continued development. Together, these two veins of public discussion converged around the idea that survival in the Atomic Age could only be achieved by the elimination of nuclear weapons entirely.

Using methods of mass protest, the language of civic responsibility, a nuanced knowledge of nuclear science, and claims to defending humanity, an increasing number of Americans began to advocate for peace by the end of the 1950s. Peace was an umbrella term that included ideas as diverse as demilitarization, complete abolition of nuclear weapons, a testing ban, and world government. Antinuclear protesters' ideas did not counter postwar visions of the American way of life. Rather, these activists advocated for a better version of citizenship, one that they believed better upheld democratic ideals. These citizens understood nuclear weapons as impediments to peace and to the health of American democracy. Thus, by the early 1960s, a new vision of nuclear citizenship had emerged, one that renounced nuclearization as a basis for domestic and international policy, or as a basis upon which American citizenship should be understood.

This narrative ends in the autumn of 1963, when the United States, Great Britain, and the Soviet Union signed the Partial Limited Test Ban Treaty (LTBT). The treaty banned the testing of nuclear weapons in the atmosphere, under water, and in outer space. This agreement was the culmination of almost a decade of on-and-off negotiations

between the nuclear powers about nuclear testing, proliferation, and disarmament.

Indeed, despite the Eisenhower administration's continued testing during the 1950s and careful management of official statements defending the necessity of doing so, some top officials believed a test ban constituted an important step toward disarmament. However, Cold War mistrust, scientific disagreement, and occasional miscommunication stymied the discussions until 1963.

By 1963, antinuclearism among American civilians had gathered significant traction. Although vocal public calls for a test ban had sounded since at least 1956, the issue's populist appeal had become more persuasive as damning scientific evidence mounted against fallout hazards. Moreover, the escalation of Cold War tensions in the early 1960s, including the U-2 espionage controversy, the Berlin Crisis, and the Cuban Missile Crisis, signaled an urgent need for some sort of action. The LTBT removed the most immediate danger of additional lingering atmospheric radiation and signaled an important step toward general disarmament. For many concerned citizens, the LTBT served as the release of a pressure valve after many years of negotiation impasses.

Over the course of the early Cold War, many Americans came to understand the nuclear revolution as something that augmented the ties between individuals and their local, national, and international communities. Nuclearization put civilians in intimate contact with the state, or with the substance of state power. The material apparatuses of this contact include hundreds of millions of informational pamphlets and films, built shelters, and survivalist consumer goods. These physical objects served as constant reminders of the state, of a citizen's complicity in state projects, and of an individual's contingent existence within the nuclearized world. More importantly, because a nuclear

attack could kill any American, regardless of age, gender, class, race, or geography, civilians united around a common and urgent understanding of nuclear peril.

Moreover, the dangers of nuclear radiation expanded the common threat to every person on the planet. In other words, the fallout from nuclearization created space for a new articulation of international community.¹³ By the end of the 1950s, antinuclear advocates found the symbolic power of human community to be fertile grounds for rallying dissent against nuclear policy. In sum, nuclear weapons changed how Americans conceptualized community, from local or national to international. Nuclear citizenship thus constitutes one way that Cold War Americans disrupted established notions about state sovereignty, a concern that would be continue to drive international dissent movements for the remainder of the Cold War.

Chapter Outline

This dissertation is broken into five chapters, followed by an epilogue. Chapter One begins with an overview of the early grassroots demands for civil defense. Spanning the years from the end of World War II until early 1952, the chapter outlines the widespread public demands for a national system of public safety in the Atomic Age, as well as the range of creative solutions Americans developed to meet the threat. Although their ideas varied, civilians and civic groups consistently used the language of citizenship and democratic community to discuss the need for civil defense. These conversations reveal that the public saw nuclear public safety as a responsibility and duty of the federal

¹³ Outside of, and including more individuals than, the One World advocates and members of the Scientists' Movement of the late 1940s. See Alice Kimball Smith, *A Peril and a Hope: The Scientists Movement in America, 1945-1947* (Chicago, IL: University of Chicago Press, 1965), 47-106. Jessica Wang, "Scientists and the Problem of the Public in Cold War America," *Osiris* 17 (2002).

state, and as something that could easily be adapted to the contours of American life.

Chapter Two complements Chapter One with a top-down perspective of the same era, examining early federal debates about civil defense planning. Policymakers, especially those in Congress, recognized the need for a national system of public safety, but were constrained by the postwar political liabilities of big government, militarization, and government secrecy. After several years of discussion and study, policymakers invoked the ideology of self-help, local control, and civic responsibility to create a diffuse federalist structure for civil defense. The Federal Civil Defense Act of 1950 created an organization whose mandate was intentionally vague, leaving states, counties, and cities with a great deal of room for interpreting how civil defense was to be implemented locally. As the nation entered the 1950s, a period of rapidly-advancing offensive weapons technology, the location of responsibility for national survival continued to be in flux.

Chapter Three explores the role of scientific authority in public discussions about nuclear policy and civil defense during the early 1950s. While the Atomic Energy Commission made significant advances in nuclear weapons technology in this era, these developments existed alongside growing public skepticism about scientists, scientific authority, and the intermingling of science and democracy. Amid ongoing public controversies surrounding nuclear physicists and the American nuclear program, federal civil defense policymakers struggled to manage and maintain an image of scientific credibility. Broadly, this chapter demonstrates that Americans held deeply ambiguous ideas about scientific authority, but that science nevertheless took on an increasingly important role in how the public understood issues of democratic governance.

The presence of nuclear science in popular media—whether in the news cycle or official education campaigns—served to deepen public understanding about the actual science undergirding nuclear weapons development. Chapter Four traces this process through the growing public awareness and concern over nuclear fallout, which came to be seen as a dangerous peacetime byproduct of the Cold War. Fallout gave Americans cause to fear for their own health, the health of their children, and the well-being of the human species in general. The fallout controversy also raised serious concerns about the state’s protection of civilians and its respect for the sovereignty of other nations. By the late 1950s, these discussions converged to create a vocal minority of antinuclear advocates seeking a test ban and general disarmament.

Finally, Chapter Five returns to civil defense, examining how public opinion about safety programs evolved during the late 1950s and early 1960s. Popular participation in civil defense did not regain traction during this era, despite President Kennedy’s attempts to revive it as a national priority. I argue that by this time, the public was too well educated about fallout, frustrated with the illogic of nuclear diplomacy, and weary of the threat of nuclear annihilation to buy into civil defense policy. Many Americans began to ask, “What would winning the Cold War look like?” and did not like the answer. Across the nation, citizens mounted mass protest against nuclear policies, including civil defense, and made demands for radical change. A varied coalition of activists saw nuclear policy as an impediment to functional democracy. These Americans framed their protest as an expression of their commitment to American democracy, turning on its head the state’s rhetoric of self-help civil defense as the bulwark of democratic life. Their voices contributed to the successful ratification of the Limited Test

Ban Treaty of 1963, and, I argue, to the demise of nuclear civil defense programs in America.

Historiography

This study contributes to several genres of historical scholarship. Broadly speaking, the historiography of the early Atomic Age in the United States tends to diverge into two broad investigations. On one hand, cultural historians and sociologists often examine nuclear culture in the context of the family, consumerism, and popular entertainment. On the other hand, scholars of political development, policy history, and international relations focus on the effect of nuclear technology on geopolitical relationships and domestic politics. In *The Atomic American*, I bridge these historiographies by arguing that American citizens and policymakers were in conversation with each other about nuclear policies throughout the period, and that both had an active role in defining citizenship and culture in the early Cold War. More specifically, however, I position this study at the intersection of two related themes that have emerged in the recent scholarship of American culture in the Atomic Age: American citizenship and civic life; and civil defense and public safety.¹⁴

¹⁴ The most recent titles to emerge in this literature include: McEnaney. Andrew D. Grossman, *Neither Dead nor Red: Civil Defense and American Political Development During the Early Cold War* (New York, NY: Routledge, 2001); Kenneth D. Rose, *One Nation Underground: The Fallout Shelter in American Culture* (New York: New York University Press, 2001); Tom Vanderbilt, *Survival City: Adventures among the Ruins of Atomic America* (Princeton, NJ: Princeton Architectural Press, 2002); Michael Scheibach, *Atomic Narratives and American Youth: Coming of Age with the Atom, 1945-1955* (Jefferson, NC: McFarland, 2003); Alice L. George, *Awaiting Armageddon: How Americans Faced the Cuban Missile Crisis* (Chapel Hill, NC: University of North Carolina Press, 2003); Scott C. Zemun and Michael A. Amundson, eds. *Atomic Culture: How We Learned to Stop Worrying and Love the Bomb* (Boulder, CO: University of Colorado, 2004); Garrison, *Bracing for Armageddon*; David F. Krugler, *This Is Only a Test: How*

The early years of the Cold War were marked by a shifting relationship between individual Americans and the federal state. From legal, cultural, and economic standpoints, citizenship was contested and in flux. The enhanced power of the postwar state, a growing American consumer culture, amplifying debates about race and civil rights, and widespread suburbanization each forced Americans to reconsider how citizens came to demand rights from the state. In turn, these conversations reframed how the state came to make demands of its citizens. Each of these citizenship debates played out in the public sphere, where Americans voiced their opinions using democratic protest, purchasing power, and civic engagement.¹⁵

Washington, D.C. Prepared for Nuclear War (New York, NY: Palgrave Macmillan, 2006); Tracy C. Davis, *Stages of Emergency: Cold War Nuclear Civil Defense* (Durham, NC: Duke University Press, 2007); Scott Gabriel Knowles, "Defending Philadelphia: A Historical Case Study of Civil Defense in the Early Cold War," *Public Works Management Policy* 11 (January 2007); Rosemary B. Mariner and G. Kurt Piehler, eds. *The Atomic Bomb and American Society: New Perspectives* (Knoxville, TN: University of Tennessee Press, 2009); Robert A. Jacobs, *The Dragon's Tail: American Face the Atomic Age* (Amherst, MA: University of Massachusetts Press, 2010); and David Monteyne, *Fallout Shelter: Designing for Civil Defense in the Cold War* (Minneapolis, MN: University of Minnesota Press, 2011).

¹⁵ I am indebted to a wide-ranging literature on American cultural citizenship that has emerged in the last two decades. For citizenship in Cold War and Atomic Age America, see Friedman, *Citizenship in Cold War America*, Joseph Masco, *The Nuclear Borderlands: The Manhattan Project in Post-Cold War New Mexico* (Princeton, NJ: Princeton University Press, 2006); Gary Gerstle, *American Crucible: Race and Nation in the Twentieth Century* (Princeton, NJ: Princeton University Press, 2001); and Cohen, *Citizens and Soldiers*. I have also found several theoretical, legal, and philosophical texts helpful as I have developed my framework for nuclear citizenship. Among others, see Rogers M. Smith, *Civic Ideals: Conflicting Visions of Citizenship in U.S. History* (New Haven, CT: Yale University Press, 1997); Smith, *Stories of Peoplehood: The Politics and Morals of Political Membership* (New York, NY: Cambridge University Press, 2003); Smith, *Civic Ideals: Conflicting Visions of Citizenship in U.S. History*; Evelyn Nakano Glenn, *Unequal Freedom: How Race and Gender Shaped American Citizenship and Labor* (Cambridge, MA: Harvard University Press, 2002); and

The threat of nuclear war also provoked such dialogues about American democratic life, but it remains a neglected area of postwar cultural scholarship. For example, in his influential study, *Bowling Alone*, Robert Putnam successfully demonstrates that a great majority of 1950s and 1960s Americans participated in some form of civic engagement.¹⁶ Yet postwar geopolitics—specifically the nuclear threat—do not figure into his analysis. By contrast, I show that nuclear concerns appear throughout the institutional records of social, civic, and religious organizations. Putnam’s definition of public space—which focuses on organizations—is an important component of my research, but I also seek to understand what civic involvement meant to Americans on a more personal scale.

The historiography of American nuclear culture during the early Cold War likewise has not adequately addressed the role of citizenship and active engagement. Early studies by Paul Boyer and Spencer Weart demonstrate that the American “nuclear consciousness” in the aftermath of World War II was muddled in contradictory feelings of fear and hope.¹⁷ Boyer argues that the experience of living in postwar America cannot be understood without considering nuclear weapons. While I agree with Boyer that the dawn of the Atomic Age fundamentally altered American life, Boyer’s focus on nuclear debates among public intellectuals and cultural authorities neglects Americans’ lived

Judith N. Shklar, *American Citizenship: The Quest for Inclusion* (Cambridge, MA: Harvard University Press, 1991).

¹⁶ Putnam, *Bowling Alone*.

¹⁷ Paul Boyer, *By the Bomb’s Early Light*; and Spencer R. Weart, *Nuclear Fear: A History of Images* (Cambridge, MA: Harvard University Press, 1988). Weart’s work greatly expands upon the Sierra Club’s 1982 environmental-cultural history: Stephen Hilgartner, Richard C. Bell, and Rory O’Connor, *Nukespeak: Nuclear Language, Visions and Mindset* (San Francisco, CA: Sierra Club Books, 1982).

experience, particularly as it related to drastic changes in nuclear weapons capabilities. Similarly, Weart demonstrates that postwar nuclear culture was based upon a preexisting set of emotions and assumptions about science, nuclear technology, and the future. However, Weart reduces domestic nuclear policy to government propaganda designed to manipulate American actions. He, like Boyer, minimizes the importance of how individual Americans perceived and acted in response to the nuclear threat.¹⁸

Other early histories, however, do attempt to explain the personal experience of the Atomic Age. Most notably, Elaine Tyler May connects everyday life to the nuclear threat by arguing that Americans used the home and the family as ways to protect themselves from the insecurity of the Cold War.¹⁹ For her, the postwar emphasis on “self-contained” domesticity was a means for sheltering citizens against the Cold War’s dangers. For May, postwar culture was defined by an inward turn and civic disengagement. By contrast, I argue that many Americans actively engaged with nuclear dangers—by learning about the nuclear threat and taking measures to mitigate it—rather than avoided them. The American home figures prominently in this study as a site of responsible citizenship and democratic participation rather than a site of civic detachment.

Other scholars of the Atomic Age in America examine nuclear civil defense and public safety policy as artifacts of state power, rather than as means for civilians to

¹⁸ Also see Allan M. Winkler, *Life under a Cloud: American Anxiety About the Atom* (New York, NY: Oxford University Press, 1993); and Margot A. Henriksen, *Dr. Strangelove’s America: Society and Culture in the Atomic Age* (Berkeley, CA: University of California Press, 1997).

¹⁹ Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era* (New York, NY: Basic Books, 1988). Also see JoAnne Brown, “‘A Is for Atom, B Is for Bomb’: Civil Defense in American Public Education, 1948-1963,” *Journal of American History* 75 (June 1988) and Scheibach, *Atomic Narratives*.

express citizenship. In 1994, sociologist Guy Oakes first articulated the concept of “Cold War civic ethics.”²⁰ In *The Imaginary War*, Oakes argues that civil defense policy was a federal strategy to coerce Americans into supporting nuclear deterrence and other Cold War foreign policies. For Oakes, “the actual protection of the public in a nuclear attack was not crucial to the role of civil defense in American national security.”²¹ Instead, civil defense was simply a government tool, useful only to geopolitical ends. Oakes’ account focuses on federal decision-makers, and does not attempt to analyze whether this campaign was successful in promoting civilian support for Cold War politics.

More recently, Andrew Grossman has extended Oakes’ argument into the field of American political development.²² Far less cynical than *The Imaginary War*, Grossman uses federal civil defense bureaucracy to demonstrate the strength of the postwar state, and the limitations of liberal democracy. Like Oakes, Grossman argues that policymakers developed federal defense strategies to support international goals. While both Oakes and Grossman argue that the federal government consciously marshaled “self-help, mutual assistance, and community spirit,” they do not show how individuals accepted, rejected, or modified this federally-constructed Cold War ethos.²³

In the past two decades, newer cultural scholarship has made an effort to connect civil defense with civic activism. Kenneth D. Rose’s book, *One Nation Underground:*

²⁰ Guy Oakes, *The Imaginary War: Civil Defense and American Cold War Culture* (New York, NY: Oxford University Press, 1994), 9.

²¹ *Ibid.*, 165.

²² Grossman, *Neither Dead Nor Red*.

²³ Oakes, 5. Also see Guy Oakes and Andrew Grossman, “Managing Nuclear Terror: The Genesis of American Civil Defense Strategy,” *International Journal of Politics, Culture, and Society* 5, no. 3 (Spring 1992).

The Fallout Shelter in American Culture, and Alice L. George's *Awaiting Armageddon: How Americans Faced the Cuban Missile Crisis* successfully show that Americans pushed back against the federal government's civil defense programs and rhetoric.²⁴ Yet both of their timelines suggest that such resistance did not appear until the early 1960s. By contrast, I argue that the public, policymakers, and scientists were actively involved in debating the limits of nuclear citizenship as early as the late 1940s. By considering a longer periodization of engagement with nuclear weapons in American society, I argue that the early 1960s were the culmination of years of shifting ideas about survival, civic practice, and the threat of nuclear war.

This study also creates a new frame for understanding how Americans adjusted to the tenuous peace of the post-World War II era. Despite the United States' engagement in Korea and several high-risk geopolitical crises, Americans used 1945 as a conceptual divider of war- and peacetime. But they also assumed that another world war would be at hand in the near future. Moreover, Americans understood that advancing nuclear weapons technologies blurred the distinction between front lines and home front; soldier and citizen. Preparation programs like civil defense, modeled in part on World War II-era civilian activities, obscured the difference between war and peace even further.²⁵

Historian Laura McEnaney explores this issue most explicitly in her monograph,

²⁴ Rose, *One Nation Underground*. and George, *Awaiting Armageddon*.

²⁵ Mary L. Dudziak, *War Time: An Idea, Its History, Its Consequences* (New York, NY: Oxford University Press, 2012); Tom Engelhardt, *The End of Victory Culture: Cold War America and the Disillusioning of a Generation* (New York, NY: Basic Books, 1995); Westbrook, "American Women," 591.

*Civil Defense Begins at Home: Militarization Meets Everyday Life in the 1950s.*²⁶ Here, McEnaney argues that policymakers established federal civil defense initiatives as paramilitary programs: a way to militarize the public without creating fears of an overly powerful military. She argues that “the most useful framework for studying civil defense is ‘militarization,’ or the gradual encroachment of military ideas, values, and structures into the civilian domain.”²⁷ While such an explanation does much to uncover how the public interacted with federal civil defense programs in their homes, families, and workplaces, it limits individual agency and sometimes overstates the power of the state. American civilians themselves, I argue, redefined their relationship to the state, and not exclusively in the framework of militarization or martial citizenship.

This dissertation provides an important corrective by reestablishing historical agency and contingency in the narrative of postwar nuclear culture. Some of the existing literature describes Atomic Age citizens as naive, irrational, or ignorant; Grossman rightfully refers to such analyses as “the silliness approach.”²⁸ By considering the motivations of individual Americans and policymakers, this study argues that American citizens and leaders were in conversation with each other throughout the period, and that both had an equal hand in defining cultural citizenship in the Atomic Age.

²⁶ McEnaney, *Civil Defense Begins at Home*.

²⁷ *Ibid.*, 6.

²⁸ Grossman, *xiii*. Other similarly problematic histories include: Garrison, *Bracing for Armageddon*; Thomas J. Kerr, *Civil Defense in the U.S.: Bandid for a Holocaust?* (Boulder, CO: Westview Press, 1983); and A. Costandina Titus, *Bombs in the Backyard: Atomic Testing and American Politics* (Reno, NV: University of Nevada Press, 1986).

Finally, this study is broadly circumscribed by the public availability of information about nuclear science and technology. Much of the scholarship mentioned above correctly points out that the American public in the early Cold War consistently lacked “the whole story.” Guided by imperatives of Cold War secrecy, federal agencies—especially the Atomic Energy Commission—tightly regulated what information could reach the public and what could not. Yet narratives that rely on a conspiratorial state neglect a wide range of alternative sources of public information about nuclear science and technology. In the mid- and late 1940s, for example, nuclear scientists were prominent advocates of nuclear weapons regulation and translated nuclear science into language the public could understand in order to garner support for their platforms. A different group of activist scientists emerged in the mid-1950s to raise awareness about the dangers of nuclear fallout from testing. They, too, were important providers of publicly-accessible nuclear information. As antinuclear advocacy gained traction in the late 1950s, the cast of nuclear authorities expanded well beyond the bounds of state agencies. These activists ranks included public intellectuals, religious leaders, educators, and average Americans who identified as housewives, parents, or simply concerned citizens.²⁹

²⁹ Milton S. Katz, *Ban the Bomb: A History of Sane, the Committee for a Sane Nuclear Policy* (New York, NY: Praeger, 1986); Lawrence S. Wittner, *The Struggle against the Bomb*, vol. 1, “One World or None: A History of the World Nuclear Disarmament Movement Through 1953” (Stanford, CA: Stanford University Press, 1993); Wittner, *The Struggle against the Bomb*, vol. 2, “Resisting the Bomb: A History of the World Nuclear Disarmament Movement 1954-1970” (Stanford, CA: Stanford University Press, 1997); Wittner, *The Struggle against the Bomb*, vol. 3, “Toward Nuclear Abolition: A History of the World Disarmament Movement, 1971 to the Present” (Stanford, CA: Stanford University Press, 2003).

The scholarship of nuclear science and technology often downplays the public economy of nuclear information. Instead, these works tend to focus on elite scientists involved in weapons innovation and production or the role of scientific advisors in the high reaches of government.³⁰ While these studies give credit to historical agency and nuance of the scientists in these communities, they do not often consider alternative sources of scientific authority.³¹ By contrast, this study uses a wider lens to explore the many ways Americans acquired nuclear knowledge. Citizens used their understanding of nuclear science and technology to inform their ideas about rights, responsibilities, civic duty, and state power. Thus the public’s nuclear knowledge—and how it changed over time—itsself is a category deserving of examination.

Coda

Si vis pacem, para bellum

[If you want peace, prepare for war]

³⁰ See, for example David K. Hecht, “The Atomic Hero: Robert Oppenheimer and the Making of Scientific Icons in the Early Cold War,” *Technology and Culture* 49, no. 4 (October 2008); Silvan S. Schweber, *In the Shadow of the Bomb: Oppenheimer, Bethe, and the Moral Responsibility of the Scientist* (Princeton, NJ: Princeton University Press, 2007); Patrick David Slaney, “Eugene Rabinowitch, the *Bulletin of Atomic Scientists*, and the Nature of Scientific Internationalism in the Early Cold War,” *Historical Studies in the Natural Sciences* 42, no. 2 (April 2012); Wang, “Scientists and the Problem of the Public”; Mark Solovey, *Shaky Foundations: The Politics-Patronage-Social Science Nexus in Cold War America* (New Brunswick, NJ: Rutgers University Press, 2013); Christopher P. Loss, *Between Citizens and the State: The Politics of American Higher Education in the 20th Century* (Princeton, NJ: Princeton University Press, 2012), chapter 5; Andrew Jewett, *Science, Democracy, and the American University: From the Civil War to the Cold War* (New York, NY: Oxford University Press, 2012); and Audra J. Wolfe, *Competing with the Soviets: Science, Technology and the State in Cold War America* (Baltimore, MD: Johns Hopkins University Press, 2012).

³¹ One important exception is Lawrence Witter’s three-part series, *The Struggle Against the Bomb*, which carefully examines state- and independently-produced sources of nuclear information.

This study is driven by a series of dilemmas that circumscribe the Atomic Age in America. First, in the decades following World War II, the United States was simultaneously at war and at peace, committed to the fragile algorithm of deterrence. Nuclear weapons provided the fulcrum upon which peace and war balanced: their existence promised peace but held the key to unimaginable violence. In other words, nuclear diplomatic logic dictated that the only things that could keep Americans safe were the very things that made them the most *unsafe*. Counterintuitively, public safety required public endangerment. Under these conditions, some Americans prepared for the worst and hoped for the best, but others rejected the mandate to do either.

Secondly, nuclear science echoed a similar duality as the logic of deterrence. Long before President Eisenhower named it as such, nuclear science boosters promised “atoms for peace” alongside “atoms for war.” Public intellectuals and popular entertainment alike reminded Americans that advancements in nuclear science writ large could usher in either technoutopia or dystopian decline. The stakes were high: like deterrence, only the most careful management of nuclear technology could assure survival.

Perhaps most important, however, is how American society constructed the cultural meaning of nuclear war. Largely lost in the conversation about nuclear policy, civil defense, and weapons development was that the United States was just as likely to be the perpetrator of nuclear violence as its nuclearized enemies. Americans overwhelmingly imagined themselves as victims in the war to come. This remained consistent throughout the first decades of the Cold War, even when the United States

assumed a clear lead in the arms race. Americans focused on enemy armaments, turning a blind eye to their participation—or their fellow citizens’ participation—in the labor of producing a vast arsenal of American weapons.³² As Joseph Masco, an anthropologist who studies the lasting effects of nuclear production in the United States, argues, “the sheer scale of the technoscientific infrastructure, the institutional collaborations, the economic investment, and the environmental effects of [the bomb] now link every citizen directly to the Manhattan Project.”³³ Americans’ universal personal connection to nuclearization is a condition that has been with us since the earliest days of the Atomic Age.

The overarching meaning of the Cold War, nuclear science, and nuclear war itself each occupied an ambiguous position in American public culture. War and peace, victim and perpetrator, visibility and invisibility, survival and extinction. Americans worked through these extremes with unevenness, inconsistency, trauma, and, at times, apathy. The contradictions of nuclear culture help explain why historical studies—and, indeed, the very national memory—of the Atomic Age often fall into analytical traps of nostalgia, conspiracy, and bald ridicule. For the same reasons, previous studies have neglected to give voice to individual American civilians and the jumbled fears, ideas, and hopes that helped them understand their role as citizens of the Atomic Age. The narrative that follows seeks to embrace the incongruities, complexities, emotions and feeling, and logic

³² See also Denise Kiernan, *The Girls of Atomic City: The Untold Story of the Women Who Helped Win World War II* (New York, NY: Simon & Schuster, Inc., 2013) and Kate Brown, *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters* (New York, NY: Oxford University Press, 2013).

³³ Masco, *Nuclear Borderlands*, 337.

and reason, in order to understand the varied ways American citizens in the early Cold War made sense of a nation—and a world—that had been fundamentally remade by the advent of nuclear weapons.

CHAPTER 2

PUBLIC DEMANDS, PUBLIC ACTION:

CIVIL DEFENSE AGITATION AT THE GRASSROOTS

The nuclear bombings of Hiroshima and Nagasaki that signaled the much-anticipated end to World War II marked, for many Americans, the start of a strange new era: the Atomic Age. From the moment people on the home front caught wind of the “new bomb, so powerful that only the imagination of a trained scientist could dream of its existence,” Americans were conflicted about its meaning.¹ From the start, postwar peace was tempered by trepidation about the war to come. Average Americans assumed that another war would come soon, and that it would be characterized by an entirely new level of destructiveness. Thus, despite the fanfare and celebrations, the soldiers’ triumphant return home, and a deep desire to return to normalcy, the looming presence of war did not end in 1945. The postwar years were defined, in fact, by the nation’s bracing for the next war.

Despite the possibly damaging impact on public morale, federal leaders, public intellectuals, and popular media did little to prevent frightening imaginings of future war from circulating in American culture after World War II ended. As early as November 1945, *Life* magazine’s feature article, titled “The 36-Hour War,” illustrated in great detail

¹ Boyer argues that this quote, from radio news broadcaster Don Goddard, was the very first report that most Americans heard about the atomic bomb. Quoted in Paul Boyer, *By the Bomb’s Early Light: American Thought and Culture at the Dawn of the Atomic Age* (New York, NY: Pantheon, 1985), 4.

what its editors believed would be the technological horrors of nuclear war.² Similar speculative imaginings soon became a staple of popular media.³ Real images of nuclear explosions occupied the news cycle in the summer of 1946 as the United States resumed weapons testing at Bikini Atoll, marking the first time the curtains were drawn back on wartime Manhattan Project secrecy. At the same time, Americans followed with great interest as nuclear scientists warned of what could become of a world without international control of nuclear weapons.⁴ In June 1947, the *Bulletin of the Atomic Scientists* instituted “The Clock of Doom,” which portrayed the world as just eight minutes from nuclear catastrophe. Over the course of these years, although the United States was still the only nation to hold nuclear weapons, experts declared that the Soviet Union was not far behind in developing nuclear arms of their own.⁵ Sure enough, the Soviets caught up, detonating their first atomic weapon in 1949.⁶

² “The 36-Hour War,” *Life*, November 19, 1945.

³ See, among others, Spencer R. Weart, *Nuclear Fear: A History of Images* (Cambridge, MA: Harvard University Press, 1988); Stephen J. Whitfield, *The Culture of the Cold War* (Baltimore, MD: Johns Hopkins University Press, 1996); and Margot A. Henriksen, *Dr. Strangelove’s America: Society and Culture in the Atomic Age* (Berkeley, CA: University of California Press, 1997).

⁴ For more on the scientists’ movement, see especially Alice Kimball Smith, *A Peril and a Hope: The Scientists Movement in America, 1945-1947* (Chicago, IL: University of Chicago Press, 1965), 47-106; Andrew Jewett, *Science, Democracy, and the American University: From the Civil War to the Cold War* (New York, NY: Oxford University Press, 2012), 225-301; Mark Solovey, *Shaky Foundations: The Politics-Patronage-Social Science Nexus in Cold War America* (New Brunswick, NJ: Rutgers University Press, 2013); and Jessica Wang, “Scientists and the Problem of the Public in Cold War America,” *Osiris* 17 (2002).

⁵ For American predictions about the progress of the Soviet nuclear program see, for example, John M. Hancock, former U.S. delegate to the United Nations Atomic Energy Commission, who, in May 1948, claimed that the Soviet Union was

The nuclear horrors of the last war were not easily forgotten, either. John Hersey's devastating narrative of six survivors of the bombing of Hiroshima, first published in 1946 in a special issue of *The New Yorker*, quickly became a best seller in book form. Several official government reports provided Americans with physical images and quantifiable calculations of the devastation wrought in Japan. Nuclear weapons began taking on symbolic meaning, too. Fourteen months after the bombings of Hiroshima and Nagasaki, after hearing a news report on an Armistice Day celebration featuring an atomic bomb-shaped cake, Eva Hill of Chattanooga, Tennessee, was disgusted. Noting that several Navy admirals had attended the party, she wrote to President Truman: "I was horrified and embarrassed for our Country that men in such high and important positions could be guilty of such an atrocity, commemorating with levity the destruction of thousands of human beings."⁷ Even for Americans many thousands of miles away, the memories of Hiroshima and Nagasaki served as lasting reminders of past and present nuclear terror.

"about twenty years away from completing an atomic bomb" in "Soviet Atom Bomb Held 20 Years Off" *New York Times*, May 6, 1948, 37. As late as early August, 1949, the *New York Times* reported that the best information held that it would take until 1952 for the Soviet Union to have the bomb in William L. Laurence, "Atom-Bomb Targets Held Limited; Relatively Few Cities Big Enough," *New York Times*, August 2, 1949, 4. The Finletter Air Policy Commission's report entitled *Survival in the Air Age* suggested that the Soviet Union would be capable of a nuclear attack by January 1953. See Air Policy Commission, *Survival in the Air Age* (Washington, DC, GPO: 1948).

⁶ To reiterate, in this study, I use the term *nuclear weapons* as a general category that encompasses both *atomic* and *thermonuclear* weapons. Where further specificity is required, I will indicate as such.

⁷ Eva Hill to President Harry S. Truman, November 12, 1945; Folder "Atomic Bomb," Box 1686; White House Central Files: Official File 692-A; Truman Papers, Truman Library.

The tension of being simultaneously at war and not at war defined American life in the postwar years. Indeed, the very term *cold war* is encoded with this ambiguity and contradiction.⁸ With no true pause separating the finished war from the task of preparing for the war to come, Americans remained partially in the mentality of war. And, as Americans had experienced just months and years earlier, wartime carried certain public obligations, from rationing and a draft to more ambiguous requirements of loyalty. The total war model of World War II, with the federal state at its center and a demand for unity, had become familiar and well-rehearsed. It is unsurprising, then, that so many Americans carried over the civilian experiences of World War II into their expectations for civilian life during the Cold War. But a parallel current of public information insisted that the new era was unlike anything they had ever known. More so than ever before, all Americans—whether soldier or citizen—could expect to suffer personally if war should come. While lessons of wartime applied, the war of the Atomic Age would require new ideas creatively overlaid onto the experiences of wars past.

Because nuclear war reoriented the front lines to the home front, civilians would be required to “fight” on an individual level: in homes, schools, shops, or factories. And in the Atomic Age, according to strategists, pundits, and policymakers, basic survival—not the acquisition of territory or the defeat of an enemy’s military—would be the key to winning the war. But how would the project to ensure the survival of the home front be organized? Would the civilian defense infrastructure of World War II be enough? Most commentators agreed that rationing and bond rallies would not meet the threat of nuclear war. To this end, the federal government made a conscious choice to refer to Cold War

⁸ See Mary L. Dudziak, *War Time: An Idea, Its History, Its Consequences* (New York, NY: Oxford University Press, 2012), chapter 3.

home-front survival programs as *civil defense* to distinguish them from their World War II *civilian defense* predecessors.⁹

Aside from its renaming, however, the federal government was slow to take action in organizing a system of national civil defense. State agencies spent much of the late 1940s studying the problem of civil defense and discussing its merits in closed-door sessions of Congress. Although the news media occasionally reported on these sessions, Americans knew little about the proceedings. Then, in 1949, President Truman assigned temporary civil defense responsibility to the National Security Resources Board (NSRB), a mobilization agency created by the National Security Act of 1947. Although the NSRB made little discernable progress in mobilizing civil defense participants, public attention to civil defense—and the United States' current lack thereof—increased dramatically. Apparent federal inaction and the deteriorating international climate of the late 1940s and early 1950s drove citizens to demand a broader, and more urgent, range of solutions to meet the nuclear threat. Many citizens felt that the nation was “in a state of apathy and disinterestedness” about the dangers of the Cold War.¹⁰ Hoping to combat the fatalistic attitude that “if an atom bomb falls there is no hope,” many thousands of Americans wrote to their elected officials and to newspapers across the country expressing their faith

⁹ William A. Gill, Assistant Director, Civilian Mobilization Office, National Security Resources Board, memo to Paul J. Larsen “Re: ‘Civilian Defense’ Versus ‘Civil Defense,’” June 29, 1950; E4-1, Box 1; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); Records of the Office of Civil and Defense Mobilization [OCDM]; Record Group 304; National Archives at College Park, MD (hereafter referred to as OCDM-NACP).

¹⁰ Cairoli Hegani to President Harry S. Truman, February 8, 1950; E4-3, Box 5; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

in a civil defense program and their willingness to remobilize for the demands of the Atomic Age.¹¹

As Americans agitated for a national civil defense program, they invoked a variety of claims. Along with the Daughter of the American Revolution who argued that her “desire for freedom [was] as strong” as that of her seventeenth-century ancestors, Americans participated in a national dialogue about civil defense that had direct ties to notions of cultural citizenship.¹² Concerned Americans believed that to take part in developing solutions to the threat of nuclear war in this framework was to participate in American democracy and to contribute to the betterment of the nation’s future. Desire to preserve the American way of life drove these citizens into the public forum.

Throughout the immediate postwar years, Americans worked to incorporate the requirements of nuclear survival into the existing organization of society. As they had in World War II, Americans saw civil defense as a broad national project, so they looked to the federal state to take the lead. Americans also understood civil defense as something that should be supported by all levels of government and society, including civic associations, businesses, and individual effort. Thus, although an overwhelming number of Americans called for a strong centralized federal program of civil defense, they also saw opportunities to make civil defense a part of non-governmental organizational and cultural traditions. Indeed, many Americans believed civil defense could be incorporated

¹¹ G. L. Simpson to Public Relations Section, Atomic Energy Commisison, January 18, 1951; E4, Box 92; Security-Classified General Correspondence of the Board, July, 1949-April 1953 (Entry #31); OCDM-NACP.

¹² Helena D. Wise to President Harry S. Truman, December 5, 1950; Folder “Miscellaneous (1945-1950)”; Box 1915; White House Central Files: Official File 2965; Truman Papers, Truman Library.

into existing civic life; they imagined not Atomic Age civic life, but American civic life in the Atomic Age.

Members of American society agitated for civil defense in a variety of civic and private spaces, including town halls, clubhouses, and living rooms.¹³ This chapter will examine several loci of grassroots solutions that emerged from the public in the years between the end of World War II and 1952, just after the federal government at long last established the Federal Civil Defense Administration (FCDA). First, civic associations sought to make civil defense part of their organizational missions. As organizations with a history of cooperation with government and communities as well as access to grassroots participant bases, these groups demonstrated that civil defense could easily integrate into American civic life. Likewise, businesses and entrepreneurs saw civil defense as something that easily aligned with postwar patterns of consumption and consumerism. For these Americans, civil defense could be an economic opportunity *and* a means for expressing support for the nation. By contrast, other civil defense advocates framed the readiness of individual Americans as the most critical aspect of national preparedness. These Americans endorsed public education, personal health, and emotional stamina as essential components of the Atomic Age citizen, and drew direct links between the fitness of individuals and the strength of the national community.

Despite the prevalence of forward-thinking solutions, however, citizens often used the experience of previous wars to articulate their demands for public safety in the

¹³ Notably, according to a University of Michigan Survey Research Center study in 1947, approximately 70% of Americans polled had discussed the bomb with other people in social settings. University of Michigan Survey Research Center, *Public Reaction to the Atomic Bomb and World Affairs: A Nation-Wide Survey of Attitudes and Information* (Ann Arbor, MI: University of Michigan Press, 1947), 120.

wars to come. Faced with an unfamiliar way of understanding war, individual civilians overwhelmingly looked to a familiar authority—the federal state—to create and operate a cohesive national program of civil defense. But what, then, would be the role of local and state governments? While municipal and state leaders also hoped that the federal government would fund local civil defense, they encountered resistance from federal agencies that were unwilling or unable to assume centralized responsibility. As the final section of the chapter shows, by the early 1950s the relationship between local control and federal authority became the premier site of conflict over how civil defense would fit into the nation's existing governing structures. As constituents, local leaders, and federal policymakers clashed over issues of authority and responsibility, they defined and redefined the contours of American civic life in the Atomic Age.

Across these disparate proposals and solutions is a vocabulary of national interest: each intervener positions him- or herself as a dutiful citizen in pursuit of national survival. Regardless of the specifics of their civil defense demands, Americans consistently used the rhetoric of national unity, resolve, strength, civic duty, and democracy. Thus even when civilians did not propose direct federal involvement, they invoked the state and the national community. As such, civil defense fit into existing rubrics of civic responsibility and democratic participation, all of which had been shaped by the experiences of World War II. These grassroots actions, performed during the earliest moments of the Atomic Age, demonstrate that Americans saw the nuclear threat and its challenges to public safety as integrally linked to their ideas about governance and citizenship.

Civic Organizations and Associational Life

National civic organizations—from charitable agencies to veterans’ organizations to youth scouting associations—were among the earliest and most vocal advocates of a national civil defense plan. Many of these groups imagined their role as that of an intermediary between state structures and grassroots constituencies, and thus argued that their organizations uniquely qualified to assist in the civil defense effort. Members of these groups wrote to and spoke with organizational leaders, helped craft organizational policy and declarations, and contacted elected officials. Their pledges of support and suggestions for programming demonstrate that these Americans saw civil defense as something that could fit within the framework of American civic life. Until the federal government could establish an operational civil defense plan in the early 1950s, however, civil defense administrators declined nearly all such offers of support. Nevertheless, national organizations expressed an “intense interest in civil defense,” revealing a deep faith in the structures of American civic life.¹⁴

Long before the Soviet atomic test and the outbreak of the Korean War, veterans’ groups agitated for a national civil defense plan, arguing that their status as veterans made them especially equipped to lead civil defense programs. Over the course of the late 1940s, the Veterans of Foreign Wars (VFW), the American Legion, Amvets, and other veterans’ organizations each approached federal officials with a desire to claim a stake in the national defense program. The VFW requested that they have a permanent liaison on the national civil defense staff. The Amvets developed an elaborate personal

¹⁴ John A. De Chant, Public Affairs Division, memo to Administrator Millard Caldwell, December 28, 1950; E4-2, Box 1; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

identification program and recommended it for the national civil defense plan. The Legion's Executive Committee passed several critical resolutions demanding that the federal government move more quickly to establish its national plan.¹⁵ These organizations had called upon the special expertise of their constituents, arguing "we... who only a short while ago laid down our arms are fully cognizant of the vital need for a national civilian defense plan."¹⁶ For veterans' groups, military service not only provided an institutional organization to support civil defense, but their members' past military service made them uniquely qualified to understand the dangers and needs of the Atomic Age.¹⁷ But by the early 1950s, officials in Washington had become frustrated that veterans' groups requested "specific share[s] of the civil defense program" and a privileged position within the civil defense hierarchy.¹⁸

For many Americans thinking about nuclear civil defense, the nation-wide structure of civic organizations made them especially valuable in civil defense, a job that would require an effort on a national scale. Many organizational leaders were eager to

¹⁵ Paul J. Larsen, memo to John A. De Chant, "Report on Second Day of Public Hearings for Civil Defense," March 24, 1950; E4-2, Box 1; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

¹⁶ Harold Russell, National Commander, Amvets, telegram to W. Stuart Symington, September 9, 1950; E4-2, Box 2; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

¹⁷ In 1948, writing directly to Truman, the Director of the VFW said it could supply "hundreds of thousands of veterans with combat experience in our two World Wars who would consider it an honor to serve their country in this important aspect of internal defense." Omar B. Ketchum, Director, Veterans of Foreign Wars, to President Harry S. Truman, September 7, 1948; Folder "(1945-Jan 1951); Box 1842; White House Central File: Official File 1591; Truman Papers, Truman Library.

¹⁸ De Chant to Caldwell, December 28, 1950.

distribute publications and information through their internal communication structures. But perhaps more importantly, civic leaders argued, local civil defense units could tap into the existing local bases within national organizations. As a Boy Scout troop leader from Houston, Texas, put it, “ROTC, labor unions, church clubs, various clubs and lodges, scout and senior scout units: these should all take their part behind government rescue teams.”¹⁹ Suggesting that American Legion posts be deployed to organize civil defense in their own communities, Reverend John Blythe of Missouri argued, “with each and every town and city so protected then let five hundred Russians land any where. A nation wide organization like this would save the day.”²⁰

The Boy Scouts of America (BSA) argued that scouting organizations were ideal candidates to assume civic leadership in civil defense. In late 1950, the BSA published a booklet titled *Civil Defense Guide for Council and District Planning*, outlining ways to incorporate civil defense practices into existing scout curriculum. The guide, published for BSA leadership and not scouts themselves, noted that “it is not new skills that are required” for civil defense, “but proficiency in those that have always been part of our program.”²¹ The guide suggests that scouting troops could stage a canoe trip to practice equipment evacuation, or a night hike to rehearse a missing persons search or emergency

¹⁹ Delwyn Amerine to the National Civil Defense Authority, December 29, 1950; E4-3, Box 5; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

²⁰ Reverend John R. Blythe to Charles E. Wilson, Director, Office of Defense Mobilization, December 23, 1950; E4-3, Box 5; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

²¹ Boy Scouts of America, “Civil Defense Guide for Council and District Planning,” 1950, 5; Folder “(1945-Jan 1951); Box 1842; White House Central File: Official File 1591; Truman Papers, Truman Library.

conditions. All activities could theoretically engage scouts' families and the community at large; for the missing persons activity, the guide suggests, a "certain reality can be attained by 'borrowing' some Scout's younger brother as the lost child."²² The writers of the guide cautioned troop leaders to "build a normal philosophy around the mobilization idea," a balance between intensity and enrichment, so as to not extinguish interest in the training. As in all other aspects of their organizational principles, the BSA saw civil defense training as another way they could "[produce] men of character, trained for citizenship," while modeling appropriate behavior for all Americans.²³

Despite their enthusiasm, the Boy Scouts received little endorsement from federal civil defense planning authorities. In August 1950, the BSA had submitted a draft of their publication, "The Role of the Boy Scouts of America in Civil Defense," to the NSRB, requesting approval and endorsement. The pamphlet incited a heated internal debate within the civil defense office about how to handle the Scouts' request. Many NSRB officials felt that scout participation was useful in theory, but as the head of public relations John A. De Chant put it, "I frankly feel that since nearly 50 organizations have solicited us for similar statements we would put ourselves in a very bad light... from a community relations standpoint we are frankly not ready for it and it will be a long time before the general program is shaped up locally so that we could prepare such 'charters.'"²⁴ After encountering resistance from the NSRB, executives from the BSA instead looked to the White House for approval. Truman heartily upheld the Boy Scouts'

²² Ibid., 30.

²³ Ibid., 5.

²⁴ John Auerbach to Eric Biddle, August 28, 1950; E4-3, Box 5; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

qualifications, writing that the organization's membership and commitment to the motto, "Be Prepared," was one of the nation's greatest assets "in the building of a peaceful world."²⁵ Armed with Truman's endorsement letter printed as a preface, the BSA moved forward with the guide's distribution, marshaling the approval of President Truman over that of the federal agency which was overseeing civil defense at that time.

Whether the Boy Scouts wrote to national civil defense planners in official, organizational capacities or as individual troops, they emphasized that their tradition "to learn to save ourselves and others" paralleled the civic ethos that should undergird civil defense.²⁶ The BSA saw themselves, quite explicitly, as responsible for the safety of each troop's community. Scholars have noted that the scouts' quasi-military configuration lent an organizational and metaphoric legibility to the national civil defense organization that would soon materialize in the 1950s.²⁷ However, rather than relying on its own internal resources and traditions, the BSA based its nuclear curriculum on the only federal information on civil defense available to the public by 1950.²⁸ The scouting guide went so far as to adapt the NSRB's illustration for the proposed national civil defense plan, which features a chain of responsibility radiating from an individual out to the federal government. The scouting guide replaces the NSRB's generic citizen with a scout, but the

²⁵ Boy Scouts of America, "Civil Defense Guide for Council and District Planning."

²⁶ Amerine, December 29, 1950.

²⁷ Andrew D. Grossman, *Neither Dead nor Red: Civil Defense and American Political Development During the Early Cold War* (New York, NY: Routledge, 2001), 81-3.

²⁸ Boy Scouts of America, "Civil Defense Guide for Council and District Planning," 23.

organizational scheme is otherwise identical.²⁹ The BSA thus saw its scouts as fitting comfortably into the emerging logic of civil defense, and saw civil defense as an easy fit into the organization's existing civic philosophy of serving community and nation.

More broadly, national children's organizations served as a focal point of agitation for a civil defense program, in part because children held a privileged position in the imagined future of the American way of life. The Boys' Club of America, the Camp Fire Girls of America, Kiwanis, the Junior Chambers of Commerce (Jaycees), and educational organizations all wrote to their elected officials to describe planned programming, pledge support and resources, or to request instructional information.³⁰ Civic groups that served children often tapped into the language of family and the nation's future to discuss civil defense. And, as historian JoAnne Brown has pointed out, children's organizations that promoted civil defense had the added benefit of teaching parents simultaneously.³¹

The civic value of children's civil defense practice had currency among individual Americans outside civic organizations as well. Kathryn W. Noonan from California suggested that the federal government build an extensive system of camps for children

²⁹ Ibid., 6.

³⁰ For example Mrs. N. K. Beals, Parent-Teacher Association President, Franklin, PA, to Department of National Defense, January 1, 1951; E4-3, Box 5; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

³¹ JoAnne Brown, "'A Is for Atom, B Is for Bomb': Civil Defense in American Public Education, 1948-1963," *Journal of American History* 75 (June 1988): 70.

outside of major cities to protect them in the event of an attack.³² In protecting the children and “bringing them closer to nature and God,” she claimed, the United States could assure responsible and successful leadership for the nation’s future. As an added incentive, Noonan noted, the plan would reduce juvenile delinquency, another social concern among postwar Americans.³³

Other smaller nationally-organized civic associations appealed to federal authorities for a role in civil defense measures but were often dismissed by agency officials. Voluntary associations from the National Council of Jewish Women to American Women's Voluntary Services to American War Dads petitioned the national civil defense agencies for instructions to disseminate to their local chapters, directives for how to help the war effort, and other means for supporting the civil defense mission.³⁴ For the most part, however, the NSRB could not use the services offered by these types of national organizations. A typical response letter throughout 1950 read: “It will be a matter of some weeks before we are in a position to pass on to you and your members a substantial message indicating how and where your organization will be counted upon in

³² Congressman Leroy Johnson to Paul J. Larsen, “Regarding Mrs. Kathryn W. Noonan,” March 16, 1950; E4-1, Box 1; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

³³ See James B. Gilbert, *A Cycle of Outrage: America’s Reaction to the Juvenile Delinquent in the 1950s* (New York, NY: Oxford University Press, 1986); Alan C. Petigny, *The Permissive Society: America, 1941-1965* (New York, NY: Cambridge University Press, 2009), chapter 5.

³⁴ See OCDM-NACP, Entry #31-A, Records Relating to Civil Defense, 1949-1953. More specifically, see: Mrs. Irving M. Engel, National President of the National Council of Jewish Women, Inc., Letter to W. Stuart Symington,” August 15, 1950; E4-2, Box 4; Mrs. C. Ruxton Love, President of American Women's Voluntary Services, Inc., to Paul J. Larsen, May 16, 1950; E4-2, Box 2; or American War Dads to Harry S. Truman, January 21, 1951; E4-2, Box 2.

the Civilian Defense program.”³⁵

Perhaps as a response to federal reluctance, other national organizations decided that they could be most effective operating outside the purview of federal agencies. The National Council for Community Improvement (NCCI), for example, which was an umbrella organization for more than sixty civic associations and clubs, believed that its private funding and established volunteer base could be the key to “[securing] the greatest possible recognition by all citizens themselves that each individual man, woman and child has his own responsibility in this battle to protect the freedom loving people of the world against those forces that are threatening world peace and liberty.”³⁶ In August 1950, House Representative Clarence Cannon of Missouri wrote to President Truman describing the National Council’s mission and suggesting that the federal government endorse their private activities.³⁷ For Cannon, it seemed that relying on the NCCI would lend thrift and efficiency to civil defense operations, while promoting public awareness, citizen support, and bolstering public opinion. Moreover, because it honored the autonomy of local and state governments, Cannon saw the NCCI’s organizational separation from the federal government as an advantage.

Occasionally, non-government agencies openly encouraged Americans to conduct civil defense practices outside the bounds of federal authority. The Civilian Protection

³⁵ Paul J. Larsen to Mrs. C. Ruxton Love, President, American Women’s Voluntary Services, Inc, July 5, 1950; E4-2, Box 2; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

³⁶ Representative Clarence Cannon (D-MO) to President Harry S. Truman, August 17, 1950; Folder “(1945-Jan 1951); Box 1842; White House Central File: Official File 1591; Truman Papers, Truman Library.

³⁷ Ibid.

Group (CPG), a think tank on civilian and industrial protection in New York City, was one such organization. Members of the CPG were alumni of the Civil Protection School at Amherst College in World War II. An article in *Armed Force* in August 1950 praised the CPG for its down-to-earth, scientifically-informed, non-competitive consideration of the problem of civil defense in industrial centers. The article argued that “if only those genuinely possessed of the basic knowledge to participate in the activity” of careful non-government planning, groups like the CPG could exist across the country. Citing a lack of federal will and action, *Armed Force* aimed to convince those communities that were waiting for federal guidance to go ahead and begin the discussion: “[N]o censure can be attached to the type of ‘grass roots’ exploitation of local abilities and experience,” so long as such organizations did not interfere with official planning and programs.³⁸

The Civilian Protection Group and its *Armed Force* profile illustrate an example of an organization turning away from federal leadership and looking to private resources to address civil defense needs. Staffed by persons with military, civic, or scientific expertise, but operating separately from state-run programs, organizations such as the CPG existed in a liminal space between official and unofficial civil defense. Highly organized but intentionally non-state, such groups emerged out of a perceived need for urgent action.

Civil Defense and the Postwar Consumer Landscape

American businesspeople and entrepreneurs also developed solutions to assure nuclear survival, often seamlessly blending postwar consumerism and notions of good citizenship with civil defense goals. They proposed a range of solutions, both in

³⁸ “A ‘Grass Roots’ Program for Civil Defense,” *Armed Force*, August 19, 1950.

partnership with and independent of the federal government. Many of these men and women believed civil defense accorded with the emerging patterns of postwar consumption, including homeownership, suburbanization, and the use of new media. Their ideas and proposals demonstrated that entrepreneurs not only saw a need for civil defense but also viewed the American consumer market as a solution to defending the nation against the nuclear threat. As the Executive Secretary of the Bicycle Institute of America, a trade organization for manufacturers, claimed, it “is in this spirit of public service that the Bicycle Institute offers its wholehearted cooperation to the country’s civilian defense agencies.”³⁹ Businesspeople across the nation echoed similar sentiments, eager to defend the nation in any way they could for future wars.

But as Americans began discussing the possibilities of civil defense in the Atomic Age, they faced a lasting legacy of the previous war: a housing shortage.⁴⁰ By some estimates, Americans needed between 3.5 and 5 million new homes at the war’s end.⁴¹ As homebuilders and contractors rushed to construct new housing, some used nuclear safety as an amenity and selling point. The “Atom Bomb House,” for example, developed by

³⁹ John Auerbach to Eric Biddle, August 28, 1950; E4-3, Box 5; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

⁴⁰ For more on the postwar housing shortage, see Gwendolyn Wright, *Building the Dream: A Social History of Housing in America* (New York, NY: Pantheon Books, 1981); and Rosalyn Baxandall and Elizabeth Ewin, *Picture Windows: How the Suburbs Happened* (New York, NY: Basic Books, 2000).

⁴¹ Lizabeth Cohen, *A Consumer’s Republic: The Politics of Mass Consumption in Postwar America* (New York, NY: Vitage Books, 2004), 122. The number of Americans needing housing in the postwar period was even more acute among black Americans. See *ibid.*, 170-3. Citing Richard O. Davies, Gwendolyn Wright states that the most conservative estimate from government reports was 5 million. Richard O. Davies, *Housing Reform During the Truman Administration* (Columbia, MO: University of Missouri Press, 1966), 25. See Wright, *Building the Dream*, 242.

industrial designers Jacques Martial and Robert C. Scull in 1946, was a concrete and lead compound that featured heavily-fortified walls and roofs, and located much of the living space underground.⁴² In many ways, the design incorporated many of the elements of Prairie School architecture from much earlier in the century: strong horizontal lines, a cantilevered roof, and clerestory windows. However, the home's picture windows and ranch-style layout is much more typical of contemporary postwar home design.⁴³ Perhaps most notably, Martial and Scull's design relied on significant acreage to surround the home, all enclosed by a concrete embankment. The space needed to carry out such a design could only be found in suburban or rural America.

Whenever they could, businesspeople marshaled the authority of the state in order to position themselves as credible partners in civil defense. For example, builders frequently petitioned the Atomic Energy Commission (AEC) and civil defense agencies for official specifications for constructing bomb shelters in private homes. Until the early 1950s, no such information existed at the federal level, although officials repeatedly responded to queries by stating that the research was in progress and that they hoped to make it available to the public soon. This delay did not stop companies from advertising their shelter construction services "in cooperation with the civil defense emergency

⁴² Jacques Martial and Robert C. Scull, "Atom Bomb House," *Architects' Journal* (February 28, 1946), as cited in Cynthia Lee Henthorn, *From Submarines to Suburbs: Selling a Better America, 1939-1959* (Athens, OH: Ohio University Press, 2006), 213-4.

⁴³ For a brief discussion about how postwar suburban home design incorporated elements of the Prairie School with industrialized manufacturing techniques, see Wright, *Building the Dream*. Also see Baxandall and Ewin, *Picture Windows*, 132-3.

program.”⁴⁴ These words, which came from an advertising billboard next to a construction site in a private back yard in Hermosa Beach, California, added legitimacy to a builder’s product, even if no cooperation with the federal government had occurred. In instances such as this, the very mention of civil defense carried the authority of the state.

Others in the construction industry moved to align their professional practices with Atomic Age concerns. In 1950, the American Institute of Architects (AIA) adopted a position promoting the manufacture of modular and prefabricated housing as a means for meeting the needs of the Cold War emergency.⁴⁵ In defending continued funding for housing research programs, *Architectural Record* saw the “modular coordination concept” as an issue of wartime mobilization. If an attack should occur, many civilians would be in urgent need of housing.⁴⁶ Prefabricated or modular housing offered a much more efficient means of construction. Moreover, such construction practices made it possible to conserve national resources and building materials during the war that followed. The AIA’s leadership believed that the standardization of modular construction could bring wartime emergency housing practices into the Atomic Age, claiming that future nuclear war emergencies would be much lengthier. As they argued, “victory in

⁴⁴ “West Coast Gets Ready,” *Life*, March 12, 1951, 67.

⁴⁵ For more on postwar housing and prefabricated buildings, see Tom Wolfe and Leonard Garfield, ““A New Standard for Living””: The Lustron House, 1946-1950,” *Perspectives in Vernacular Architecture* 3 (1989).

⁴⁶ For more on the temporary housing (“tempos”) occupying the National Mall during and after World War II, see David F. Krugler, *This Is Only a Test: How Washington, D.C. Prepared for Nuclear War* (New York, NY: Palgrave Macmillan, 2006), 17.

Korea will not ‘end the war,’ as it was hoped V-J Day would do.”⁴⁷ In their response to the threat of nuclear war, the AIA simultaneously promoted mobilization goals and modern building practices and standards, while appealing to developers and the business community who stood to benefit from adapting to the housing needs of a nuclearized world.⁴⁸

Many other American entrepreneurs saw mobility—already a powerful cultural force in postwar society—as an urgent civil defense need if a nuclear war should occur. G. C. Stuart of Atlanta, Georgia sent a proposal to the NSRB outlining his development of large extension trailers as mobile housing units. Calling each trailer a “migratory bird” or a “home on the range,” Stuart included lyrics to a song in his proposal that featured the trailers’ use as a vacationing device and as a resource for modern disasters: “a home on the range for every American Family before the Atom flies and the Bombs fall: then, if war comes or disaster strikes, we can all work as industriously as the bee by day and by night, or we can scatter as the quail from the dreaded guns sight [sic].”⁴⁹ Stuart was among those entrepreneurs who recognized the value of mobile housing. However, he

⁴⁷ Harold D. Hauf, Editor, “Building Research and Modular Coordination Are Needed Now,” *Architectural Record* (November 1950).

⁴⁸ Ralph R. Kaul, Housing and Community Facilities Office at the NSRB, advocated prefab housing for the military for many of the same reasons. See Ralph R. Kaul, Housing and Community Facilities Office, National Security Resources Board, to Hugh Curran, President, Mobilhome Corporation of America, December 29, 1950; E2-9, Box 90; Security-Classified General Correspondence of the Board, July, 1949-April 1953 (Entry #31); OCDM-NACP. For more on the AIA and nuclear civil defense, see David Monteyne, *Fallout Shelter: Designing for Civil Defense in the Cold War* (Minneapolis, MN: University of Minnesota Press, 2011).

⁴⁹ G. C. Stuart to Paul J. Larsen, March 7, 1950; E2-9, Box 90; Security-Classified General Correspondence of the Board, July, 1949-April 1953 (Entry #31); OCDM-NACP.

seamlessly blended the postwar values of automobile culture, mobility, vacation, leisure time, and flexibility with the Cold War value of quick evacuation.⁵⁰

American businesspeople marshaled mobility as an asset as they began to market suburban developments in the late 1940s and early 1950s, as well. Cashing in on the spatial shift to the suburbs that was already in motion, builders and designers called upon a variety of methods for selling civil defense alongside suburban amenities. Very early on, civil defense discussions normalized the relationship between space and safety. From the earliest nuclear blast studies forward, a major objective of nuclear preparedness was permanently relocating American citizens and factories out of easily-targeted cities. Moreover, nearly every piece of educational media illustrated a nuclear weapon's destructive potential using a bullseye image superimposed over an aerial image, showing concentric rings of relative safety radiating out from a hypothetical city-center ground zero. The farther one resided from the city center, the safer one could assume to be. As Americans began the postwar exodus from cities into the suburbs, they left behind not only racially-charged imaginings of crime and poverty, but also imaginings of nuclear devastation as well.⁵¹

Some builders saw opportunities to combine the material conditions of postwar suburban life with the civil defense effort. In December 1950, a Northern Californian

⁵⁰ More than one inventor wrote to federal agencies with ideas about trailers, campers, and other devices that provided mobile shelter. See also Jacob E. Hurwitz to W. Stewart Symington [sic], Chair, National Security Resources Board, July 10, 1950; E2-9, Box 90; Security-Classified General Correspondence of the Board, July, 1949-April 1953 (Entry #31); OCDM-NACP.

⁵¹ For an excellent analysis of the parallels between urban renewal and civil defense dispersal, see Monteyne, *Fallout Shelter*, 1-12. Also see Tom Vanderbilt, *Survival City: Adventures among the Ruins of Atomic America* (Princeton, NJ: Princeton Architectural Press, 2002).

contracting company, Paddock Engineering, argued—in an extensive report—that swimming pools would prove critically important in the event of a nuclear attack. Below-ground pools, the company claimed, could provide communities with much-needed water for drinking and fire-fighting if municipal water supplies failed. The proposal eventually reached the fledgling FCDA, which reviewed Paddock’s proposal and respectfully disagreed with its conclusions, citing the danger in declaring such a program universally applicable or economically sound.⁵² Still, Paddock’s proposal illustrates a willingness to incorporate aspects of Atomic Age life in the suburban backyard. Indeed, in other instances, a shelter literally took the place of a backyard pool. In a photograph that ran in *Life* in early 1951, children pose happily on what appears to be a pool deck, flanked by chaise lounges and a sun umbrella. In this new version of suburban comfort, however, the concrete deck ends abruptly in freshly turned earth and the maw of an underground shelter door.⁵³

Other developers, however, saw the nuclear threat and civil defense goals as impediments to commercial development. A developer outside of Dayton, Ohio, had difficulty getting his housing project off the ground because of the tract’s proximity to Wright Patterson Air Force Base in Ohio, a critical target area. However, federal officials believed the project could earn support if the builder marketed his project as an opportunity for industrial and residential dispersal, a boon for civil defense practices.⁵⁴

⁵² Millard F. Caldwell to Senator William F. Knowland, December 26, 1950; E4-1, Box 1; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

⁵³ “West Coast Gets Ready,” 68.

⁵⁴ Tracy B. Augur, memo to Presley Lancaster, “Report on Telephone Conversation with Mr. Robert L. Pine of Dayton, Ohio,” August 15, 1951; E2-3, Box 89; Security-

The scenario simultaneously illustrates both the economic opportunity and restrictiveness created by the nuclear threat. Dayton's suburban development also demonstrates how patterns of consumerism were interrupted by and adapted to the exigencies of the Atomic Age.

Although many of these grassroots concerns and civil defense proposals reached the NSRB and the FCDA, federal agencies typically declined requests for business partnerships, citing an inability to enter into contracts with non-government organizations. Eventually, the FCDA and subsequent federal agencies would cooperate with organizations such as the Ad Council and other industry groups to produce civil defense films, printed material, and instructional media. This kind of public-private partnership in federal civil defense would become the norm by the mid-1950s. However, in the earliest days of federal organization, civil defense agencies were reluctant to commit to involving themselves too deeply in private industry, in large part because they lacked the organizational mandate to do so. Nonetheless, a host of American businesspeople wrote—and continued to write—to officials with ideas and offers to help.

Preparing the American Individual

Individuals who pushed for civil defense also found other creative ways to link the American way of life to public safety initiatives. Although they relied on the broad postwar consumer market to sell specific products in the home, these civil defense advocates held a deep concern for the individual: their knowledge, their fitness, and overall, their ability to survive. These Americans believed that every man, woman, and child needed to learn about civil defense. Only as a nation of strong individuals, they

Classified General Correspondence of the Board, July, 1949-April 1953 (Entry #31); OCDM-NACP.

reasoned, could the United States prevail in the wars to come. But how could one assure the universal readiness of all civilians? Civil defense advocates devised a variety of programs for communication, education, and public health, all aimed at promoting the preparedness of the individual citizen.

Advertisers, producers, and manufacturers insisted that the relatively new medium of television, in particular, offered civil defense planners unparalleled access into the American home. In 1950, fewer than one in ten American households owned televisions.⁵⁵ However, the radio industry had partnered with federal agencies during World War II, and broadcasters and advertisers looked to television as a logical extension of that partnership. In early 1951, just after the Federal Civil Defense Act passed, a public relations firm in Chicago sent President Truman a proposal for a publicly-funded program of television set distribution that would provide a wide communication network in the event of an emergency. Aside from the benefit of immediate and comprehensive emergency directive communication, the firm argued, “there is the additional advantage... of developing spirit, loyalty, harmony, and esprit de corps on local levels.”⁵⁶ The firm claimed to be motivated by civic duty: as with other businesses making suggestions to federal offices, the Chicago firm was quick to point out that it had no plans to profit from the proposal.

Many other Americans knew that television could be beneficial to civil defense

⁵⁵ Table 680-A, “Number and Percentage of U.S. Homes with Television Receivers, and Average Cost of Receivers, 1946-1977,” as cited in Christopher H. Sterling and Timothy R. Haight, eds., *The Mass Media: Aspen Institute Guide to Communication Industry Trends* (New York, NY: Praeger, 1978), 372.

⁵⁶ John N. O'Reilly to President Harry S. Truman, January 26, 1951; E4-32, Box 13; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

programs in the future as well, but some were frustrated by its limited reach. In December 1950, Boy Scout Troop 231 of Houston, Texas requested information on available civil defense films and publications, because television efforts had failed thus far. The troop leader wrote to Washington, “we realize our handicaps in pioneering the study of this subject here, how we must ‘rough it’ . . . Our city is making its first feeble efforts to school its citizens over television but that doesn’t reach far enough.”⁵⁷ Prior to the widespread availability of television sets, the growth of national broadcasting, and the physical infrastructure to support it, television could not meet the urgent need of reaching the majority of Americans.

Thus some grassroots civil defense organizers thought that an educational program should rely on more accessible and established forms of media. Forrest Andrews, a homegrown civil defense expert in Knoxville, Tennessee, conducted an unofficial poll about whether or not residents had read an article pertaining to civil defense in the local newspapers. He concluded that four out of five civilians had not seen the article. However, he also noticed that four out of five residents had read the comics. As such, Andrews concluded that federal agencies should invest in a comic strip dramatization of civil defense information to reach “a very wide segment of the populace—a segment which cannot be reached in any other way.”⁵⁸ Americans concerned with delivering civil defense messages to as many others as possible often preferred more established modes of communication than the novel television.

Americans worried not only about how the public would learn about civil defense;

⁵⁷ Amerine, December 29, 1950.

⁵⁸ Forrest Andrews to Millard Caldwell, February 13, 1951; E4-28, Box 13; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

they also worried that fellow citizens were not healthy enough to participate in civil defense in the first place. In early 1951, John M. Core, a State of West Virginia Veteran's Administration officer, proposed a Civil Defense Physical Fitness Program to his Congressional officials.⁵⁹ Core developed his ideas in the capacity of his work with the American Legion and organizations for disabled veterans and was widely considered "an authority on [physical fitness] matters."⁶⁰ As Core likely believed, surviving and rebuilding after a nuclear war would have great physical demands. Images of rescuers sifting through the remains of fallen buildings solidified the image of civil defense volunteers as necessarily strong and skilled. In *Life's* "36-Hour War," technicians in gas masks clamber over dead bodies in "the rubble of the shattered city" to reestablish order in the aftermath of war.⁶¹ "Rebuilder" images such as these were highly gendered; when featured at all, women were victims in need of rescue. While Core's proposal did not specify as such, his program was likely designed for American men in order to prepare them to rebuild the nation in the event of an attack.⁶² Although neither civil defense

⁵⁹ Representative E. H. Hedrick (D-WV) to Donald S. Dawson, Administrative Assistant to the President, February 28, 1951; Folder "Miscellaneous (Jan-Mar 1951)"; Box 1915; White House Central Files: Official File 2965; Truman Papers, Truman Library.

⁶⁰ Presidential Appointment Calendar, October 8, 1951, Harry S. Truman Library and Museum, <https://www.trumanlibrary.org/calendar/main.php?currYear=1951&currMonth=10&currDay=8> (accessed February 16, 2017).

⁶¹ "The 36-Hour War," 35.

⁶² A national physical fitness program would have resonated with postwar Americans who were concerned with the weakening of American masculine culture. See, notably, K. A. Cuordileone, *Manhood and American Political Culture in the Cold War* (New York, NY: Routledge, 2005). See also David K. Johnson, *The Lavender Scare: The Cold War Persecution of Gays and Lesbians in the Federal*

agencies nor the federal government created a civil defense fitness program, the proposal would not have been outlandish in the early 1950s. Indeed, Core's proposal circulated—and was considered—among personnel in the White House, Congress, and the FCDA before it was deemed to be a better fit for the federal agencies overseeing education and public health.

Civil defense concerns also surfaced in more generalized anxiety about the role of mental health in society in the postwar period.⁶³ During and immediately after the war, psychologists and social sciences turned their attention studying the effects of wartime trauma.⁶⁴ Indeed, the National Institutes of Mental Health was established in 1949, in part due to an increasing concern for the mental health of World War II veterans. But the postwar academic and bureaucratic focus on psychology paralleled popular discussion of mental health as well. The Americans who demanded a civil defense program revealed that they were deeply concerned with the public's emotional and mental fitness, with their capacity to survive an attack without panic or irrational behavior. In particular,

Government (Chicago, IL: University of Chicago Press, 2004); Jesse Berrett, "Feeding the Organization Man: Diet and Masculinity in Postwar America," *Journal of Social History* 30, no. 4 (Summer 1997); and Kristin L. Matthews, "One Nation over Coals: Cold War Nationalism and the Barbeque," *American Studies* 50 (Fall/Winter 2009). Discussions of "softness" and "weakness" also extended into ideas about childhood and parenting. See Ruth Feldstein, *Motherhood in Black and White* (Ithaca, NY: Cornell University Press, 2000) and Gilbert, *A Cycle of Outrage*.

⁶³ For more about the Cold War and psychology, see Ellen Herman, *The Romance of American Psychology: Political Culture in the Age of Experts* (Berkeley, CA: University of California Press, 1995), 126-30.

⁶⁴ For example, Anna Freud and Dorthony T. Burlingham, *War and Children: A Message to American Parents* (Madison, CT: International University Press, 1944). For psychological studies of soldiers during and after World War II, see Christopher P. Loss, *Between Citizens and the State: The Politics of American Higher Education in the 20th Century* (Princeton, NJ: Princeton University Press, 2012).

Americans pushing for a civil defense program emphasized the urgent need for emotional training that could help Americans resist the kind of “panic which could be created by rumors and subversive propaganda.”⁶⁵ Here, training for an enemy attack blended with another concern about the Cold War on the home front: the task of resisting fifth-column communist infiltrators in American society. More broadly, civil defense supporters argued, a well-educated public was best equipped to respond rationally to a threat. As a locally-produced civil defense pamphlet from Saint Paul, Minnesota, warned, “ignorance makes fear, fear leads to panic, and PANIC can be the enemy’s best weapon.”⁶⁶ Even more so than physical health, Americans who developed strategies for civil defense programs identified individual mental health as an important key to winning the next war.⁶⁷

As civil defense advocates began to imagine the needs of a prepared citizenry in the Atomic Age, they often came to focus on the American individual. Believing that the strength of the nation was the sum of its individual citizens, these concerned Americans made an explicit argument that the practices of civil defense promoted the health of the nation. Thus in the earliest days of the Cold War, civil defense advocates established a clear connection between the citizen and the national community.

⁶⁵ “A ‘Grass Roots’ Program for Civil Defense,” *Armed Force*.

⁶⁶ Saint Paul - Ramsey County Organization for Civil Defense, “If We Are Bombed (Pamphlet),” c. 1950; E4-2, Box 4; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP (emphasis original).

⁶⁷ For more about the confluence of psychological management and civil defense, see Tracy C. Davis, *Stages of Emergency: Cold War Nuclear Civil Defense* (Durham, NC: Duke University Press, 2007), 105-25.

Looking Backward and Looking Forward

Many civilians who contributed ideas to civil defense conversations used the experience of past crises to develop their ideas for public safety in the nuclearized world. For many of these Americans, World War II was an omnipresent part of Cold War civil defense discussions, as it provided both cautionary lessons and examples of effective programs. Especially in the mid- and late 1940s, the press disparaged World War II civilian defense “activities [such] as victory gardens and fan dances” as useless in the face of nuclear war.⁶⁸ Eric H. Biddle, chairman of the NSRB Interagency Working Group was more charitable a few years later, but the basic assumption remained: “such things as bond drives, scrap collections and victory gardens... are activities necessary in war time, but actually are not civil defense questions.”⁶⁹ Americans learned from the home-front practices of previous wars and carried those experiences with them. Civilian defense in the World War II era gave Cold War civil defense an operational mandate, if not a direct model for prescribed activities.

Like veterans’ groups, individuals and organizations that had been involved in World War II-era civilian defense claimed a special understanding of Atomic Age civil defense. The Citizen Participation Committee (CPC), for example, was formed in the wake of World War II “to continue and extend the gains made in [voluntarism] during the

⁶⁸ John G. Norris, “U.S. Has No Plans for Civil Defense,” *Washington Post*, May 22, 1947, 2.

⁶⁹ Civil Defense Board, Seattle, Washington, “Critique of Seattle Interim Defense Plan,” July 17, 1950; E4-26, Box 12; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

war.”⁷⁰ By the late 1940s, hundreds of former civilian defense organizers maintained seventy-five volunteer offices across the country, and had ties to other national civic organizations. Writing to the NSRB, Chairwoman C. H. L. Pennock warned the federal planning groups that “if the mobilization of civilians gets started in a haphazard way [as it had during World War II] the task is made immeasurably harder.”⁷¹ The CPC, like other organizations, saw the early Cold War moment as an opportunity to learn from past inefficiencies in civil defense and to start anew.

The outbreak of the Korean War in June 1950 helped to solidify the connection between World War II and the wars of the Atomic Age. As men were sent overseas, Americans on the home front resurrected familiar wartime activities, this time with an eye toward civil defense. In June 1951 Robert J. Ewig, Chief Zone Warden of the Mayfair section of Philadelphia, wrote to the president describing his neighborhood’s plan for civil defense recruitment. Ewig and his civil defense zone planned a “gigantic parade” for wounded Korean War veterans, complete with twenty-five convertible automobiles, marching bands, and color and honor guards. Ewig hoped that the event would “show the people on the home front that all the boys in service are doing their share, and it is our turn to sacrifice just a little bit of our time to help protect our country,

⁷⁰ Mrs. C. H. L. Pennock, Chairman of the Advisory Committee on Citizen Participation, to W. Stuart Symington, Chairman, National Security Resources Board, July 27, 1950; E4-2, Box 1; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

⁷¹ Mrs. C. H. L. Pennock, Chairman of the Advisory Committee on Citizen Participation, to W. Stuart Symington, Chairman, National Security Resources Board, July 27, 1950; E4-2, Box 1; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

by joining and becoming active in Civil Defense Organizations.”⁷² The *Philadelphia Inquirer* noted that average civilians would have a hard time missing the connection between wounded soldiers and the need to prevent lost lives at home.⁷³

Ewig’s parade demonstrates how the symbolic power of military service in postwar life shaped discussions about civil defense. The soldiers who were brought to Mayfair were not neighborhood heroes. They were recruited for the parade from Valley Forge Hospital regardless of “their race, color or creed.”⁷⁴ Their importance to the event was based on their service and their injuries, not their individual identities, nor their local connection. In using anonymous servicemen, Ewig called upon a deeply entrenched ideology of civic duty, one that veterans’ organizations also used: military service. The parade was not about the veterans. It was about arousing feelings of responsibility from civilians who were not demonstrating their citizenship through traditional military means.

Other Americans were also ready and willing to adopt a militarized posture, even using the idea of “enlisting” into a civil defense corps.⁷⁵ A stenographer from Illinois wrote to her Congressman calling for universal training in defensive weapons. “I believe that every citizen of our country is a potential soldier, sailor, marine or coast-

⁷² Robert J. Ewig to President Harry S. Truman, June 1951; Folder “(Feb 1951-53); Box 1843; White House Central File: Official File 1591; Truman Papers, Truman Library.

⁷³ “Civil Defense ‘Apathy,’” *Philadelphia Inquirer*, included as clipping in Folder “(Feb 1951-53); Box 1843; White House Central File: Official File 1591; Truman Papers, Truman Library.

⁷⁴ Ewig to Truman, June 1951.

⁷⁵ Dan H. Benson to the United States Citizens Defense Corps, 1950; E4-3, Box 5; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); Records of the OCDM-NACP.

guardsman...,” she said, “[and] I would certainly trade my typewriter for a machine gun or whatever else was necessary to defend our Beloved America.”⁷⁶ Although such measures would not necessarily prepare civilians for the demands of a nuclear attack, their presence in the conversation about civil defense indicates a willingness to participate in the Cold War on the home front in whatever form it might take.⁷⁷ The rhetoric of universal wartime sacrifice that had dominated American society during World War II was easily transferred to the Cold War.⁷⁸

Some civil defense advocates looked even farther back into the nation’s history, prior to the last war, to understand what was needed in the modern nuclearized world. Ansel Adams, a renowned American photographer, wrote to the federal government in January 1951 proposing the creation of a civil defense photographic corps to use images of preparation and education as a way to cure apathy about nuclear dangers.⁷⁹ Adams’ top priority was public morale, arguing that it was important that Americans see “what Civilian Defense is defending [and] the obligations of the citizen to cooperate.” The program was modeled directly on the Great Depression-era Farm Security Administration

⁷⁶ Mrs. Leonard H. Boland to Congressman Melvin Price, August 10, 1950; E4-3, Box 5; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

⁷⁷ For more on the militarization of the home front, see Laura McEnaney, *Civil Defense Begins at Home: Militarization Meets Everyday Life in the Fifties* (Princeton, NJ: Princeton University Press, 2000) and Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era* (New York, NY: Basic Books, 1988).

⁷⁸ See Beth Bailey, *America’s Army: Making the All-Volunteer Force* (Cambridge, Massachusetts: Harvard University Press, 2009), 4-12.

⁷⁹ Ansel Adams to Joseph Short, Press Secretary to the President, January 2, 1951; E4-3, Box 5; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

(FSA) photography program, which catalogued the experiences of civilians across the country. Although Adams was not directly involved in FSA work, he recognized the importance and power of the American documentary photographic tradition and believed it could once again be harnessed to serve the needs of the common good and federal programs.

However, the most common way by far that Americans explored civil defense ideas in the early years of the Cold War was by requesting information from the federal government about nuclear attacks and civil defense procedures. Civilians frequently contacted federal officials, elected representatives, and state-level leaders to request information about civil defense for themselves, their families, their communities, and their civic organizations. “I am requesting that you make it possible for me to play my small part in this effort toward survival,” John S. Bush, Jr. of Missouri said, “by aiding you in your program of public information.”⁸⁰As they had in World War II, Americans looked to the state to establish a cohesive message of public safety. Thus even when facing the dramatically new threat of nuclear war, Americans overwhelmingly urged federal officials to revive an older system of federal control.

The Local and the National

As civilians, civic groups, and businesses staked claims in the national defense effort, local municipal leaders also agitated for civil defense planning. The lack of adequate communication from the federal government and an unorganized system for funding civil defense projects, however, stymied local leaders. A long-awaited federally-

⁸⁰ John S. Bush, Jr. to the Director of Public Information, Atomic Energy Commission, January 2, 1951; E4-3, Box 5; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

commissioned report, known as the *Hopley Report*, was released in November 1948, but encountered immediate criticism in the press and within the federal government for recommending both military involvement and the creation of a large federal agency requiring Congressional legislation. In the wake of such controversy, the federal government offered the *Hopley Report* unofficially to states and cities as a loose guide, not a mandate. Still, national municipal organizations, such as mayors' and governors' conferences, hesitated to use it at all without federal endorsement. Local leaders wanted to move forward with planning but feared that future federal legislation might negate their progress. Nevertheless, some states passed state legislation based on the Hopley Report as early as 1948.⁸¹ In other cases, the report's ambiguous authority and the federal agencies' procrastination left local leaders "confused, disgusted, impatient and fearful."⁸²

Local leaders' frustration over federal disorganization was especially present in major cities: throughout the late 1940s and early 1950s, popular wisdom held that large urban centers were the most vulnerable areas to enemy attack. With large populations, manufacturing centers, and important transportation and communication infrastructure, American cities were targets. Mayors of major metropolitan areas became vocal critics of the federal government's civil defense organization (or lack thereof). These criticisms increased in vehemence and frequency after the Soviet atomic test announcement in 1949. Feeling unsupported by federal leadership and vulnerable in their geography, city

⁸¹ Between the end of World War II and December, 1950, twenty states had passed new civil defense laws. See Joint Committee on Atomic Energy, Executive Session, *Plans for Civilian Defense*, Unpublished Hearing, 81st Cong., 2d sess., December 4, 1950, Appendix, 201, ProQuest (HRG-1950-AEJ-0068).

⁸² Niel R. Allen, Chairman, American Legion National Civil Defense Committee, "Report to Erle Cocke, Jr.," May 2, 1950; E4-2, Box 4; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

leaders continued to push for federal organization and sometimes began to make plans on their own.

In a hearing before Congress on March 17, 1950, Mayor Fletcher Bowron of Los Angeles testified that mayors and leaders in California were frustrated by the absence of a clear delineation of local, state, and federal responsibilities. Moreover, because of the federal government's lack of transparency regarding these issues, he felt unable to convince his constituency of the need to volunteer and participate in civil defense programming.⁸³ Putting it bluntly to the Joint Committee on Atomic Energy, Bowron stated, "if [federal officials] are unwilling to take governors, mayors, and other key officials into their confidence to the extent which a realistic civil defense program would make necessary, then I submit that they leave us no alternative but to demand complete Federal responsibility for civil defense."⁸⁴

Smaller cities, too, felt the immediate danger of nuclear war and viewed the federal government as the source for solutions. In June 1950, Thomas H. Nichols, mayor of Canton, Ohio, (population about 117,000 in 1950) telegraphed the president urgently requesting that the federal government take leadership in guiding cities such as his in civil defense. Arguing that "Canton is in all probability a primary target for any enemy planning aggressive warfare" because of its industrial production capabilities, Nichols told the president, "I must be frank with you in saying that I would be at a loss to know

⁸³ Joint Committee on Atomic Energy, Hearing, *Civil Defense Against Atomic Attack Part 3*, 81st Cong., 2d sess., March 17, 1950, 82-9, ProQuest (HRG-1950-AEJ-0006).

⁸⁴ *Ibid.*, 87.

what should be done.”⁸⁵

Some municipalities found ways around the sluggish pace of federal organization in any way they could. The Downtown Committee of Kansas City, Missouri, lobbied Matthew J. Connelly, Truman’s Appointments Secretary, for help in acquiring funds for a municipal bomb shelter. Barney L. Allis, a Kansas City businessman and leader of the shelter project wrote to Connelly, arguing that Kansas City, Truman’s adopted hometown, needed to be the first city to obtain a sponsored bomb shelter. “It is just possible a bomb is liable to be dropped while you are in town,” Allis wrote to Connelly, “and we would all run over there [to the shelter] from the little White House with a case of ginger ale and some biscuits and camp out until the smoke blew away.” Located many hundreds of miles away from a coast, Kansas City in the early 1950s was far removed from a imminent air strike, but Allis nevertheless argued, “if anybody is going to have a bomb shelter, it should be us.”⁸⁶

Despite complaints about a lack of organization and information, the NSRB’s civil defense arm was far from unproductive in the years leading to the FCDA. Its public face, however, was limited to a series of urban test exercises and informational pamphlet distribution. While both measures satisfied the objectives of the NSRB’s leadership, public and municipal responses were less enthusiastic. Local leaders found themselves without consistent access to reliable information, and struggled to find the necessary funds to act on their own. Without a clear chain of command, civil defense progress

⁸⁵ Thomas H. Nichols, Mayor of Canton, Ohio, telegram to President Harry S. Truman, June 27, 1950; Folder “Miscellaneous”; Box 1843; White House Central File: Official File 1591; Truman Papers, Truman Library.

⁸⁶ Barney L. Allis to Matthew J. Connelly, Appointments Secretary to the President, January 29, 1951; Folder “Bomb Shelters”; Box 1843; White House Central File: Official File 1591-B; Truman Papers, Truman Library.

stalled across the nation.

The authority of the NSRB in civil defense matters was perhaps most visible in the summer of 1950, when it conducted three city-wide planning studies in Washington, DC, Chicago, and Seattle. While the test exercises were generally well-received by those city planners who were involved, other metropolitan areas felt left out. That summer, Governor G. Mennen Williams of Michigan urged the NSRB to consider Michigan's industrial cities for a test exercise because they "undoubtedly will be prime war targets."⁸⁷ Given the complexity of city civil defense planning, especially in Washington, DC, the NSRB exercises were difficult to replicate in other American cities. Moreover, the exercises did not involve the public, but instead focused on the participation of existing city government agencies.

In addition to the urban practice exercises, throughout 1950 the NSRB's civil defense office had been regularly sending a series of free instructional bulletins to civil defense officials in states, cities, media, and professional groups. In the fall of 1950, the NSRB distributed *United States Civil Defense*, its long-awaited follow-up to the *Hopley Report*, to mayors of cities with a population of 5,000 or more and to some county officials.⁸⁸ The Board also sent *Survival Under Atomic Attack*—one of the agency's most

⁸⁷ G. Mennen Williams, Governor of Michigan, to Paul Larsen, June 23, 1950; E4-27, Box 12; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

⁸⁸ James J. Wadsworth, memo to all National Security Resources Offices, "Distribution of U.S. Civil Defense Plan," September 21, 1950; E4-41, Box 14; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP. However, there was some inconsistency with whether the number was 5,000 or 50,000. In a letter to the NSRB, Governor C. A. Robins of Idaho worried that his state would be left out of consideration because it had no cities with more than 50,000 people: "it does seem to me that situated as we are, though we have no metropolitan areas

widely-distributed public pamphlets—to local leaders around the same time. Cities, counties, and state governments received some copies of the booklets free of charge, with additional copies available for purchase for 10 cents each. However, many local leaders found the number of free NSRB pamphlets woefully inadequate. As Mayor William B. Hartsfield of Atlanta complained, the twelve copies his office received were “hardly enough to distribute to our chief civilian defense officials,” much less to the city’s population of over 330,000 people. Citing the potential cost to cities who wished to provide their citizens with copies of the booklet, he worried that only wealthy cities would be able to carry out civil defense projects and that the policy was “carrying the free enterprise system too far.”⁸⁹

Before the creation of the FCDA, the NSRB leaned heavily on states and cities to begin developing their own plans, suggesting that local governments held authority over civil defense planning. However, as leaders expressed at the General Assembly of the Council of State Governments in 1950, one of the primary roadblocks to local-level planning was a need to estimate civil defense costs in order for state legislatures and city governments to allocate funds in their annual budgets.⁹⁰ Without direction on program implementation, cities and states could not estimate its costs. The distribution of funds for civil defense programs thus became another source of contention between local leaders

we should have consideration.” C. A. Robins, Governor of Idaho to William A. Gill, September 15, 1950; E4-34, Box 14; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

⁸⁹ William B. Hartsfield, Mayor of Atlanta, GA, to Paul Betters, Executive Director, U.S. Conference of Mayors, November 3, 1950; E4-47, Box 14; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

⁹⁰ Hubert R. Gallagher, memo to Millard Caldwell, “Findings of Directors Conference,” December 13, 1950; E4-1, Box 1; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

and the federal government.

New York City provides a revealing example of the funding tension between local civil defense needs and federal-level support. Because New York City's city council managed an area that many assumed would be a primary target for an enemy attack, it was among the earliest municipal organizations in the nation to begin discussing nuclear public safety. By early 1950, New York City had already mobilized its City Planning Commission to propose solutions for the city's civil defense needs. Soon after the Commission began studying civil defense, planners concluded that evacuating the city's enormous population from Manhattan and the surrounding boroughs was unfeasible. Instead, officials developed a plan that focused on using parking garages and existing subway infrastructure as public bomb shelters, a proposal that would be adopted by city civil defense planners across the nation. Parking structures, in particular, were appealing; they could generate revenue that, over time, could pay for the cost of their construction. In theory, they also would alleviate congestion and traffic on the streets, both in peacetime and in times of crisis. Relying on new and existing facilities, New York City's plan prioritized areas that had high concentrations of important infrastructure, industry, and dense daytime population. All told, the plan's tentative budget was over \$2,000,000,000, a sum equaling almost one-quarter of the city's 1950 expense budget.⁹¹

In December 1950, New York City Mayor Vincent R. Impellitteri wrote to President Truman bemoaning his city's inability to raise the necessary funds for civil

⁹¹ Joseph T. Sharkey, Acting President, "Resolution Requesting Action by the Government of the United States and Alternatively by the Government of the City of New York on the City Planning Commission Report to the Mayor, Entitled 'An Immediate Program for Atomic Bomb Protection,'" August 15, 1950, Reel MN54003, Folder 227, Box 7, Records of the Council of the City of New York, Municipal Archives.

defense planning, despite their desire to be part of the nation's war mobilization. The federal civil defense legislation being considered in Congress explicitly forbade states and cities from receiving federal funds for construction projects that would earn revenue, such as the Planning Commission's proposal to build parking garages. The rule made New York City's civil defense plan all but impossible. As Impellitteri wrote to Truman, "we are unalterably opposed to simply digging up streets and vacant property and constructing catacombs which will have no peacetime use." Seeing no other alternative for paying for civil defense in his city, he argued: "it is entirely logical that appropriations for civil defense, like appropriations for military defense, be made on the federal level." Moreover, in New York City's case, he argued, the federal government was much better equipped to stockpile supplies and equipment and direct large-scale construction projects than the city, which was already burdened by postwar development projects. The last thing Impellitteri wanted to see was essential city services neglected and building projects delayed in pursuit of disorganized federal suggestions.⁹² Within a month, national civil defense planning was relocated to a more permanent home in the Federal Civil Defense Administration, but the federal government and New York City's leaders would remain at an impasse over funding for years to come.

Until the creation of the FCDA, the relationship between federal and local civil defense was a chicken and egg dilemma: cities felt handicapped by a lack of direction, while federal leaders believed that progress could not be made until states and cities evaluated their own resources and needs. Indeed, as the next chapter will argue, civil

⁹² Vincent R. Impellitteri, Mayor of New York City to President Harry S. Truman, December 14, 1950; Folder "(1945-Jan 1951); Box 1842; White House Central File: Official File 1591; Truman Papers, Truman Library.

defense presented a significant challenge to postwar federalist governing practices.

Still, some of the largest grassroots civil defense achievements were made at a local level, so much so that some cities believed their plans could serve as a model for the federal government's planning efforts.⁹³ This was especially true in lessons learned from natural and man-made disasters in the same era. For example, in May 1950, a massive munitions explosion in South Amboy, New Jersey, offered a lesson in disaster response, public panic, and explosion damage.⁹⁴ The NSRB's civil defense office gathered articles and field reports from the explosion, which killed twenty-seven people, "to determine what lessons, applicable to civil defense, can be learned from a disaster such as this."⁹⁵ Throughout the 1950s and 1960s, non-nuclear disasters, especially natural disasters, would eventually become a visible test of the national civil defense system.

Conclusion

In their requests, suggestions, and solutions, civilians demanded that the federal government establish some uniform national civil defense plan. This sentiment appears with much more frequency after the Soviet nuclear test and the start of the Korean War. In 1950 and 1951 alone, thousands of American citizens, civic organizations and clubs, and businesses wrote to President Truman, urging him to act quickly to create a national

⁹³ By June 19, 1951 Mayor Bernard Samuel of Philadelphia was touting his city's civil defense as "one of the nation's outstanding organizations." Bernard Samuel, Mayor of Philadelphia, to President Harry S. Truman, June 19, 1951; Folder "(Feb 1951-53); Box 1843; White House Central File: Official File 1591; Truman Papers, Truman Library.

⁹⁴ Representative Gordon Canfield to W. Stuart Symington, May 22, 1950; E4-14, Box 12; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

⁹⁵ W. Stuart Symington to Representative Gordon Canfield, June 21, 1950; E4-13, Box 12; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); OCDM-NACP.

civil defense strategy. Elected representatives, the military, independent federal agencies, state-level officials, and local government agencies all received countless requests, demands, pleas, and complaints from civilians. It is difficult to say how many Americans knew about civil defense studies such as the *Hopley Report* or the agency transition that occurred between 1949 and 1951. However, national newspapers reported these advancements and published countless editorials and reader-submitted letters debating the merits of the government's progress.⁹⁶ For years, the public had read about civil defense reports that were shelved or rejected, about disgruntled physicists concerned about weapons control, and about an ever-intensifying state of volatility in foreign affairs. In this atmosphere of instability, Americans were often exasperated—*Look* magazine accused the federal government of “[playing] patty cake with the whole issue” for more than five years—and disappointed by why it was taking the federal government so long to develop public safety policy.⁹⁷

Despite feeling as though their nation was unprepared, those Americans who developed grassroots civil defense plans returned again and again to the rhetoric of citizenship, duty, and responsibility. Whether they hoped to increase their business profits, protect their families and communities, or simply apply their expertise or skills to the common good, Americans who participated in early civil defense discussions were bound by a common vocabulary of national interest and unity in the face of a new and

⁹⁶ A University of Michigan Survey Research Center poll in 1947 showed that about 80% of Americans had read something about the bomb in newspapers. An equal number stated that they had heard something on the radio, while other forms of media and communication ranked significantly lower. University of Michigan Survey Research Center, *Public Reaction to the Atomic Bomb and World Affairs*.

⁹⁷ Fletcher Knebel, “We’re Wide Open to Disaster,” *Look*, February 27, 1951, 30.

dangerous world balance. These Americans believed that they could “win” the Cold War by preserving the physical and moral integrity of American society.

The grassroots emphasis on the role of civic organizations and American business is also telling. Americans saw civil defense as something that could be carried out within the existing framework and structure of American postwar society. Although nuclear war was foreign and unknown, these Americans saw civil defense as something that need not be. In fact, many believed that if mass participation were to be successful, civil defense procedures could not stray too drastically from that which Americans already knew and were comfortable. “Selling” civil defense, then, became a project of applying familiar fixes to an alien threat.

Finally, we must pay attention to where the public located authority in the earliest days of civil defense. Many Americans discussed in this chapter turned to established governing authority for advice, approval, or solutions. By writing directly to the president, Congressional leaders, or federal agencies, grassroots civil defense participants demonstrated that they believed that the federal government could provide solutions. They sometimes found advocates in lower levels of government who explored a variety of channels to reach federal authority, so these conversations often involved an impressive cast of actors at all reaches of government.⁹⁸ But just as frequently by the early 1950s, Americans began acting on their own or looking to alternative sources of authority for what to do to prepare for, survive, and recover after a nuclear attack. This demonstrates that even in its earliest inception, civil defense authority was diffuse,

⁹⁸ Many, many of the sources noted in this chapter have an impressive paper trail in from an individual to a local leader or to a Governor or Representative, who forwarded the correspondence or request to Truman, the AEC, NSRB, or FCDA.

complex, and impermanent. These conditions were complicated by an inconclusive organization of power between federal, state, and local leadership, and, as we will explore in Chapter 2, the federal government's active attempts to decentralize and privatize federal civil defense.

CHAPTER 3

WHEREFORE CIVIL DEFENSE?:

FEDERAL PLANNING IN THE EARLY YEARS

American civilians were not alone in struggling to find a place for nuclear weapons in their imagined postwar world. Policymakers, too, recognized that nuclearization could have drastic consequences for American governance. Given the familiar prospect of returning to war and the startlingly unfamiliar notion of a nuclear war, the protection of the home front took on new importance.¹ President Truman abolished the wartime Office of Civilian Defense in 1945, before the war with Japan concluded, deeming the Office unnecessary for a nation at peace.² But as early as late 1945, federal officials began to recognize the need for a revamped civilian protection program that could address *nuclear* threats. The intensification of international Cold War tensions over the course of the late 1940s—including the Soviet acquisition of nuclear weapons in 1949—added urgency to the need to formulate civil defense. Over the course of the late 1940s, American citizens and policymakers engaged in lengthy battles over the meaning, purpose, and limits of civil defense in the Atomic Age.

The need for nuclear civil defense emerged in the context of complex changes in

¹ A University of Michigan public survey indicated that even the most uninformed Americans realized that a “new and tremendous force [had] been discovered” in nuclear physics; see Survey Research Center, *Public Reaction to the Atomic Bomb and World Affairs: A Nation-Wide Survey of Attitudes and Information* (Ann Arbor, MI: University of Michigan, 1947), *ii*. See also Paul Boyer, *By the Bomb’s Early Light: American Thought and Culture at the Dawn of the Atomic Age* (New York, NY: Pantheon, 1985).

² Executive Order 9562, *Termination of Office of Civilian Defense*, June 4, 1945. The order became effective on June 30, 1945.

postwar American politics. As the 1940s progressed, the geopolitical rivalry between the United States and the Soviet Union dictated that the United States marshal a vehement defense of democracy both at home and abroad. For many Americans, the Soviet Union stood for a continuation of the evils of totalitarianism and militarization, ideologies that the Allies fought so hard to contain during World War II. The crusade against communism in the world also paralleled a fight against communism in domestic society. Domestic anticommunism narrowed the spectrum of acceptable politics significantly within public life to exclude programs, policies, and ideology that did not adhere to mainstream American democracy.

This chapter will demonstrate that civil defense planning unfolded in deep tension with American Cold War ideology. As the 1940s progressed, civil defense became caught between anticommunism and anti-totalitarianism, the pressures of the emerging national security state, and postwar partisan politics. The more Americans confronted public safety in the Atomic Age, the more complex their mission became.

Policymakers gathered information about nuclear weapons, struggled to interpret its meaning, discussed strategies for survival, and ultimately, put a national civil defense plan into place. In the complex period between 1945 and early 1951, when the Federal Civil Defense Act became law, federal officials redefined the role of the state in the context of nuclear fear and the ideological Cold War. From its beginnings, the Federal Civil Defense Administration (FCDA) was decentralized and limited in authority. As a result, for the remainder of the 1950s, the FCDA and its descendent agencies would struggle to find funding, support, and power in Washington. But that is not because policymakers did not believe in the necessity, efficacy, or feasibility of a national civil

defense program, as some scholars have argued.³ On the contrary, those involved in policy decisions took their responsibilities very seriously. These planners understood their role as arbiters of competing interests: diplomatic aims, domestic political ideology, and public safety.

This chapter has three goals, each demonstrating how Cold War politics influenced civil defense conversations and how civil defense policy in turn reflected changing ideas about the state in the Atomic Age. First, I show how organizational authority in civil defense research and policy evolved in the years following World War II. By including civil defense recommendations in its research on wartime campaigns, the military claimed early authority over home-front defense. But although the military was able to elevate civil defense as a pressing national priority, its earlier involvement led Americans to question the role of the military in civil society.

Second, this chapter explains how the process of creating a national civil defense program was shaped by the domestic politics of the moment. As policymakers attempted to locate civil defense authority within the government, they faced challenges from small-government advocates. These policy critics summoned the specter of totalitarianism—the legacy of World War II—to reject centralized authority, arguing that civil defense was inherently the duty of individuals, municipalities, and individual states. If they wanted to institute a new national agency, civil defense planners of both parties would have to contend with a rigid postwar ideology that disparaged an overly-powerful federal

³ For example, Guy Oakes argues that this characterization of policymakers was the public “unofficial, clandestine, and cynical” view of the majority of postwar Americans. While certain civilian dissenters likely held this opinion in the late 1940s, policymakers generally did not. Guy Oakes, *The Imaginary War: Civil Defense and American Cold War Culture* (New York, NY: Oxford University Press, 1994), 6-7.

government.

Finally, this chapter shows how policymakers, as they moved from discussion to legislation, were constantly attuned to the dangers of secrecy within the federal government. Like an excessively powerful military and centralized federal power, policymakers believed, a lack of government transparency ran contrary to democratic values. Overall, policymakers in the first years after World War II honored the public's right to information about nuclear realities through civil defense education. This would change by the mid-1950s as government officials became more aware of the dangers of nuclear radiation. In the earliest years of civil defense conversations, however, the creation of a national program existed at a complex intersection of interests, and officials struggled to navigate the limits of public information and state secrets.

Throughout these discussions about civil defense, ideology, and Cold War policies, federal leaders laid out instructions for how individual American citizens were expected to behave before, during, and after a nuclear attack. But while these recommendations assumed Americans could participate in careful preparation, educational programs, and practice drills, policymakers had difficulty imagining the psychology and behavior of average Americans in the event of an attack. At times, officials assumed that Americans would gladly take up the patriotic duty of civil defense. More often, they characterized civilians as irrational, panic-prone, and apathetic. By the early 1950s, civil defense officials would seek social science and non-government expertise to help policymakers understand their civilian constituency. But in the immediate postwar period, policymakers projected their own emotional concerns about the urgency and enormous complexity of civil defense onto the American citizens they

represented.

Planning for national civil defense was thus bogged down by issues of governance, jurisdiction, authority, Cold War politics, and fears about the capacities of the American citizen. Yet early civil defense planning reveals how the threat of nuclear weapons redefined citizenship in a volatile moment in postwar history. Policy discussions reflected changing domestic and international politics, but at their core, civil defense debates focused on the role of the state in individual American lives. In each policy decision, officials constructed a definition of nuclear citizenship that carefully delineated the limits of state authority and the expectations and requirements of citizens in a democracy.

The American Military in Civil Defense

World War II set the stage for the development of postwar civil defense. Throughout the war, American propaganda agencies such as the Office of War Information (OWI) broadcasted wartime news to home front audiences. By the end of the war, the American public was accustomed to images of the war's conventional bombing campaigns in film, newspapers, and popular magazines. Nevertheless, as so many newspapers, public intellectuals, and officials claimed, warfare in the Atomic Age would be altogether different from past wars. Still, like the civilians discussed in Chapter 1, postwar policymakers looked to World War II to understand what could be expected of nuclear citizens.

As the United States underwent the economic, political, and cultural transition from war to peace, the role of the military in civilian society was in flux. Because nuclear science was bound to American military objectives during the war, it was difficult to

disentangle nuclear policy—including civil defense—from military affairs.⁴ As such, the first civil defense studies originated in the military under the auspices of strategic bombing evaluation. Although military officials were the first authorities in nuclear defense planning, in time their role in civilian matters would come into question.

The earliest federal study to consider civil defense was part of a long-term ordnance survey of World War II strategic targets. United States Strategic Bombing Survey (USSBS) completed *The Effects of Atomic Bombs on Hiroshima and Nagasaki* in June of 1946.⁵ Employing the skills of specialists in a wide range of military and non-military fields, it evaluated structural and industrial damage, as well as the nuclear bombs' effects on Japanese morale, psychology, public health, and other social aspects of life. The report was the most comprehensive evaluation of the results of nuclear bombing in Japan, and nearly every civil defense study in the following decades drew upon its information. As such, its conclusions merit discussion at some length.

The USSBS released *The Effects of Atomic Bombs* to the public, press, and

⁴ The Atomic Energy Act of 1946, or the McMahon Act was one attempt to separate the postwar nuclear program from the military, as its main objective was to place control of nuclear science, including weapons development, outside of the jurisdiction of the military. *Atomic Energy Act of 1946*, Public Law 585, 79th Cong., 2d sess., August 1, 1946.

⁵ United States Strategic Bombing Survey, *The Effects of Atomic Bombs on Hiroshima and Nagasaki* (Washington, DC: Government Printing Office [GPO], 1946). The War Department published a concurrent survey in 1946 that also considered domestic civil defense, copies of the document are exceedingly rare and not often cited publicly; The U.S. War Department General Staff, Office of the Provost Marshal General, *Defense Against Enemy Actions Directed at Civilians*, Study 3-B-1 (Washington, DC: GPO, 1946); for further information about this rare report, see Robert A. Gessert, Nehemiah Jordan, and John E. Tashjean, Institute for Defense Analyses Economic and Political Studies Division, *Federal Civil Defense Organization: The Rationale of Its Development*, Study conducted for the Office of Civil Defense, Study S-184 (Alexandria, VA: Institute for Defense Analyses, 1965), 80-81.

government officials on June 30, 1946. Importantly, the report aimed to debunk earlier assumptions that the staggering death tolls in Hiroshima and Nagasaki were because Japanese cities had a much higher population density than American counterparts. The report concluded that “American cities, too, have their crowded slums,” listing New York City, Washington, Chicago, Detroit, and San Francisco as cities with similar or greater population density than Hiroshima and Nagasaki.⁶ The press reaction that followed the report was grim. As the *New York Times* emphasized, “the chances of survival of urban populations in the United States” were slim.⁷ Cities had long been the target of conventional attacks during wartime, and Americans had seen images of the devastation in London, Dresden, Hamburg, and Tokyo. But in the years following the nuclear attacks on Japan, Americans were acutely aware that the destructive power of new weapons compounded the vulnerability of cities and civilians in the Atomic Age.

The Effects of Atomic Bombs also challenged the assumption that the massive destruction in Hiroshima and Nagasaki was due to weak Japanese building construction, as many Americans believed. The report declared that not only was the quality of Japanese building materials comparable to American materials, but the American tendency to build vertically—skyscrapers especially—made American cities even more vulnerable to blast casualties. Moreover, the report made clear that no matter the dominant building type, a nuclear weapon would destroy everything within its burst radius.

More optimistically, the report claimed that people within range of a nuclear

⁶ USSBS, *The Effects of Atomic Bombs*, 36-38.

⁷ “U.S. Defense Moves on Atom Proposed,” *New York Times*, June 30, 1946, 3.

attack could, in fact, survive. However, it warned that survival depended upon extensive preparation and government-led programs that included four components of public defense: shelters, decentralization, civil defense, and active defense.⁸ Should such measures be ignored, the report claimed, only one alternative remained: “the surest way [to avoid destruction] is to avoid war.”⁹ A *New York Times* editorial written the day after the report’s release suggested that “the other alternative, and the better one, is to outlaw war entirely.”¹⁰

It is important to place the USSBS report release in the context of concurrent discussions about the future of the nuclearized world. By the summer of 1946, when the USSBS report was released, the United Nations, nuclear scientists, and American policymakers were engaged in a heated debate about international regulation of nuclear energy.¹¹ The suggestion that war be outlawed or avoided seemed much less absurd in 1946 than it would seem just five years later. At a moment when regulation, control, or a ban on nuclear weapons seemed possible, so too might the idea of a warless future.

The Atomic Energy Commission (AEC) began testing nuclear weapons in the Pacific only one day after the release of *The Effects of Atomic Bombs*. The tests at Bikini

⁸ USSBS, *The Effects of Atomic Bombs*, 38-43.

⁹ *Ibid.*, 43.

¹⁰ “The Bombs that Hit Japan,” *New York Times*, July 1, 1946, 23.

¹¹ See James Chance, “Sharing the Atom Bomb,” *Foreign Affairs* 75 (January/February, 1996), 129-144; Jessica Wang, “Scientists and the Problem of the Public in Cold War America,” *Osiris* 17 (2002), 323-347; Clark A. Miller, “‘An Effective Instrument of Peace’: Scientific Cooperation as an Instrument of U.S. Foreign Policy, 1938-1950,” *Osiris* 21 (2006), 133-160. For a detailed account of the Baruch Plan and its failure, see Ronald E. Powaski, *March to Armageddon: The United States and the Nuclear Arms Race, 1939 to the Present* (New York, NY: Oxford University Press, 1987), 29-47.

Atoll, then code-named Operation Crossroads, were only the fourth (July 1, 1946) and fifth (July 25, 1946) nuclear devices ever successfully detonated. So new were nuclear weapons that the media continued to refer to the Japanese bombs as Two and Three, and the Bikini bombs as Four and Five for some time. The media reported that Four, an atmospheric explosion, reinforced the structural and medical conclusions of the USSBS report.

Bomb Four had important implications for the American military. The test demonstrated the importance of dispersing ships and military bases, as the test sunk most ships within a 2000-foot radius of the explosion and damaged many ships located at a greater distance. Four demonstrated that naval forces were especially vulnerable to a nuclear attack delivered via airplane. A newspaper report on the tests concluded that alone “navies can no longer protect America” in the face of rapidly-developing air delivery technologies.¹² Rockets, missiles, and bombers, it seemed, were the future of war. Within the year, President Truman would commission a research group to study the future of American air power.

The authors of *The Effects of Atomic Bombs* sought to remove American complacency about the realities of nuclear warfare. The media coverage of the first Bikini tests aligned with this goal. The press declared, “the atom bomb is primarily a weapon against city civilization.”¹³ But, as the report—and its press coverage—suggested, if the United States could quickly and efficiently organize a domestic defense program,

¹² Hanson W. Baldwin, “Atom Bomb is Proved Most Terrible Weapon,” *New York Times*, July 7, 1946, 70. Also see Michael S. Sherry, *The Rise of American Air Power: The Creation of Armageddon* (New Haven, CT: Yale University Press, 1987).

¹³ Baldwin, “Atom Bomb is Proved Most Terrible Weapon,” 70.

American society need not be doomed.

Because adequate defense initiatives depended upon an accurate understanding of the effects of nuclear weapons, the lessons drawn from these early reports and studies became integral to later civil defense program goals. Importantly, the studies established that a nuclear explosion would have three modes of destruction: heat, blast, and radiation. For the next two decades, civil defense media repeated instructions on how civilians could cope with each of the three modes, never straying far from the information that early military findings provided.

The USSBS's four-part defense strategy—shelters, dispersal of industry and population, civilian defense, and active defense—had a lasting influence on civil defense discussions as well. Sheltering, dispersal, and preparatory training, the three passive defense strategies, would be the only policy options that policymakers seriously considered in civil defense discussions over the next twenty years. Moreover, as one of the earliest calls for a nuclear civil defense program, *The Effects of Atomic Bombs* catalyzed further study and planning within the military and upper echelons of the federal government.

Shortly following the release of *The Effects of Atomic Bombs*, the military commissioned an additional study that used the information gathered in Japan to address civil defense planning in more specific terms.¹⁴ Subsequently, the War Department's Civil Defense Board released *A Study of Civil Defense* (heretofore referred to as the *Bull Report*, for its chairman, Major General Harold Bull) to internal staff in February of

¹⁴ The Bull Board was established by order of the Secretary of War, Dwight D. Eisenhower, Chief of Staff, War Department Memorandum No. 400-5-5 "War Department Civil Defense Board," November 25, 1946.

1947.¹⁵ The report outlined general steps toward establishing a nuclear civil defense agency. The *Bull Report* concluded that postwar civil defense had much to learn from World War II civilian defense programs in United States, Great Britain, Germany, and Japan. Taking the most successful elements of each nation's programs, the Board determined that the Atomic Age demanded strong federal leadership, lengthy peacetime preparation, and a well-planned chain of command that included civilians and officials.

Using American World War II programs as a touchstone, the *Bull Report* also set limits on how to describe postwar civil defense. The Board defined civil defense as:

The organization of the people to minimize the effects of enemy action. Specifically, Civil Defense is the mobilization, organization, and direction of the civil populace and necessary supporting agencies to minimize the effects of enemy action directed against communities including industrial plants, facilities, and other installations, and to maintain or restore those facilities essential to civil life, and to preserve the maximum civilian support of the war effort.¹⁶

The Board consciously excluded aircraft warning systems, internal security programs, and auxiliary programs such “as salvage, victory gardens, recreation, [and] bond drives,” arguing that these programs should be managed by other agencies.¹⁷ The Board wanted to distance nuclear civil defense programs from the civilian programs of World War II.¹⁸

¹⁵ War Department Civil Defense Board, *A Study of Civil Defense* (Washington, DC: GPO, 1947). The Civil Defense Board was first established in November 1946. The Board's final report was declassified and released to the public in February 1948.

¹⁶ War Department Civil Defense Board, *A Study of Civil Defense*, 3. The later *Hopley Report* defined civil defense the same way, using almost identical verbiage.

¹⁷ *Ibid.*

¹⁸ Much of the press agreed. See, for example, John G. Norris, “U.S. Has No Plans for Civil Defense,” *Washington Post*, May 22, 1947, 2, which argues, “energies... should not be dissipated on such activities as victory gardens and fandances.”

The *Bull Report* was classified for a year after its release, available only to select federal offices. However, members of the press knew that the War Department had studied and released a report on civil defense. Some Americans balked at the secrecy, arguing that the public deserved to have access to information that affected their personal safety. John G. Norris, who reported on civil defense for the *Washington Post* through the 1950s, charged the Bull Board with slowing the flow of public information, a type of apathy that was “alarmingly typical of the situation today.”¹⁹ The tension between the federal need for secrecy and the public desire for information appeared early in postwar nuclear matters, and would continue to be a source of conflict into the for the remainder of the Cold War and beyond.

In response to the *Bull Report*, Secretary of Defense James Forrestal established the Office of Civil Defense Planning (OCDP) within the fledgling Office of the Secretary of Defense.²⁰ In March 1948, Forrestal charged the OCDP with developing a more detailed national civil defense plan. The OCDP released *Civil Defense for National Security* (heretofore referred to as the *Hopley Report*, so named for Russell J. Hopley, the

Also see Harold B. Hinton, “Civil Defense Planned Against an Atomic War,” *New York Times*, May 23, 1948, E7.

¹⁹ Norris, “U.S. Has No Plans for Civil Defense,” 2. Civic organizations objected similarly, see: Wayne Thomis, “Legion Leaders Urge Plan for Civil Defense,” *Chicago Tribune*, October 30, 1947, 12.

²⁰ James Forrestal, Secretary of Defense, War Department Memorandum Establishing the Office of Civil Defense Planning, March 27, 1948, printed in Joint Committee on Atomic Energy, *Civil Defense Against Atomic Attack: Preliminary Data*, report prepared by staff of the Joint Committee, 81st Cong., 2d sess., 1950, ProQuest (CMP-1950-AEJ-0002).

Office's director) to government officials and the public in October of 1948.²¹ The study built upon the earlier *Bull Report*, giving more attention to organizational planning, interagency cooperation, and specific civil defense concerns. Forrestal released the *Hopley Report* directly to the public, in part to appear more transparent to the press and public than with the *Bull Report*. Forrestal also argued that the *Hopley Report* needed to be read and accepted widely before receiving official endorsement.²² Yet over the next few months, the report would become the subject of much controversy, stalling national civil defense planning progress considerably.

The *Hopley Report* incited a debate among policymakers and the public about the role of the military in civil defense. The Bull and Hopley Boards, both based within the military and staffed primarily by military specialists, acknowledged the need for civilian leadership within civil defense. Nevertheless, because civil defense needed direct coordination with military defenses, these reports recommended that the civil defense organization should be under the umbrella of the National Military Establishment.²³ In

²¹ U.S. Office of Civil Defense Planning, *Civil Defense for National Security* (Washington, DC: GPO, 1948).

²² H. Waggoner, "Civil Defense Plan Mapped Against Any Enemy Attack," *New York Times*, November 14, 1948, 1; 41.

²³ As B. Wayne Blanchard argues, defense budgets were so constrained in the years immediately following World War II that the military was "unresponsive to suggestions that civil defense become a responsibility of the military establishment." Nevertheless, the both the Bull and Hopley Boards came to the conclusion that military coordination was needed. This could have contributed for the fiscal restraint advocated by both reports. Whether it was directly tied to the military's budget austerity or a more general concern for federal spending, federal fiscal restraint characterized all major civil defense initiatives until the Kennedy Administration. See B. Wayne Blanchard, Planning Specialist for Civil Defense Programs, Federal Emergency Management Agency, *American Civil Defense*

this scenario, federal civil defense would be staffed by civilians but be responsible to the military, while subordinate civil defense offices in states and cities would be exclusively civilian in nature. The *Bull Report* suggested that civil defense be the fourth branch reporting to the Secretary of Armed Forces, equal in standing to the nation's military branches.²⁴ The *Hopley Report* took a less absolute stance, recommending that the proposed agency be responsible to the National Military Establishment, but acknowledging the possibility that it could report directly to the President.²⁵

As the reports became available the public, Americans were torn between the growing need for national civil defense and a reluctance to consolidate such a program within the military. To some, the military control of civil defense seemed problematic in light of World War II's encounter with fascism. In a radio script he wrote, news commentator Walter Winchell, asked, "Mr. President, the last 30 years of history are screaming their warning. Have they told you sir, that a military dictatorship may take over? ...I assure you, ladies and gentlemen, that you and your liberties are again standing at Valley Forge."²⁶ Similarly, detractors of military civil defense feared the

1945-1984: The Evolution of Programs and Policies, FEMA 107/July 1986 (Emmitsburg, MD: National Emergency Training Center, 1986), 2.

²⁴ The *Bull Report* also suggested organizational plans in the event that the unification of the Armed Forces failed to happen.

²⁵ As the *Hopley Report* stated, "it seems reasonable that the [military] would be preferable." ODCP, *Civil Defense for National Security*, 18.

²⁶ See Walter Winchell, Excerpt of Scripts, November 21, 1948, printed in Joint Committee on Atomic Energy, *Civil Defense Against Atomic Attack: Preliminary Data*, report prepared by staff of the Joint Committee, 81st Cong., 2d sess., 1950, Committee Print, 62, ProQuest (CMP-1950-AEJ-0002). Scripts also claims that the *Hopley Report* "suspends the Bill of Rights."

“regimentation” of the public.²⁷ As a *New York Times* editorial argued, the civil defense office “would have enormous power and authority in times of war over the lives of us all.” Instead, the author suggested, “civil defense should be as the name implies – of, by and for civilians.”²⁸ Yet others defended the need for civil defense even at the expense of a larger military. An oppositional *New York Times* editorial supported the Hopley Board plan, stating that civil defense organization could only be called a war measure “by those [wishing] to make propaganda of it.”²⁹ Thus even in its earliest iterations, civil defense was a topic of policy discussion that was vulnerable to political accusation.

As these discussions played out in the press and government, the Hopley Board waited for endorsement from the Executive Branch. By the middle of December in 1948, however, it began to appear as though President Truman was poised to reject the Bull and Hopley recommendations, electing instead to keep civil and military functions separate.³⁰ Meanwhile, the *Washington Post* reported that other executive agencies also disapproved of military-led civil defense.³¹ Then, without an official announcement in December, the

²⁷ Horatio Bond, “Military and Civil Confusion about Civil Defense,” *Bulletin of the Atomic Scientists* 5 (November 1949), 297. Here, Bond argued that regimentation is “a general problem of civil defense,” not a problem unique to the *Hopley Report*.

²⁸ Hanson W. Baldwin, “New Steps for Defense,” *New York Times*, November 25, 1948, 4.

²⁹ “A Civil Defense Plan,” *New York Times*, November 14, 1948, E8.

³⁰ See Senator Brien McMahon of Connecticut, speaking for the Joint Committee on Atomic Energy, Executive Session, *Civil Defense*, Unpublished Hearing, 81st Cong., 2d sess., February 23, 1950, 18, ProQuest (HRG-1950-AEJ-0050).

³¹ Sam Zagoria, “President Moves to Separate Civil Defense from Military,” *Washington Post*, December 16, 1948, 2. Later, an internal NSRB document outlining criticisms of the *Hopley Report*, Paul J. Larsen, Director of the Civilian

OCDP's funding was removed from the military's budget request. Consequently, other governing organizations postponed their support for the Hopley Board plan, fearing that it might soon be abandoned.³²

On March 3, 1949, President Truman sent a letter to John Steelman, chairman of the two-year-old National Security Resources Board (NSRB), charging that Board with civil defense planning responsibilities. Because "peacetime civil defense planning is related to, and a part of, over-all mobilization planning of the Nation in peacetime," Truman believed that civil defense was part of the NSRB's mission to advise the President on matters of "military, industrial, and civilian mobilization."³³

The reaction to the President's decision was mixed. Some newspapers reported that Truman "junked [the OCDP's] recommendation" for a separate dedicated civil defense office.³⁴ Others assumed that the move indicated that Truman was altogether abandoning focused civil defense planning.³⁵ Still others praised Truman's decision,

Mobilization Office listed military control as the most serious problem with the Report, as it conflicts with "our democratic systems." Paul J. Larsen, Director, Civilian Mobilization Office to W. Stuart Symington, Chairman of the National Security Resources Board, June 2, 1950; E4-1, Box 1; Records Relating to Civil Defense, 1949-1953 (Entry #31-A); Records of the Office of Civil and Defense Mobilization [OCDM]; Record Group 304; National Archives at College Park, College Park, MD.

³² Zagoria, "President Moves to Separate Civil Defense from Military," 2.

³³ *The National Security Act of 1947*, Public Law 253, *U.S. Statutes at Large* 343 (1947) § 103 (c).

³⁴ Joseph H. Short, "Truman Junks Proposed Office of Civil Defense," *Baltimore Sun*, March 5, 1949, 1.

³⁵ "President Rejects Civil Defense Unit," *New York Times*, March 5, 1949, 6.

indicating that it would save money and prevent the expansion of federal powers.³⁶ Praise and criticism aside, Truman charged the NSRB with developing a new national program under the Executive Branch, but it would be another year and a half before the NSRB's Office of Civilian Mobilization submitted an organizational plan.

In the meantime, Forrestal's successor as secretary of defense, Louis Johnson, abolished the Hopley Board and the OCDP in August of 1949 and transferred all remaining military civil defense matters to a newly-created Assistant for Civil Defense Liaison within the Office of the Secretary of Defense.³⁷ By the end of 1949, Congress slated a number of hearings and meetings regarding civil defense. Individual states, sensing that Truman's decision indicated long-awaited federal progress, began to draft their own civil defense legislation.³⁸

The evolution of civil defense planning ideas over the course of the late 1940s reveals how Americans struggled with the changing role of the military after World War II. Despite the growing prominence and power of the national security state,

³⁶ "Reckord O.K.'s President on Civil Defense," *Baltimore Sun*, March 6, 1949, 28.

³⁷ Louis Johnson, Secretary of Defense, Directive Abolishing the Office of Civil Defense Planning and Establishing the Office of Assistant for Civil Defense Liaison, August 1, 1949, printed in Joint Committee on Atomic Energy, *Civil Defense Against Atomic Attack: Preliminary Data*, report prepared by staff of the Joint Committee, 81st Cong., 2d sess., 1950, Committee Print, 53-4, ProQuest (CMP-1950-AEJ-0002).

³⁸ On November 17, 1949, during Congressional recess, the staff of the Division of Biology and Medicine within the Atomic Energy Commission issued a Report titled, "The City of Washington and an Atomic Bomb Attack." The content was discussed at length in committee meetings in February 1950 following Congress' winter recess. The report generated a good deal of attention and likely contributed to legislative urgency in civil defense matters. See, for example, Joint Committee on Atomic Energy, Executive Session, *Civil Defense*, Unpublished Hearing, 81st Cong., 2d sess., February 17, 1950, ProQuest (HRG-1950-AEJ-0049).

policymakers and the public were ambivalent about the role of the military in domestic affairs. Although civil defense theory emerged from the military experience of World War II, few Americans could reconcile the thought of militarized control of civilian life. Thus postwar Americans determined that citizenship in the nuclear state would operate outside the bounds of the military.³⁹ By 1949, nuclear citizenship was predicated upon the relationship between civilians and a *civilian* state.⁴⁰

The responsibility for civil defense was now decidedly out of the control of the National Military Establishment, but the nation still lacked legislation upon which to build a national program. American civilians waited impatiently for action. Over the next year, as the NSRB worked on a national plan behind closed doors, new political concerns arose among policymakers outside the Board. These debates, too, centered around the role of the citizen and the state in the Atomic Age.

³⁹ McEnaney posits that a “healthy suspicion of the military’s power” drove civil defense into the realm of civilian control, and normalized militarization as a part of everyday life. See Laura McEnaney, *Civil Defense Begins at Home: Militarization Meets Everyday Life in the Fifties* (Princeton, NJ: Princeton University Press, 2000), 7. For more on civilian-military tension in postwar America, see Michael J. Hogan, *A Cross of Iron: Harry S. Truman and the Origins of the National Security State, 1945-1954* (New York, NY: Cambridge University Press, 2000).

⁴⁰ Later reports would suggest that this matter was never in question. In a July 18, 1950 draft of an interim civil defense plan, the NSRB explained that Truman shifted control to a civilian agency because the military “realized... that the problem of Civil Defense should be lodged with civil government in order that the military might concentrate on its primary mission.” Once again referring to the World War II experience, the report suggested that this decision was based on the fact that “Even in the highly militaristic nations of Germany and Japan,” civil defense was a civilian operation. See National Security Resources Board, “Interim Civil Defense Plans for Metropolitan Areas (Draft),” July 18, 1950, 1; ; Box 9; Office of Civil Defense. Publication Office, Distribution Branch; Publication History Files 1950-62 (Entry #7); Records of the Defense Civil Preparedness Agency [DCPA]; Record Group 397; National Archives at College Park, College Park, MD (hereafter DCPA-NACP).

Self-Help Civil Defense

Prior to the passage of the Federal Civil Defense Act in early 1951, multiple federal agencies claimed authority in civil defense planning. Among the many groups with stakes in civil defense during the late 1940s were the National Military Establishment, the Atomic Energy Commission, the National Security Council, the NSRB, the Congressional Joint Committee on Atomic Energy, and the Senate and House Committees on Armed Services. Because of the potentially wide-reaching nature of a national civil defense plan, these organizations also consulted with other federal agencies, including the Departments of Commerce, Justice, and Agriculture. Many more groups were interested in planning matters at the state and local levels.

Until 1950, conversations about civil defense within these individual federal groups occurred in parallel, with loose interagency coordination.⁴¹ When President Truman transferred civil defense responsibility to the NSRB it became clear that legislative strategies for civil defense would be necessary in the coming months and years. Beginning in late 1949, as the NSRB worked on a national program, legislative committees created special task forces to discuss civil defense matters.⁴²

⁴¹ Officials in separate offices relied on the same repertoire of information to develop their plans: *The Effects of Atomic Weapons*, the *Bull Report*, and the *Hopley Report*. These remained the only documents that dealt with civil defense in a broad way. See William A. Gill, Director, Division of Civil Defense Planning, National Security Resources Board speaking for the Joint Committee on Atomic Energy, Executive Session, *Civil Defense*, Unpublished Hearing, 81st Cong., 2d sess., March 23, 1950, 8, ProQuest (HRG-1950-AEJ-0031).

⁴² Until December, 1950, both the Joint Committee on Atomic Energy and the Senate Committee on Armed Services claimed Congressional authority over civil defense. The Armed Services Committee argued that their mandate to assure national defense inherently included civil defense. The Committee on Atomic Energy derived their authority from their involvement in nuclear development and

Congressional meetings uncovered an ongoing dilemma in civil defense planning: the inherent tension between federal power, local autonomy, national security, government transparency, and public information. Policymakers were deeply anxious about how to inform the public about the nuclear threat without revealing compromising state secrets. More importantly, officials feared the public reaction to such information.⁴³

The “public relations problem,” as Senator Brien McMahon called it, centered on

strategy, and argued that as a civilian function, civil defense should not be related to a military committee. Separate from one another throughout 1950, both committees heard executive session testimony from the AEC, the Department of Defense, the NSRB, and other officials. Several Congressmen even belonged to both committees. Both committees recognized that their parliamentary dispute would slow down civil defense matters when the NSRB was ready to present legislation to the Congress, but the matter was not resolved until public hearings began in early December. Ultimately, the Senate Committee on Armed Services gained civil defense jurisdiction. See, specifically, the following hearings: Senate Committee on Armed Services, Subcommittee on Civilian Defense, Executive Session, *Civilian Defense*, Unpublished Hearing, 81st Cong., 2d sess., April 6, 1950, ProQuest (HRG-1950-SAS-0085); Senate Committee on Armed Services, Executive Session, *Preliminary Report on Civil Defense; Nomination of Thomas K. Finletter To Be Secretary of the Air Force; Nominations as Per Reference Numbers 194 and 195*, Unpublished Hearings on S. 2496 and S. 2911, 81st Cong., 2d sess., April 13, 1950, ProQuest (HRG-1950-SAS-0087); Joint Committee on Atomic Energy, Executive Session, *Plans for Civilian Defense*, Unpublished Hearing, 81st Cong., 2d sess., December 4, 1950, ProQuest (HRG-1950-AEJ-0068); Senate Committee on Armed Services, Executive Session, *Civilian Defense*, Unpublished Hearing, 81st Cong., 2d sess., December 5, 1950, ProQuest (HRG-1950-SAS-0054). For the response in the press, see for example “Whose Civil Defense,” *Washington Post*, April 15, 1950, 8.

⁴³ In a closed-door Congressional meeting of the Joint Committee on Atomic Energy on February 23, 1950, Senator Brien McMahon presented an abbreviated version of a staff report, “Some Leading Civil Defense Problems.” McMahon removed the study’s title and content of seventy-five questions from the Committee print because it “seemed to [him] that even asking those questions would be a quite exciting piece of news,” provoking public panic. Joint Committee on Atomic Energy, Executive Session, *Civil Defense*, Unpublished Hearing, 81st Cong., 2d sess., February 23, 1950, 1-9, ProQuest (HRG-1950-AEJ-0050).

the relationship between the citizen and the state in a democracy.⁴⁴ Policymakers were acutely aware of how questions about their planning actions aligned with American democratic practices and existed in opposition to totalitarianism. Civil defense planning, therefore, reflected broad ideological concerns with the strength of American democracy in the context of a global contest against the Soviet Union. As such, federal civil defense planning in the late 1940s attempted to maintain a balanced relationship between citizens and their government, while reifying the ideological stakes of Cold War competition. Thus the Congressional lead-up to federal civil defense legislation worked to redefine cultural citizenship under the stresses of the nuclear threat.

In their earliest discussions about nuclear public safety, officials feared that a national civil defense program could vest the federal government with extreme powers. The decision to make civil defense a civilian program reflects this concern. Yet complex questions remained regarding the nature of the nuclear state. What responsibilities would various agencies have? How could a federal agency's powers be checked in the event of war? Policymakers answered these questions by promoting a diffuse command structure with a weak central organization, undergirded by the idea of self-help. Self-help placed the majority of civil defense responsibilities on existing agencies, especially at the state and local level.

Self help had been the organizing principle of civil defense in the *Bull Report*, and to a much greater extent, the *Hopley Report*. The *Hopley Report* emphasized economy, feasibility, and minimal bureaucratic growth. In light of the potential scale of a nuclear

⁴⁴ Senator Brien McMahon, speaking for the Joint Committee on Atomic Energy, Executive Session, *Civil Defense*, Unpublished Hearing, 81st Cong., 2d sess., March 23, 1950, 2, ProQuest (HRG-1950-AEJ-0031).

crisis, the report also emphasized the practical need for individual citizens to take responsibility for themselves whenever possible. The report emphasized a ground-up chain of action. If an individual could not help him- or herself, he or she would look for assistance from the community. If the community could not help itself, it would look to mutual aid from surrounding communities or the state, and so on and so forth, from the immediate to the distant, and from the local to the national.

In theory, self-help would minimize the potentially enormous scale of national civil defense by diffusing responsibility. For postwar politicians who cast a critical eye toward state growth and budgetary largess, this may have given a national civil defense plan more appeal. As Paul J. Larsen, Director of the NSRB Office of Civilian Mobilization, put it in a Congressional meeting in March of 1950, he “[hoped] that to maintain our democratic type of government we have, that we don’t bankrupt it.”⁴⁵

Aside from its utility as an organizational strategy, self-help had metaphoric uses as well. The *Hopley Report* indicates that each civil defense warden—the first level of organizational authority above the individual and family—“will be the local leader

⁴⁵ Paul J. Larsen, Director, Office of Civilian Mobilization, speaking for the Joint Committee on Atomic Energy, Executive Session, *Civil Defense*, Unpublished Hearing, 81st Cong., 2d sess., March 23, 1950, 20, ProQuest (HRG-1950-AEJ-0031). Laura McEnaney argues that self-help was part and parcel of a conservative effort to shrink the American welfare state through privatization. While I agree that policymakers were sensitive to postwar growth of the state, the early Cold War self-help impulse was not privatization as much as “localization.” Federal policymakers insisted that states and localities fund most civil defense programs, but they were wary of private organizations taking too much initiative. Self-help through localism allowed the federal government to take leadership through existing governing structures without having to foot the full bill. I do agree with McEnaney’s assessment that self help was promoted “because it satisfied an array of divergent interests.” McEnaney, *Civil Defense Begins at Home*, 7-8 and 23-8.

through whom civil defense becomes a living force.”⁴⁶ Indeed the report not only capitalizes Civil Defense, but personifies the program with human verbs: Civil Defense “is ready,” “rescues,” “cares,” “knows,” “furnishes,” and “reassures.”⁴⁷ The Hopley Board may have used such language unintentionally, but it further emphasized the importance of the individual citizen in civil defense and humanized what could be construed as an unwanted expansion of state power.

Although the Truman Administration abandoned the *Hopley Plan* shortly after its release in 1949, self-help remained the centerpiece of civil defense planning into 1950 and 1951. Congressional civil defense committee members were convinced that self-help was the only feasible option. As planning discussions continued, however, officials discovered that some aspects of civil defense required an active federal office. For example, the size of a nuclear attack, especially one in New York City or Washington, D.C., would require collaboration among the states and communities adjacent to the target area.⁴⁸ Knowing that some aspects of civil defense would need federal funding support, policymakers avoided determining a federal, state, and local budgeting structure until well into the Federal Civil Defense Act’s legislative review. Each exception to the

⁴⁶ OCDP, *Civil Defense*, 9.

⁴⁷ *Ibid.*, 3.

⁴⁸ For example, Shields Warren, member of the Atomic Energy Commission, stated “that if you plan on a state basis only, you are going to be in very serious trouble,” based on a blast projection map of Washington brought to the Joint Committee of Atomic Energy. Joint Committee on Atomic Energy, Executive Session, *Civil Defense*, February 17, 1950, 31. The visual power of the projection maps caused a stir among Congressmen. Senator Millard Tydings of Maryland even joked that he should consider running from a less vulnerable state in the upcoming 1950 election. *Ibid.*, 29. Another prominent aspect of civil defense that required direct federal involvement and oversight was the organization of mobile reserves of supplies and equipment that could travel to the site of an emergency.

self-help structure created controversy and lengthy deliberation in Congress.

When finally passed in 1951, federal civil defense legislation maintained a bottom-up structure for civil defense, focusing on individual responsibility. Nearly all of the civil defense media produced during the 1950s emphasize self-help: individuals were responsible for training and preparing; families were responsible for making household disaster plans; and factories were responsible for creating their own emergency directives. As the 1950s progressed, self-help would take on a moral and ethical dimension that was only in its infancy in the late 1940s.

The Transparent [National Security] State

Although civil defense policymakers resolved the tension between federal power and local autonomy through self-help theory, the solutions were less clear for how to approach the dissemination of public information. Planners wanted to gain the trust of Americans by giving them access to information that could save their lives. They also felt compelled to respond to civic organizations and citizens who, by 1949, were eager for instructions. However, because civil defense was sometimes inseparable from active defense strategy, Congress and security agencies had to delineate the limits of federal transparency in civil defense planning. For policymakers, public communication became a critical means of defining of the relationship between the citizen and the state.

Throughout 1950, Congressional committees held executive—closed to the public—meetings to hear testimony from various groups involved in civil defense planning. Officials felt that a significant number of issues needed to be resolved before the current debates reached the public, even though the public had access to the previous reports by way of the news media. Especially within the Joint Committee on Atomic

Energy, policymakers strove to fully understand the ramifications of current weapons development and shifting strategy before making policy decisions. Indeed, executive sessions were necessary in many instances because testimony involved weapon specifications, military capabilities, and other state secrets. However, for the first part of 1950, public communication of less sensitive civil defense information was guarded just as closely.

The transcripts of Congressional hearings indicate that most members struggled to evaluate the public's capacity to interpret civil defense information in a rational fashion. Although *The Effects of Atomic Bombing* included sections on civilian crisis psychology, most members seem to have left this information by the wayside in favor of assuming that the American public was irrational, emotional, and ignorant. Fearing the premature release of a civil defense analysis of Washington, D.C. to the public, Congressman Tom Connally (D, TX) asked members of the Atomic Energy Commission at a committee meeting, "you will scare everybody to death, won't you?"⁴⁹ The American public, Senator John W. Bricker (R, OH) argued, "[had] been so shocked and so emotionally tested," that they could not be counted on to act rationally in response to civil defense information (and even less so in an actual attack).⁵⁰ Gordon Dean, Commissioner of the Atomic Energy Commission reinforced these assumptions, telling Congressmen, "the

⁴⁹ Senator Tom Connally of Texas, speaking for the Joint Committee on Atomic Energy, Executive Session, *Civil Defense*, February 17, 1950, 20.

⁵⁰ Senator John W. Bricker of Ohio, speaking for the Joint Committee on Atomic Energy, Executive Session, *Civil Defense*, February 17, 1950, 58.

time is ripe for hysteria.”⁵¹ Officials feared that the public could become frenzied in response to information about the nuclear threat. They also assumed that, without proper training, Americans would act irrationally in the face of a nuclear crisis.

But shielding the public from nuclear realities would not suffice either. In a February, 1950 executive meeting of the Joint Committee on Atomic Energy, Shields Warren of the Atomic Energy Commission stated that he believed “ignorance is the greatest cause of hysteria.”⁵² Senator Bricker also blamed a perceived indifference about civil defense on public ignorance.⁵³ If self-help was to be effective, they believed, Americans needed information about nuclear weapons. For example, officials agreed that in order to prepare for an attack, civilians needed to know how a nuclear weapon destroys: blast, fire, and radiation. But did the public need to know how many operable nuclear weapons the Soviet Union held? Should urban dwellers know the likelihood of attack on their home city? The answers to these questions demonstrated the thin line between government transparency and strategic vulnerability.

Officials worried that keeping an unnecessary degree of information from the public was akin to censorship, a hallmark of totalitarian governance. McMahon balked at the idea of encouraging Americans to have blind faith in their leadership, saying, “[B]y God, that is the very psychology, the very business we are opposing, fighting.” Later he put it another way, using somewhat contradictory language: “[Y]ou can’t regiment a

⁵¹ Gordon Dean, Commissioner, Atomic Energy Commission, speaking for the Joint Committee on Atomic Energy, *Ibid.*, 21.

⁵² Shields Warren, Division of Biology and Medicine, Atomic Energy Commission, speaking for the Joint Committee on Atomic Energy, *Ibid.*, 54.

⁵³ Senator John W. Bricker of Ohio, speaking for the Joint Committee on Atomic Energy, *Ibid.*, 58.

democracy unless you tell them some of the reasons why you are doing things.”⁵⁴ The public tension between censorship and transparency ran high in Washington at that moment: just weeks earlier, Senator Joseph McCarthy had claimed that he had uncovered widespread Communist infiltration in State Department.

In the diplomatic context of the late 1940s and very early 1950s, it is no surprise that officials turned such an attentive eye toward public information. The Soviet nuclear program advanced faster than American intelligence had previously estimated, some suspected thanks to espionage.⁵⁵ Likewise, Congressmen brought up Soviet spy Klaus Fuchs’ trial in multiple meetings throughout 1950. Federal leaders at this moment were acutely aware of the consequences of mishandled information. And, although nuclear weapons presented the biggest challenge and garnered most attention, officials tried to include chemical and biological warfare, industrial sabotage, and political subterfuge as considerations for civil defense as well. Especially in these secondary civil defense concerns, policymakers worried about how fifth-column subversives might use publicly-available information against the goals of the state.

Beyond establishing consensus about the need for a careful public information campaign, Congressional debates made little headway in defining what the public could

⁵⁴ Senator McMahon, speaking for the Joint Committee on Atomic Energy, Executive Session, *Civil Defense*, Unpublished Hearing, 81st Cong., 2d sess., March 1, 1950, 61; 28, ProQuest (HRG-1950-AEJ-0030).

⁵⁵ For a detailed narrative of official projections for the Soviet nuclear program, see Richard Hewlett and Oscar E. Anderson, Jr., *Atomic Shield, 1947/1952* (Berkeley, CA: University of California Press, 1990).

and needed to know.⁵⁶ Consequently, that authority was vested first in the NSRB by way of executive mandate, and later by legislative power in the Federal Civil Defense Administration. One lasting effect of Congressional discussions about public communication, however, was an increased focus on interagency cooperation and oversight, especially between the Department of Defense, the Atomic Energy Commission, and civil defense agencies.

Overall, officials failed to find a solution that balanced state and public information needs, in large part because their understanding of the psyche of the American people was ambiguous and malleable. While officials thought that divulging more information to the public could cause hysteria and panic, the relatively calm public reaction to news of the Soviet atomic explosion in 1949 concerned and confused some policymakers. “There is also the danger of underestimation,” McMahon said to the Joint Committee on Atomic Energy. “I think the reactions to the Soviet bomb were very bad in this country. I think it was underplayed. I think we kicked it under the rug.”⁵⁷ Perhaps, some officials thought, the public needed to be *more* concerned about nuclear issues. In any case, public reaction seemed unpredictable.

The early Congressional debates about civil defense reveal how important psychological considerations had become in some policymaking circles. Indeed, these discussions in Washington parallel a larger social shift toward using psychology, sociology, and other forms of social science expertise as a framework for understanding

⁵⁶ In fact, throughout 1950, the NSRB had been publishing and distributing informational pamphlets (both classified and public).

⁵⁷ Joint Committee on Atomic Energy, Executive Session, *Civil Defense*, February 23, 1950, 24.

the world.⁵⁸ Officials struggled to implement psychology in a legible way, using words such as “frenzy,” “hysteria,” and “panic” as blanket terms to define the American public’s anticipated response to nuclear realities.⁵⁹

But the Congressional discussions also resulted in lasting assumptions that the American public was indeed capable of acting in rational and orderly ways, if only it had access to carefully-procured information. Policymakers believed that if citizens knew more about the situation at hand, they would worry less about the threat of an nuclear attack. As McMahon put it, “a fear that produces action, that is the act of a rational and intelligent being.”⁶⁰ If the federal civil defense program issued comprehensive instruction and training on how to act, policymakers reasoned, Americans could survive a nuclear actual attack without suffering unnecessary social or psychological distress.

Controlled transparency of government thus became the way the state chose to interact with its population under the requirements of the Atomic Age. The state expected citizens to be receptive to state information and to respond in a rational, responsible way. Accountability and knowledge became bound to democratic practice and participation in new ways and thus became critical elements of citizenship in the Atomic Age.

⁵⁸ Ellen Herman, *The Romance of American Psychology: Political Culture in the Age of Experts* (Berkeley, CA: University of California Press, 1995); Sarah Igo, *The Averaged American: Surveys, Citizens and the Making of a Mass Public* (Cambridge, MA: Harvard University Press, 2007); Alan C. Petigny, *The Permissive Society: America, 1941-1965* (New York, NY: Cambridge University Press, 2009); and James Hudnut-Beumler, *Looking for God in the Suburbs: The Religion of the American Dream and Its Critics, 1945-1965* (New Brunswick, NJ: Rutgers University Press, 1994), 9-15.

⁵⁹ See, specifically, throughout: Joint Committee on Atomic Energy, Executive Session, *Civil Defense*, February 23, 1950.

⁶⁰ *Ibid.*, 42.

The Path to Legislation

By March of 1949, when President Truman transferred civil defense responsibility to the NSRB, the United States had been airlifting food and supplies to Berlin for months, the Communist Revolution in China was nearing its conclusion, and the United States was approaching an agreement with other European nations to form what would become the North Atlantic Treaty Organization (NATO). Truman's move to place civil defense under the capacities of the NSRB mirrors the logic behind the National Security Act of 1947.⁶¹ Bringing civil defense under the formal jurisdiction of the Executive Branch would, in theory, facilitate streamlined communications with other mobilization efforts and expedite the chain of communication with the President.

However, President Truman was leery of granting operational authority to a new organization under the Executive Branch. The Executive's interpretation of the National Security Act held that the NSRB was strictly an advisory organization.⁶² But its first Chairman, Arthur M. Hill, struggled with his Board's limited mandate. In a series of letters to Truman, Hill argued that the changing course of world events made it necessary for the Board to take active leadership in managing resources, especially manpower

⁶¹ The NSRB was created as part of the National Security Act of 1947 to streamline wartime economic mobilization. Its charter included the responsibility for "industrial and civilian mobilization," but made no specific mention of civil defense beyond such verbiage. See *The National Security Act of 1947*, Public Law 253, *U.S. Statutes at Large* 343 (1947) § 103. The civilian Chairman of the NSRB reported directly to the President, and was a member of the National Security Council. The War Department had been considering the transfer of civil defense activities to a centralized organization such as the NSRB since at least late 1946. War Department Civil Defense Board, *A Study of Civil Defense*, 2.

⁶² Interestingly, the formal recognition of the NSRB's role as a Presidential advisory organization did not come until the summer of 1949 with the Reorganization Plan Number 4 of 1949.

mobilization. Hill argued that some operational authority was necessary for the NSRB to carry out its function of accelerating mobilization in the event of war. Hill's views met unwavering resistance from Truman until the Korean crisis in June of 1950, at which point Truman conceded limited, specific operational authority to the NSRB.⁶³

Thus, when Truman transferred civil defense planning to the NSRB, it was in an advisory capacity only. The NSRB's Office of Civilian Mobilization (OCM) confronted the same jurisdictional disputes as the Board at large. The OCM was able to stretch its narrow definition to include organizing mock-attack planning exercises and training courses, printing informational pamphlets, and making formal agreements with organizations such as the Red Cross. Yet the OCM could not employ more than a skeleton staff, nor operate without approval from the President. The advisory nature of the OCM established a precedent for future national civil defense organizations.

From March of 1949 until September of 1950, the OCM developed an extensive national civil defense plan. Over the same period, Congressional committees debated federal civil defense and many states crafted legislation based on the *Hopley Report*.⁶⁴ However, by the end of 1949, at least twelve state legislatures had passed or were debating civil defense laws. Many more states had established advisory committees within the governors' offices. State-level legislation typically allowed for emergency powers in the case of a nuclear strike, created a legal mandate for appointed civil defense committees, and defined the relationship between the state government and its

⁶³ *A Case Study in Peacetime Mobilization Planning: The National Security Resources Board, 1947-1953* (Washington, DC: GPO, 1953), 14-31.

⁶⁴ The *Hopley Report* included a Model State Civil Defense Act, upon which states could base their legislation. OCDP, *Civil Defense for National Security*, 280-5.

municipalities and counties.

Throughout 1949 and 1950, it appeared to civilians and local leaders as though no agency or official led civil defense planning. Planning was hampered by the fact that Truman's mandate to the NSRB's OCM required a great deal of interagency planning, consultation, and cooperation. The *Washington Post* reported that, by June, many federal offices were contributing to the OCM plan, including the Federal Works Agency, the Federal Security Agency, the Atomic Energy Commission, and the Departments of Defense, Agriculture, Commerce, Treasury, and Justice.⁶⁵ Still, President Truman and the NSRB came under heavy criticism for the lack of progress and slow central planning.⁶⁶

Despite concerns that federal agencies had neglected to take an organizational lead in civil defense, the OCM continued to develop its national plan. Congress began holding private and public hearings in preparation for eventual civil defense legislation. Civic groups, the press, and civilians continued to push for a plan.⁶⁷ Meanwhile, Congressmen and civil defense officials assured the public that the OCM was making progress.⁶⁸

⁶⁵ "Industrial War Mobilization, Civil Defense Demilitarized," *Washington Post*, June 26, 1949, M2.

⁶⁶ See for example, Lincoln Gould, "Rep. Kennedy 'Shocked' by Civil Defense Setup," *Daily Boston Globe*, October 10, 1949, 2; "Only 12 Men Plan U.S. Civil Defense," *New York Times*, October 2, 1949, 32; "Baruch Lashes Lack of Action in Civil Defense," *Chicago Daily Tribune*, October 31, 1949; and "Neglected Civil Defense," *Washington Post*, December 1, 1949, 12.

⁶⁷ See, for example, "Legion Asks Drill for Civil Defense," *New York Times*, March 21, 1950, 12; and "Big City Officials Ask Civil Defense on National Scale," *Daily Boston Globe*, April 4, 1950, 19.

⁶⁸ Millard Tydings, Democratic Senator from Maryland and Chairman of the Senate Armed Services Committee, accused Senator Joseph McCarthy of delaying civil

On September 8, 1950, the OCM submitted their completed report, *United States Civil Defense*, to President Truman.⁶⁹ Officials referred to the report as the *Blue Book* for the color of its cover. Just ten days later, Truman sent the *Blue Book* to Congress, requesting the creation of a Federal Civil Defense Administration.

The *Blue Book* plan resembled that of the *Hopley Report* in many ways, emphasizing self-help and the autonomy of states and municipalities. But it gave a more detailed organizational plan and loose specifications for a funding structure. As Colonel Barnett W. Beers, the Civil Affairs Liaison Assistant to the Secretary of Defense, assured the skeptical Armed Services subcommittee in a meeting to consider the civil defense bill, “the bill is based on all of the previous studies and is a progress rather than a new approach.”⁷⁰

President Truman sent the *Blue Book* to Congress shortly before legislators recessed at the end of September. Congress reconvened for a lame-duck session at the end of November, amid an intensifying situation in Korea and diplomatic instability in Yugoslavia. Truman issued Executive Order 10186 on December 1, 1950, creating a Federal Civil Defense Administration within the Executive Office to facilitate a smoother

defense legislation by pursuing an inquiry into Communism in the State Department. See “Tydings Asks Civil Defense for Atom War,” *Los Angeles Times*, February 19, 1950, 30.

⁶⁹ National Security Resources Board, *United States Civil Defense* (Washington, DC: GPO, 1950). The report was also known as NSRB Document 128 and as the *Blue Book*.

⁷⁰ Colonel Barnett W. Beers, speaking before House Committee on Armed Services, Subcommittee on Civilian Defense, *Subcommittee Hearings on H.R. 9798, To Authorize a Federal Civil Defense Program*, 81st Cong., 2d sess., December 5, 1950, ProQuest (HRG-1950-ASH-0083).

transfer of civil defense responsibilities from the NSRB.⁷¹ Congress held hearings at the beginning of December on H.R. 9798 and passed the Federal Civil Defense Act of 1950 by the time Congress recessed again on January 2, 1951. Truman signed the Act into law on January 12, 1951, finally creating the Federal Civil Defense Administration.⁷²

The Federal Civil Defense Act of 1950 created a statutory FCDA and reassigned Truman's Executive FCDA into the new office. Importantly, the Federal Civil Defense Act was the first civil defense agency established by law and not exclusively by Executive or Military Order. In the brief month that the FCDA existed prior to Congressional mandate, it had struggled to find authority and funding to facilitate organizational action without enabling legislation.⁷³ Recycling portions of the *Blue Book*, the new law included explicit funding restrictions, qualifications on the Administration's powers in peace- and wartime, and additional approval requirements from Congress and the President. None of these additions fundamentally altered the intent of H.R. 9798. Congress enumerated federal powers only when the states and localities could not organize or pay for such programs themselves. In this sense, Congress codified a diffuse federal civil defense system.

Given the slow pace of civil defense planning over the prior four years, what

⁷¹ Executive Order 10,186, *Establishing the Federal Civil Defense Administration in the Office for Emergency Management of the Executive Office of the President*, December 1, 1950.

⁷² On December 16, 1950, President Truman issued Executive Order 10,193, establishing the Office of Defense Mobilization (ODM) under the jurisdiction of the Executive Branch. Until the NSRB was formally disbanded on June 12, 1953, the ODM gradually took up its responsibilities. Executive Order 10,193, *Providing for the Conduct of the Mobilization Effort of the Government*, December 16, 1950.

⁷³ Joint Committee on Atomic Energy, Executive Session, *Plans for Civilian Defense*, December 4, 1950, 9.

accounts for the comparatively quick progress of the civil defense bill in 1950 and 1951?

The answer lies in both external and internal factors. The changing geopolitical environment created new international concerns for American diplomatic strategy that increased the presumed need for a civil defense plan. Internally, state and local governments and a host of civic organizations began agitating for federal action, and acting on their own, as discussed in Chapter 1. Federal policymakers felt the need to establish a national program to coordinate local plans and minimize organizational redundancy and inefficiency.

Perhaps most importantly, the Soviet Union detonated its first atomic device on August 29, 1949. President Truman announced the news in a short press conference on September 23. Saying that “the eventual development of this new force by other nations was to be expected,” Truman reemphasized the need for international control of nuclear technology.⁷⁴ Yet the Soviet nuclear program advanced faster than many experts had assumed and the public responses to the Soviet bomb were varied, as discussed above. The loss of a monopoly on nuclear weapons changed the American diplomatic position. The possibility of a foreign attack was no longer an assumed future problem, but a present reality.⁷⁵

⁷⁴ President Harry S. Truman, “Statement by the President on Announcing the First Atomic Explosion in the U.S.S.R.,” September 23, 1949, in Gerhard Peters and John T. Woolley, eds., *The American Presidency Project*. <http://www.presidency.ucsb.edu/ws/?pid=13312> (Accessed February 17, 2017).

⁷⁵ The diplomatic historiography is somewhat divided on the significance of the Soviet atomic explosion in 1949. Some argue that the Soviet thermonuclear explosion in 1953 was a more critical moment in Cold War strategy. See, for example, Melvin Leffler, *A Preponderance of Power: National Security, the Truman Administration, and the Cold War* (Stanford, CA: Stanford University Press, 1993). However, President Truman and his advisors downplayed the news in

Then, on June 25, 1950, the crisis in Korea began. Two days later, President Truman, with the support of NATO and the UN, sent troops to the peninsula to intervene. While some doubt remained about the viability of the Soviet nuclear program, the Korean conflict had critical nuclear safety implications.⁷⁶ Should the Soviet Union be provoked, there existed a possibility of nuclear retaliation.

As the first “hot” war since the conclusion of World War II, Korea had symbolic importance on the home front. In 1950, World War II was a very recent memory for Americans. The public assumed the next war would be fought with nuclear weapons and the lack of a viable civil defense program left many Americans wondering what the federal state was doing to protect them under new wartime conditions. As an editorial in the *New York Times* claimed in July, the Korean War “crystallize[d] some rather vague notions on internal protections problems” and contributed to renewed speed in planning efforts.⁷⁷ As public concern for civil defense accelerated after the Korean crisis began, it was a happy coincidence that President Truman had commissioned *United States Civil*

1949 in order to control the press reaction. While the magnitude of destruction caused by thermonuclear devices greatly obscures that of atomic weapons, 1949 is not to be overlooked. For the public 1949 changed assumptions about safety, peace, and aggression as much, if not more, than the 1953 revelation. For a detailed account of the weeks surrounding the explosion, see Hewlett and Anderson, *Atomic Shield*.

⁷⁶ Senator Connally said “isn’t it true that a lot of our people, even some in Washington, don’t realize the announcement of the bomb in its full significance? A lot of them say they have a bomb, but it isn’t as good as our bomb.” Senator Tom Connally of Texas, speaking before the Joint Committee on Atomic Energy, Executive Session, *Civil Defense*, Unpublished Hearing, 81st Cong., 2d sess., March 1, 1950, 44, ProQuest (HRG-1950-AEJ-0030).

⁷⁷ Paul P. Kennedy, “How Much Civil Defense? Most of it is on Paper,” *New York Times*, July 16, 1950, E7. Also see “Civil Defense Not Yet Ready for All-Out War,” *Daily Boston Globe*, July 23, 1950, C25.

Defense over a year earlier.⁷⁸ When the *Blue Book* was completed in September, the timing was right for an expedited legislative path.

Conclusion

The Federal Civil Defense Act was the culmination of years of federal dialogue regarding the purpose, limits, and meaning of civil defense. As policymakers worked through each of these issues, their decisions worked to redefine how the nuclear state interacted with its citizens by reinforcing democratic ideology through public communication and state protection services. Democratic ideals aided in the construction of civil defense policy. Civil defense policy, in turn, reinforced and upheld those democratic values as the Cold War continued.

By early 1951, civil defense had uncovered important ways that nuclear weapons were transforming the relationship between the state and its citizens. First, civil defense policy reflected a move to separate the military from civilian government, even as the National Security State grew. In part, the push toward increased civilian governance reflected a society returning to a postwar environment. It also demonstrated how policymakers and the public conceptualized American national identity in opposition to wartime and Cold War enemies. By embracing federal civilian leadership, Americans differentiated themselves from subjects of totalitarianism and military dictatorship.

In a second and related way, civil defense policy reflected domestic concerns

⁷⁸ Throughout most of 1949, the NSRB leadership and President Truman struggled to agree on NSRB objectives and the degree to which programs could be staffed and implemented in peacetime. Prior to U.S. engagement in Korea, Truman had insisted that the NSRB be minimally-staffed, and primarily focused on long-term planning. When the Korean crisis broke out, the mission of the NSRB changed considerably to an emphasis on short-range initiatives. See Executive Office of the President, *A Case Study in Peacetime Mobilization Planning: The National Security Resources Board, 1947-1953* (Washington, DC: GPO, 1953), 39-41.

about local autonomy in the face of federal power. As with overt military power, many politicians saw the centralization of federal authority as a political liability in postwar society. Moreover, ideas about states' rights and smaller government found traction among the postwar conservative coalition that had emerged in response to New Deal state growth. Thus civil defense policy and nuclear citizenship were limited by and reflective of domestic political ideology.

Finally, civil defense brought issues of government accountability, transparency, and responsibility to a head. Debates about civil defense reveal that policymakers worried about the consequences of secretive government. Civil defense policy did not resolve questions about what the public could and should know about nuclear matters. However, civil defense discussions demonstrated that the government should be as accountable to its public as was possible while preserving state security. The nuclear threat established federal transparency as an integral part of the relationship between the state and citizens.

Each aspect of nuclear citizenship that emerged out of policy discussions of the late 1940s—civilian control, local power, and the availability of information—reflected changing domestic and international politics. However, the unique requirements of the nuclear threat created a setting for policymakers and the public to articulate how the role of the state was changing. Perhaps more than any other domestic issue in the early Cold War, civil defense forced Americans to reconsider the practical and tangible role of the state in individual lives.

CHAPTER 4

THE MAN IN THE WHITE LAB COAT: SCIENTISTS AND SCIENTIFIC AUTHORITY

On December 8, 1953, President Dwight D. Eisenhower made a surprising speech about “the awful arithmetic” of nuclear weapons before the United Nations General Assembly. Calling for openness among nations with regards to nuclear science, Eisenhower argued “[the weapon] must be put into the hands of those who will know how to strip its military casing and adapt it to the arts of peace.”¹ The proposal represented a shift in foreign policy that backed away from aggressive proliferation and international secrecy. The “Atoms for Peace” speech mirrored a message that had underlined civil defense messages for several years: that the future of the world depends on the responsible use of nuclear science for the betterment—not destruction—of mankind. If the message had come as a surprise to policymakers and foreign leaders, it would have been a familiar one to many American citizens.²

¹ Dwight D. Eisenhower, “Atoms for Peace,” Address to the United Nations General Assembly, New York City, December 8, 1953; transcript found at the International Atomic Energy Agency, <https://www.iaea.org/about/history/atoms-for-peace-speech> (accessed February 16, 2017). For extensive background about Eisenhower’s speech, see Robert R. Bowie and Richard H. Immerman, *Waging Peace: How Eisenhower Shaped an Enduring Cold War Strategy* (New York, NY: Oxford University Press, 1998), chapter 14.

² Eisenhower’s speech is one of the most-referenced versions of the Cold War trope of atoms for good versus atoms for evil. This dichotomy appeared frequently throughout the early Atomic Age in entertainment media, policy discussions, and scientific debate. However, it also illustrates the difficulty in separating the terms *nuclear science*, *nuclear weapons*, and *nuclear energy*. For the purposes of this chapter, I will use *nuclear science* as a catch-all term for information related to both the destructive potential—*nuclear weapons*—and the benevolent

Eisenhower delivered his “Atoms for Peace” speech during a critical period of changing ideas about scientific authority in American society. Eisenhower believed that the peaceful uses of nuclear science could provide a solution to the monumental dangers of the Cold War. Moreover, he linked the peaceful atom to a key tenet of the scientific community: the sharing of information. The peace program tied together these two ideals—that of a peaceful future and scientific cooperation and progress—together under the rubric of transparency in a functional democracy. “Atoms for Peace” represented a new facet to the relationship between the state and the citizen in the Atomic Age: the responsibility of the state to provide information—in this case, about nuclear science—to its citizens, as a means for including them in domestic and international politics.

The most successful way the Cold War state delivered nuclear information to its citizens, however, was not through addresses to the United Nations but through the civil defense media campaign. From 1949 onward, civil defense agencies produced hundreds of educational pamphlets, fliers, posters, bulletins, and films.³ Many of these publications were produced in partnership with organizations, advertisers, and businesses in order to share the production costs. Federal civil defense agencies distributed this media widely to individual families, community groups, industry and private companies, as well as to states, counties, and cities.

applications, including *nuclear energy* and other positive advancements. I also use *nuclear science* as a general subheading for a variety of fields related to the study of particle physics, including, but not limited to, theoretical and practical physics, medicine, chemistry, and biology. When clarity demands, I will use more specific disciplinary distinctions.

³ Civil defense responsibility moved from the National Security Resources Board (NSRB) (1949-1951), the Federal Civil Defense Administration (FCDA) (1951-1958), the Office of Civil Defense Mobilization (OCDM) (1958-1961), and the Office of Civil Defense (OCD) (1961-1964).

The information presented in civil defense media remained consistent throughout the postwar period. The message was clear: civilians could survive a nuclear attack if they arm themselves with the proper information, training, and preparation. Even in the earliest civil defense literature, officials stressed survivability. If a nuclear strike could not be prevented, survival was the next best thing. But survival meant more than personal safety. Civil defense literature told Americans that at stake was the survival of the American way of life and victory in the global battle against communism. This idea is evident throughout civil defense material, and whether emphasizing continuity of government, the economy, or culture, civil defense literature directly linked the individual American citizen to the nation as a whole. In the Atomic Age, the necessity of survival became a way to national community.

Still, the civic rhetoric of survival needed to be grounded in practical, applicable information, especially when the general public had little comprehension of nuclear warfare. More importantly, perhaps, the public needed to believe that civil defense would work. Civil defense policymakers, in response, leaned heavily on scientific explanations to legitimize civil defense directions. In general, officials framed this information as a corrective: nuclear science may seem frightening on the surface, but through understanding and education, the threat would seem less overwhelming and survival more plausible. Ironically, the science that created nuclear weapons was framed as the solution to defending against them.

The contest over scientific authority played out the realm of civil defense policy and among American culture more broadly. Policymakers used scientific expertise to establish their authority as civil defenders, advocates for American nationalism, and as

rational, trustworthy, and in-control leaders. The federal civil defense bureaucracy demonstrated its command over nuclear knowledge in two ways. First, civil defense offices relied on specialists from a broad range of disciplinary backgrounds to help craft policy. When these agencies commissioned expert studies, they often released the completed research to the public and the press. They also used the findings in civil defense instructions, emphasizing that the recommendations had been developed, tested, and vetted by the most qualified scientific consultants. Civil defense agencies thus emphasized the role of scientific research in their recommendations and proposals to portray themselves as both the producers and the keepers of knowledge. A 1951 report, *Project East River*, provides a case study for examining how civil defense policymakers marshaled such scientific authority. Secondly, civil defense administrators positioned themselves as scientific educators—the disseminators of knowledge—believing that the public needed to become familiar with basic nuclear physics. In order to make such materials approachable, and thereby more credible, civil defense materials called upon a range of established cultural motifs and tropes about scientists and the work they did.

Scientific authority in civil defense, however, existed against a backdrop of changing cultural ideas about the roles of the scientist and science in democratic culture at large. Several events in the early- and mid-1950s made Americans question their nation's faith in science and technological progress. First, the development of the hydrogen bomb stirred public controversy and made Americans begin to doubt the wisdom of developing such awesomely powerful weapons. Moreover, for some Americans, the position of nuclear physicists in important policy advisor positions made weapons advancement all the more dangerous. Second, several high-profile loyalty

scandals involving nuclear physicists made headlines. While Manhattan Project scientists had emerged as public intellectuals and celebrities in the postwar era, their position as trusted experts during McCarthyism was fragile, contingent, and potentially dangerous.

Both veins of public conversation—the questioning of the science and the questioning of the scientist—complicated the paternalist-expert image promoted by civil defense media. Despite civil defense officials’ efforts to streamline and simplify popular notions of nuclear science, the changing public opinion about nuclear science worked against the goals of civil defenders. To skeptics and critics, the scientist could be viewed as a liability in democratic life, and science itself took a more sinister visage. By the mid-1950s, Americans began to vocally criticize how the state was using science.

Nuclear science was a flexible, and potent, force in postwar culture. Many actors worked to control its meaning: using it variously as a means to promote survival, pursue political goals, question public complacency, and entertain the masses. A moment such as Eisenhower’s campaign for “Atoms for Peace” can thus be seen as an attempt to manage popular opinion as much as an honest effort to turn nuclear research toward peaceful purposes. As the 1950s went on, private businesses, industry, civic organizations, and local governments began using nuclear information for their own purposes, gradually weakening the federal government’s authority over civil defense media and the messages used therein. And, by the late 1950s, nuclear information was being put toward ends that actively worked against the goals of the state. The nuclear dissent movement used nuclear science to bolster its cause and claims, a topic that will be explored in further depth in Chapter 4. Indeed, it seems as though the more people understood nuclear science, the more it became a problem. Perhaps then the goals of the early 1950s informational

campaigns succeeded in educating the public, but instead of promoting the goals of the state, it undermined them.

The FCDA and Scientific Expertise

Over the course of the 1950s, the FCDA (and its subsequent agencies) looked to specialists from a wide range of fields to assist in crafting civil defense policy. Chapter 2 explained the federal government's several inquiries into civil defense research in the late 1940s, including the Hopley and Bull groups, which outlined early organizational recommendations for a national civil defense plan. Yet even after the establishment of the Federal Civil Defense Administration in the winter of 1950-51, organizational and policy questions lingered. So in June 1951 the FCDA, the NSRB, and the Department of Defense commissioned Project East River (PER), a study of civil defense needs and methods to reduce the public's vulnerability to nuclear attack.⁴ "An attack with modern weapons," the director of the project warned, "would be much more damaging to our population, our property, our way of life, and to our democratic institutions generally than is realized by the public or even by many responsible government officials."⁵ The report would eventually be made available to the public at large.

⁴ For more on Project East River, see Andrew D. Grossman, *Neither Dead nor Red: Civil Defense and American Political Development During the Early Cold War* (New York, NY: Routledge, 2001), 58-62; Laura McEnaney, *Civil Defense Begins at Home: Militarization Meets Everyday Life in the Fifties* (Princeton, NJ: Princeton University Press, 2000), 31-4; Guy Oakes, *The Imaginary War: Civil Defense and American Cold War Culture* (New York, NY: Oxford University Press, 1994), 47-69; Dee Garrison, *Bracing for Armageddon: Why Civil Defense Never Worked* (New York, NY: Oxford University Press, 2006), 48-50.

⁵ Inc. Associated Universities, *General Report: Part I, Report of the Project East River* (New York, NY: Associated Universities, Inc., 1952), *i*.

Project East River was conducted by Associated Universities, Incorporated (AUI), a research collaboration of nine universities.⁶ The project employed over one hundred specialists from the sciences and social sciences, as well as military, business, and policy experts. The completed PER report was a ten-volume, 1,000-page tome that advocated for three major goals: the reduction of urban vulnerability through decentralization and new construction policies; the improvement of continental air defense and warning systems; and the establishment of a permanent civilian-led civil defense bureaucracy that, whenever possible, used existing civic structures. The report also included over three hundred additional recommendations while outlining extensive descriptions of current problems facing civil defense.

The scale and scope of Project East River were staggering. Yet, as a historian of the Federal Emergency Management Agency would put it decades later, for several reasons, “it didn’t make the impact expected.”⁷ First, some of its conclusions were moot almost immediately after its release in October 1952. The next month, the Atomic Energy Commission (AEC) successfully detonated its first hydrogen explosive device,

⁶ AUI institutions were all located in the northeast, many of them Ivy League: Columbia University, Cornell University, Harvard University, the Johns Hopkins University, Massachusetts Institute of Technology, University of Pennsylvania, Princeton University, University of Rochester, and Yale University. For more on Lloyd V. Berkner, AUI’s president, see Allan Needell, *Science, Cold War and the American State: Lloyd V. Berkner and the Balance of Professional Ideals* (New York, NY: Routledge, 2000).

⁷ Harry B. Yoshpe, “Our Missing Shield: The U.S. Civil Defense Program in Historical Perspective,” (Washington, DC: Federal Emergency Management Agency, 1981), 191.

demonstrating that new weapons would eclipse the size of earlier explosions.⁸

Unfortunately, many of PER's specific recommendations were based upon atomic blast assumptions, not newer hydrogen blasts. However, the advent of hydrogen weapons did not obviate the need for civil defense research, and PER's broader conclusions would still inform civil defense policy in the following years.⁹

A second reason why PER failed to make a revolutionary impact on policy was that many of its general policy recommendations were not new: in many ways, PER echoed the civil defense recommendations from the late 1940s. By 1952, however, the recommendations could find an institutional home in the FCDA, whereas the major recommendation of earlier studies such as the Bull and Hopley Reports was the very creation of such an agency. In addition, the degree of detail presented in PER far exceeded these earlier reports, a product of its multidisciplinary approach. What was new in the lineage of civil defense studies, however, was PER's consideration of civil defense in the context of psychology, human behavior, and emotional management.¹⁰ Several

⁸ This lag seemed to trouble the FCDA for some time after the hydrogen bomb tests. See, for example, a letter from Washington State's civil defense director to the Director of the FCDA in April 1955, bemoaning that the available blast information was outdated. Letter from D. E. Barbey to Val Peterson, Director of the FCDA. April 9 1955; Box 1; Correspondence of Administrator Val Peterson, 1953-57 (Entry #1009); Records of the Office of Emergency Preparedness; Record Group 396; National Archives at College Park, College Park, MD.

⁹ Yoshpe, "Our Missing Shield," 191.

¹⁰ PER's sections on emotion have been isolated in recent scholarship and framed as evidence of the coercive nature of Cold War civil defense. Indeed, these sections are sometimes shockingly callous in their treatment of panic, disaster, and death. In my reading, however, I see the psychological sections as more a product of early-1950s expert culture than a nefarious example of social control. Grossman, *Neither Dead nor Red*, 58-62.; McEnaney, *Civil Defense Begins at Home*, 33. Oakes, *The Imaginary War*, 47-62. Garrison, *Bracing for Armageddon*, 48-50.

substantial sections of PER were concerned with emergency issues such as panic, shock, leadership breakdown, as well as pre-attack considerations such as “making inroads into the hard kernel and lack of support of the civil defense program,” creating “an enduring position of prestige and authoritativeness for the civil defense organization,” and maintaining public morale and participation.¹¹

Project East River’s Panel on Public Information and Training was responsible for much of the Project’s overall consideration of human behavior. In its report summary, the Panel stresses:

...our various recommendations have a single unifying keynote[...]: *just as civil defense has been conceived as the primary responsibility of the people, so, nothing less than a public well-practiced and fully informed can carry out civil defense if any enemy should strike.*¹²

Using the logic of self-help civil defense, the Panel gestures toward the state’s reciprocal responsibility for making citizens capable of helping themselves. Given that PER’s initial audience was federal agencies, their “keynote” might have been directed toward officials who believed that self-help largely absolved federal responsibility. The Panel goes on:

We have faced and rejected in our thought whatever, except from direct necessity, would obstruct the essential flow of facts to people under stress. We are cognizant of the attractions of strict censorship, but we are greatly concerned to make sure that in time of crisis, neither enemy agents nor hysterical citizens should usurp the sources of information.¹³

In making a direct connection between state responsibility and transparency, public information, self-help, and rational response, the Panel recommends a nuanced

¹¹ Inc. Associated Universities, *Information and Training for Civil Defense: Part IX of the Report of Project East River* (New York, New York: Associated Universities, Inc., 1952), *ii, i*. See also *ibid.*, Appendix IXB, “Panic Prevention and Control.”

¹² *Ibid.*, *v* (emphasis original).

¹³ *Ibid.*, *vi*.

conception of civil defense, one that not only considers practices, but also considers psychology. For them, the only way to motivate Americans to participate in civil defense is to appeal to both logic and emotion.

Project East River can be seen as an example of a broadening of research expertise in psychology and the social sciences in the postwar period.¹⁴ PER's emotion-focused sections reflect an expansion of such expertise during World War II. Indeed, federal interest in psychological research resulted in the 1949 establishment of the federally-funded National Institute of Mental Health (NIMH). PER is also further evidence of what one historian calls "the tight correspondence between psychology and national security during the 1950s and 1960s."¹⁵ And, although behavioral sciences were cast under suspicion during the McCarthy years, psychology in civil defense seemed too large an issue to ignore: if official policy emphasized self-help, policy must address the self. Historians have also noted that "the most virulent critics and the most enthusiastic proponents of military psychological expertise all based their arguments on the rhetoric of national security, a fixture of the era."¹⁶ The logic applies outside the immediate

¹⁴ See broadly, Ellen Herman, *The Romance of American Psychology: Political Culture in the Age of Experts* (Berkeley, CA: University of California Press, 1995), chapters 2 and 3; David C. Engerman, "Social Science in the Cold War," *Isis* 101, no. 2 (June 2010); Christopher P. Loss, *Between Citizens and the State: The Politics of American Higher Education in the 20th Century* (Princeton, NJ: Princeton University Press, 2012), chapter 4; Brian Balogh, *Chain Reaction: Expert Debate and Public Participation in American Commercial Nuclear Power, 1945-1975* (New York: Cambridge University Press, 1991); Sarah Igo, *The Averaged American: Surveys, Citizens and the Making of a Mass Public* (Cambridge, MA: Harvard University Press, 2007).

¹⁵ Herman, *The Romance of American Psychology*, 13.

¹⁶ *Ibid.*, 133.

military arena: considering human behavior in in the civil defense context became a way to promote national survival and security.

More broadly, the range of expertise employed in Project East River can be seen as a little-explored aspect of Cold War “big science.” Much has been written about the relationship between university institutions, scientific research, and federal funding in the pursuit of weapons development and other Cold War ends.¹⁷ As a project run by AUI, Project East River falls into this category. Many of AUI’s board members were prominent leaders in their scientific fields and some served as close advisors to the federal government. In many ways, AUI’s oversight of PER makes sense, as nuclear physics formed the foundation of civil defense research. AUI also had close connections to similar Cold War government-research organizations such as RAND, and even operated an AEC nuclear facility, Brookhaven National Laboratory. In other ways, however, PER is an anomaly, as the breadth of expertise necessary to approach a problem with the complexity of civil defense extended well beyond the skill set of many of AUI’s scientists.

One of Project East River’s largest struggles was defining the needs of civil defense by breaking it down into manageable parts. This compartmentalization spoke to the enormity of the problem; dividing it into focused parts was the only way to avoid “being overwhelmed by the sheer magnitude of a problem so large, so complex, and so

¹⁷ Most recently, see: Mark Solovey, *Shaky Foundations: The Politics-Patronage-Social Science Nexus in Cold War America* (New Brunswick, NJ: Rutgers University Press, 2013); Andrew Jewett, *Science, Democracy, and the American University: From the Civil War to the Cold War* (New York, NY: Oxford University Press, 2012). Also see Loss, *Between Citizens and the State*; and Balogh, *Chain Reaction*.

seemingly impossible of adequate and practical solution.”¹⁸ PER’s approach to understanding the problem is echoed in civil defense media produced for civilian consumption, too. Civil defense materials often simplified a problem by dividing it into basic components, a strategy employed to teach civilians about nuclear explosions, and their personal responsibilities before, during, and after a strike.

Compartmentalization also lent an organizational pattern to how the FCDA gathered scientific information to inform its programs and policies. In the first years of the agency’s history, it primarily used scientific data provided by the Atomic Energy Commission. Much of this information was classified because it described target vulnerability and weapons information. As the 1950s went on, however, the AEC began tests with an eye toward defensive research, as in several of the tests in 1953’s Operation Upshot-Knothole and 1955’s Operation Teapot that tested utilities infrastructure, mock suburban houses, and consumer products, as will be discussed later in the chapter. Such information was valuable to the FCDA because it could lead to policy and instruction that civilians craved in the late 1940s and early 1950s.¹⁹ The administration also used footage from these structural tests to illustrate content in civil defense films.²⁰ But, as projects like East River demonstrated, civil defense required research that extended well beyond the expertise of nuclear weapons scientists.

¹⁸ Associated Universities, *General Report: Part I, Report of the Project East River*, 2.

¹⁹ See, for example, U.S. Air Force Special Weapons Project, *Medical Aspects of Nuclear Radiation*, 20 minutes, 14 seconds (Cascade Pictures, 1950), film.

²⁰ See, for example: U.S. Federal Civil Defense Administration, *Operation Cue*, 14 minutes, 36 seconds (U.S. Federal Civil Defense Administration, 1955), film; and National Paint, Varnish and Lacquer Association; National Clean Up - Paint Up - Fix Up Bureau; and the Federal Civil Defense Administration, *The House in the Middle*, 12 minutes, (Robert J. Enders, Inc., 1954), film.

The FCDA commissioned many other smaller-scale studies and educational material from research groups, other government entities, and professional organizations. Sometimes, these reports were printed for in-house information purposes. Other times, the FCDA tapped the expertise of other agencies to develop informational material suitable for public use. In 1954, the FCDA asked the American Psychiatric Association (APA) to publish a pamphlet titled, *Psychological First Aid in Community Disasters*, intended for use by civil defense workers.²¹ Here, the APA presents specialized knowledge to the lay reader, in order for civil defense workers “to be of maximum service to an emotionally disturbed person.”²² In instances such as this, the FCDA was able to cull the expertise of other organizations, while minimizing its own costs by outsourcing the research and often sharing or delegating printing and distribution responsibilities to other agencies. Indeed, the FCDA was practicing what it preached: budget-minded civil defense that utilized an existing bureaucratic structure to accomplish its goals. One suspects, however, that this practice was more necessity than ideology; the FCDA scraped by with a mere fraction of its annual budget requests throughout the 1950s.

Thus by the mid-1950s, civil defense research extended beyond the bounds and purview of the AEC, FCDA, and Department of Defense. Because civil defense research involved so many fields and had broad relevance in its application, civil defense issues

²¹ Committee on Civil Defense American Psychiatric Association, “Psychological First Aid in Community Disasters,” 1954, Folder 4, Box 19, Subseries H: Civil Defense Publications By Various Organizations and Associations, 1951-1958, Series I: The Federal Civil Defense Administration, 1951-1958, Virgil L. Couch Papers, Dwight D. Eisenhower Presidential Library (hereafter referred to as H-I-VLC-DDE).

²² *Ibid.*, 9.

landed on the agenda of non-defense related agencies across the nation. For example, in 1955, the National Academy of Sciences delivered a report on wartime vulnerability of the American food industry to the Food and Drug Administration.²³ A copy of this report ended up in the personal papers of a civil defense administrator in the late 1950s, and existed there alongside hundreds of other reports, pamphlets, and other civil defense material produced by agencies without the direct cooperation of the FCDA.²⁴

Much had changed from the earliest days of federal civil defense, when policymakers wanted so badly to control the dissemination of civil defense knowledge. By the mid-1950s, private businesses, industry, civic organizations, and local governments were using the general body of civil defense knowledge to create their own policies, plans, and educational media. As civil defense information migrated from the secretive realm of the AEC to federal civil defense offices and into the public sphere, more and more Americans had access to civil defense expertise, and could use it to inform how they chose to prepare for nuclear war.

This is not to say that scientific research for civil defense was completely transparent and available to the public. The AEC and Department of Defense continued to control nuclear information, and the FCDA was careful to align itself with established narratives. For example, despite the dramatic increase in the size and scope of weapons destruction over the course of the 1950s, the FCDA was slow to acknowledge the

²³ Division of Biology and Agriculture Civil Defense Foods Advisory Committee, National Academy of Sciences-National Research Council, “The Vulnerability of the Food Industries to Chemical, Biological, and Radiological Warfare Agents,” (November 1955), Box 15, E-I-VLC-DDE.

²⁴ These file were correspondence files, with nearly every pamphlet dated with a “received” stamp. The information was likely sent to Virgil Couch’s office as a courtesy, rather than a requirement. See Subseries F, G, H, I, J, in I-VLC-DDE.

changes. Likewise, although the FCDA would have had some access to the details of what a new, larger attack might look like, it did not substantially change its recommendations for evacuation or shelter construction until the 1960s.²⁵ Facing problems of prestige and authority, the FCDA could not afford to run counter-message to the AEC and make an enemy of an agency with which it worked so closely.

Despite these institutional tensions, the FCDA positioned itself as the keeper of scientific information throughout the early Cold War. As a self-defined advisory agency, claiming scientific authority was safe ground, especially given that the administration's inception was marked by fears of military authority and centralization. Through civil defense media, administrators framed civil defense as a concrete, scientific project, backed by a group of scientific experts. By pairing messages of scientific authority with the moral responsibility of self-help, civil defense administrators also implicitly aligned Cold War ideals of civic duty and scientific knowledge with survival.

Civil Defense as Science Education

Civil defense agencies applied their expertise to create educational campaigns rich with scientific information. Nearly all civil defense material explained the science behind nuclear weapons. This information was not always very detailed, but the decisions policymakers made to provide some basic understanding of nuclear science indicates that they believed it could help sell civil defense. Civil defense media often featured a scientist character—a scientist in a white lab coat—as a symbol of the scientific authority

²⁵ Arnold Ringstadt, however, argues that there were important changes in tone, delivery, and style between early civil defense films (early 1950s) and later (early 1960s). See Arnold Ringstad, "The Evolution of American Civil Defense Film Rhetoric," *Journal of Cold War Studies* 14 (Fall 2012).

of civil defense agencies. Scientists in civil defense films and publications were a vehicle for giving human, relatable form to scientific expertise.

Why did early civil defense publications invest so much energy and ink explaining nuclear physics to the public? Civil defense agencies needed to convince the public that the nuclear threat was understandable, manageable, and thus survivable. Civil defense authorities assumed that their audience knew little about the effects of nuclear weapons. In that context, nearly all civil defense educational information taught Americans to expect three types of destructiveness from a nuclear weapon: fire, blast, and radiation.²⁶ The bomb's effects, the information claimed, were what was new and different about nuclear weapons. But each effect could be protected against in the same way that one prepares for more familiar threats, such as natural disasters. And while an explosion's radiation was usually acknowledged, it was almost always downplayed. Nevertheless, breaking down a bomb's effect into discrete parts made the nuclear threat seem like something that could be easily managed by civil defense practices.

Perhaps more interestingly, civil defense authorities believed that civilians needed to understand not only the effects of nuclear weapons, but also the science behind them. Civil defense media often took time to explain the structure of atoms, the process of nuclear fission or fusion, or how a nuclear reactor worked. For example, the creators of *Atomic Attack: A Manual for Survival* in 1950 divided the instructional booklet into two sections, the latter being a primer for nuclear science. While the authors admitted, "this [section] will tell you nothing of what you can do about the Bomb," they spent the next

²⁶ A good early example of this is 1951's *Target USA*, distributed by the American Red Cross. American Red Cross, *Target USA*, 20 minutes, produced by Milton J. Salzburg, directed by Herman Boxer (Cornell Films, Co., 1951), film.

ten pages explaining the science of nuclear explosions in some detail.²⁷ Using familiar and homey metaphors—a super-critical bomb core as a volatile pile of oily rags in the home—the authors imply that the average citizen can understand nuclear science. And this understanding is both necessary and sufficient for survival.

By the early 1950s, nuclear information media could be seen as educational *and* lucrative. In 1953, General Electric (GE) produced *A is for Atom*, a part of GE's *Excursions in Science* film series.²⁸ The 15-minute film guides viewers through a primer on particle physics and its usefulness for war and peace applications, a future industry of which GE hoped to be part. It also challenges viewers to ponder the future consequences of the nuclear age. Although the film was animated and at times humorous, GE targeted general adult audiences, and even won several film awards.²⁹ As part of the media announcements about the film's release, GE was sure to mention that it was “reviewed and endorsed by the Atomic Energy Commission,” establishing its credibility as an official source of information.³⁰

Civil defense educational materials also often included an explanation of the technological paraphernalia associated with nuclear science.³¹ Geiger counters, for

²⁷ John L. Balderston, Jr. and Gordon W. Hewes, *Atomic Attack: A Manual for Survival* (Culver City, CA: Murray & Gee, Inc., 1950), 43.

²⁸ General Electric Co., *A Is for Atom*, 15 minutes, directed by Carl Urbano (John Sutherland Productions, 1953), film.

²⁹ Rick Prelinger, *The Field Guide to Sponsored Films* (San Francisco, CA: National Film Preservation Foundation, 2006), 1.

³⁰ “Atom Educational Film Made Available by GE,” *Washington Post*, August 9, 1953.

³¹ 1951's *A Voice Shall Be Heard*, sponsored by the Electronics Division of General Electric, promoted two-way radio equipment as essential technology for survival

example, appeared frequently in civil defense instructional booklets. Even if most Americans never operated a Geiger counter, civil defense materials claimed, understanding how one worked was essential for understanding the science of a nuclear explosion.³² Geiger counters performed several functions in civil defense narratives. First, filmmakers and writers often used the machine as a practical segue into an explanation of particle or energy-wave physics: a Geiger counter clicks audibly with a frequency related to the number of radioactive waves it encounters.³³ More implicitly, Geiger counters served as a narrative device to counter the audience's assumptions about the inaccessibility of nuclear science. In other words, the device, once explained by a narrative authority, appeared to be simple and easy to operate by anyone. The 1950 manual *Atomic Attack* gives readers a corrective: although such a device "represents a mystery to the layman, who will think it expensive or not obtainable," it was, in fact, quite the opposite.³⁴ 1951's *Atomic Alert* shows viewers that even young people are capable of operating, understanding, and mastering a Geiger counter.³⁵

in an atomic attack scenario. See Electronics Div., General Electric Co., *A Voice Shall Be Heard*, 20 minutes, (March of Time, 1951), film.

³² The Geiger counter is the most visible of a wide inventory of nuclear-related devices found in civil defense films. Others include dosimeters, radar, radio, and other notification and communication devices. For another example of how Geiger counters became normalized in American culture, see Michael A. Amundson, "Uranium on the Cranium: Uranium Mining and Popular Culture," in Scott C. Zeman and Michael A. Amundson, eds., *Atomic Culture: How We Learned to Stop Worrying and Love the Bomb* Scott C. Zeman and Michael A. Amundson (Boulder, CO: University of Colorado Press, 2004).

³⁴ Balderston, Jr. and Hewes, *Atomic Attack*, 15.

³⁵ Encyclopedia Britannica Films, *Atomic Alert (Elementary Version)*, 10 minutes, 13 seconds, (Encyclopedia Britannica, 1951), film.

Perhaps more importantly, Geiger counters uncovered the presence of a mysterious and invisible scientific force, giving radioactivity an audible and visible meaning.³⁶ Civil defense media also used Geiger counters to try to convince Americans that radioactivity was not dangerous, demonstrating that even in the absence of a nuclear explosion, radiation was a part of daily life. Background radiation, or the constant low-level exposure from cosmic radiation and naturally-occurring earthbound materials, made the Geiger counter click. Even some manmade everyday objects emitted measurable radiation. Luminescent watch faces, a consumer object familiar to many Americans, gave off increased levels of radioactivity.³⁷

Civil defense producers capitalized on transforming high science into the everyday. Take the 1950 film *You Can Beat the A-Bomb*, for example. After a friendly janitor happens upon a white-coated scientist in his lab and sets off a ticking Geiger counter, the janitor is curious. “Say, what is that clicking?” he asks. The janitor is startled when the scientist initially jokes, “you must be radioactive!” The tension is resolved quickly as the scientist explains that the janitor’s watch face is responsible for the clicking. Relieved, the janitor responds, “Well, what do you know about that? I’ve been

³⁶ Lapp says “radioactivity... cannot be felt and possesses all the terror of the unknown. It is something which evokes revulsion and helplessness - like a bubonic plague.” See Ralph E. Lapp, “Civil Defense Faces New Peril,” *Bulletin of Atomic Scientists* 10 (November 1954), 350.

³⁷ Luminous watch faces appear frequently in civil defense materials. For an example of the hazards of radiation in the workplace in relationship to luminescent watches, see Claudia Clark, *Radium Girls: Women and Industrial Health Reform, 1910-1935* (Chapel Hill, NC: University of North Carolina Press, 1997).

carrying radioactivity around with me and didn't even know it!"³⁸ In another framework, the revelation might have terrified the janitor, a stand-in for the lay public. Indeed, the janitor's first impulse was to run.³⁹ Instead, by underscoring that most radiation was normal and theoretically harmless, civil defense materials sought to empower and placate civilians.⁴⁰

Many civil defense films use footage from actual nuclear tests to illustrate their messages and to establish scientific authority. 1954's *The House in the Middle*, for example, shows film clips of tests performed on mock structures at the Nevada Test Site. The narrative is explicitly scientific, showing audiences the results of controlled experiments on familiar environments. Several of the tests show side-by-side comparisons of how structures outfitted with different variables could weather a nuclear blast's heat wave. The variables, however, are quotidian, not scientific. The tests compare fences with decayed wood surrounded by debris to freshly-painted fences in clean yards. A home with "all the earmarks of untidy housekeeping" ignites in the blast, while the

³⁸ *You Can Beat the Atomic Bomb*, directed by Walter Colmes, written by Louis Allen (Emerson Film Corporation and Crystal Productions Inc., 1950), 1:08.

³⁹ *Ibid.*, 0:59.

⁴⁰ The science of nuclear fallout and health was in its infancy in 1950. Thus historians should take great care to avoid accusing early-1950s policymakers of deliberately obscuring the dangerous aspects of fallout from public view. It was not until the advent of thermonuclear weapons, which increased the range and intensity of nuclear fallout significantly, that the Atomic Energy Commission began a more systematic campaign to downplay or deny the effects of nuclear fallout. For further explanation of fallout secrecy and public health, see Howard Ball, *Justice Downwind: America's Atomic Testing Program in the 1950s* (New York, NY: Oxford University Press, 1986); Richard L. Miller, *Under the Cloud: The Decades of Nuclear Testing* (New York, NY: Free Press, 1986); and A. Costandina Titus, *Bombs in the Backyard: Atomic Testing and American Politics* (Reno, NV: University of Nevada Press, 1986).

interior of an identical “spic and span” home survives largely unscathed.⁴¹ The lessons of *The House in the Middle* convey assumptions about class, going so far as to identify urban “slum areas” as particularly vulnerable in the Atomic Age. And, while the film does not offer the audience specifics of the experiments, it uses scientific evidence to sell the idea that “a house that is neglected is a house that may be doomed in the Atomic Age!”⁴²

Official nuclear test documentaries can also be seen as part of the civil defense educational canon, even though they would have been seen by fewer Americans. In 1947, the United States Air Force established a dedicated film studio to process film documentation of nuclear tests. Lookout Mountain Air Force Station operated in secret for over two decades, producing more than 6,500 government films, all while hidden in plain sight in the Hollywood Hills of California.⁴³ The films were created for restricted audiences: “military personnel, politicians, and selected journalists and educators.”⁴⁴ Nevertheless, many of Lookout’s documentaries also illustrate an impulse to make nuclear science accessible and approachable. In a literary scholar’s analysis of Lookout’s film legacy, he remarks: “the most striking rhetorical feature of the voice-over in these films is a relentlessly cheery use of similes and metaphors to naturalize the

⁴¹ *The House in the Middle*, 3:45, 4:01.

⁴² *Ibid.*, 1:20.

⁴³ Nevada Field Office National Nuclear Security Administration, “Secret Film Studio: Lookout Mountain, Factsheet #1142 (U.S. Department of Energy: August 2013).

⁴⁴ Bob Mielke, “Rhetoric and Ideology in the Nuclear Test Documentary,” *Film Quarterly* 58 (Spring 2005), 34.

uncanniness... again and again, the exotic is put into downright folksy contexts.”⁴⁵

Presumably, those viewers given clearance to see the films had some basic knowledge of nuclear weapons. Still, the Air Force documentarians felt the need to make information about the science more pedestrian, a tactic also used in civil defense films made for public consumption.

Early 1950s educational films also portrayed the future peacetime possibilities of nuclear technology. Promising heady visions of nearly-free electricity, medical miracles, countless industrial and agricultural applications, and personal conveniences, these materials did not seek to train Americans in civil defense procedure.⁴⁶ Instead, they attempt to correct nuclear science’s association with violence and destruction—“the shadow of the atom bomb”—by offering an alternative, optimistic vision of the future.⁴⁷ Later in the decade, such technoutopia boosterism became even more pronounced. 1957’s *The Atom Comes to Town*, produced by the Chamber of Commerce of the United States, spends thirty minutes describing the wide range of industrial, commercial, and medical uses of nuclear physics.⁴⁸ This film, like others, also reminds viewers that new nuclear

⁴⁵ Ibid., 31. In 1948, Stephen White, science reporter for the *New York Herald Tribune*, wrote about the demands of scientific journalism for public consumption: “The terminology of the layman is an absence of terminology; the precision of the layman is an accuracy of impression rather than an accuracy of specific fact.” Stephen White, “A Newsman Looks at Physicists,” *Physics Today* 1 (May 1948), 33.

⁴⁶ See: *Medical Aspects of Nuclear Radiation*; *A is for Atom*; and Walt Disney’s *Disneyland*, “Our Friend the Atom,” season 3, episode 14, directed by Hamilton Luske, ABC, January 23, 1957, broadcast.

⁴⁷ *A is for Atom*, 0:37.

⁴⁸ Chamber of Commerce of the United States, *The Atom Comes to Town*, 29 minutes (Muller, Jordan & Herrick, 1957), film.

industrial sites could provide wealth and employment to depressed areas.⁴⁹ As usual, the dialogue takes care to mention the importance of “the peaceful atom.” By focusing on the positive potential of nuclear science, the film attempts to reconstruct the public image of nuclear science into something that could benefit society in the long run. Here, too, producers used scientific authority as a corrective.

Finally, teaching nuclear physics to laypeople removed some of the prestige, secrecy, and elitism that had come to be associated with nuclear science. In outlining the challenges of presenting science in popular journalism, Stephen White, science reporter for the *New York Herald Tribune*, wrote that physicists “speak a strange language of their own,” and for a journalist to use “a technical word... *hides* the meaning for most readers.”⁵⁰ Even if the theories explained in civil defense were introductory, they served to include more Americans in the knowledge of a technology that had come to define so many parts of postwar American life. Civil defense media’s inclusionary, democratized information resulted in more Americans taking part in debates over nuclear citizenship.

If civil defense was, as policymakers repeatedly insisted, first and foremost about survival, why did civil defense media go beyond a description of the bomb’s effects once detonated? As *A is for Atom* argued in 1953, “wisdom demands... that we take the time to understand this force.”⁵¹ Obviously, civil defense policymakers believed that scientific lessons could correct public misinformation. But more importantly, they thought that

⁴⁹ Also see *The Christophers*, *Atomic Energy as a Force for Good*, 27 minutes, directed by Robert Stevenson (Jack Denove, 1955), film.

⁵⁰ White, “A Newsmen Looks at Physicists,” 16; “As Members of a Species,” *New York Times*, July 11, 1955, 22.

⁵¹ *A is for Atom*, 0:55.

teaching or reinforcing nuclear knowledge in civil defense education empowered civilians. By including nuclear science primers, a field that was until recently shrouded in secrecy, officials created the impression of open channels of communication between the state and its citizens, even if that communication was tightly regulated and only partially transparent. These materials attempted to democratize nuclear science, and educate the general public so that it could make free and informed decisions about their own safety and survival. When placed in the context of overarching civil defense rhetoric that conflates individual survival with national survival, scientific understanding becomes an integral aspect of civic inclusion and democratic participation in the nuclear age. Policymakers told Americans that science could help them be better citizens.

Civil Defense and the Public's Scientist

If civil defense writers constructed an intentional image of nuclear science, they also created a careful image of scientists. The scientists featured in civil defense were stand-ins for the experts in the Federal Civil Defense Administration: they educated the public and prescribed civil defense activities. The FCDA used the image of a scientist to bolster the credibility of its information and programs. However, as will be discussed later in the chapter, scientists held an ambiguous position in American public life. Thus the FCDA was careful to feature scientists in civil defense media as relatable and benevolent, with no hint of elitism or questioned trustworthiness. These images appear again and again in official civil defense publications and films throughout the 1950s, but their ideas were solidified in the earliest civil defense media, especially film.

The 1950 *You Can Beat the A Bomb* provides a clear early example of expert authority being used to make civil defense credible. The film begins with a nuclear

science primer, after which it focuses on civil defense procedures.⁵² *You Can Beat the A Bomb* introduces viewers to a group of scientists that fall into categories familiar from civil defense media. First, the physicist (interacting with the janitor), running tests next to a Geiger counter, explains the theory of background radiation. This character signifies a practical scientist: he wears a white lab coat and spectacles, and records data in a notebook. The scene takes place in a laboratory, complete with a periodic table on the wall and an array of bottles, gadgets, and supplies at the lab bench. Next, a physicist explains how radiation might be used to improve industrial production. This time, the scientist is in business attire, flanked by the ubiquitous backdrop of theoretical physicists, a chalkboard. The film then introduces the “meter man,” whose monitors the radiation. He uses an aerial map and a pointer to teach a room full of men who are presumably civil defense volunteers.⁵³

You Can Beat the A Bomb reinforces the expertise of specialists while positioning them as helpful instructors. During the narrator voice-over, the film shows stock footage of specialists of many fields using nuclear science in their workplaces. But those characters who speak deliver miniature lectures about various aspects of nuclear weapons science and civil defense preparation. Their speeches further emphasize the educational purpose of the film, while giving a physical form to the omniscient, invisible narrator. Surrounding these men are visual clues to their authority: tools of the trade, official-looking offices and desks, and visual aids. Their dress connotes their authority in other ways: a lab coat for the laboratory, a tie and shirt-sleeves for the classroom, and fatigues

⁵² *You Can Beat the A Bomb*.

⁵³ *Ibid.*

for field work. The men also speak with authority, educating stand-ins for the general public: a janitor, a businessman, and volunteers. Their words are simple and frank, even when explaining complex concepts. The audience understands that these men are knowledgeable and in charge.

The second part of the film chronicles a staged nuclear attack. The plot follows several families as they prepare for, survive, and recover. For the remainder of the film, specialists are less central to the narrative. However, in each plot line, a father figure assumes the authority of those experts who appeared earlier in the film. He issues instructions to his family paired with technical explanations. While camped out in the basement awaiting news of the attack, one father assures his wife and children that “since radiation travels in straight lines, I’d say the way I’ve fixed this basement gives us plenty of wall and earth and material between us and the possible military objective.”⁵⁴ In the end, every family emerges unscathed.

The transition from an expert scientist to an expert father illustrates what civil defense policymakers expected from every citizen: a layperson that took it upon himself to learn about nuclear physics, prepare for an attack, and lead himself and his family to survival. For civil defense officials, the image of a good nuclear citizen blended ideals of family, nation, and science, and assured survival for all. Although the film was designed to be instructional, and therefore sometimes over explicative, it reveals that as early as 1950, civil defense adopted a powerful message of scientific rationalism and civic duty.

⁵⁴ Ibid., 6:44.

Other civil defense films utilized an omniscient male narrator in lieu of a visible scientist. 1955's *Operation Cue* provides a good example of this technique.⁵⁵ *Operation Cue* is a short documentary film based on the AEC's Operation Teapot exercises, mentioned above. The color film takes viewers to the Nevada Test Site to observe "a program to test the effects of an atomic blast upon the things we use in our everyday lives."⁵⁶ Joan Collin, a female reporter, is the viewer's guide. She tours the AEC's setup for the test, including several model homes outfitted with appliances, furnishings, and perhaps most grimly, mannequins—to represent Mr. and Mrs. America.

Collin's self-proclaimed identity "as a mother and a housewife" is notable.⁵⁷ Although she is dressed in slacks—appropriate attire for a military test in the desert—she is the only woman at the site. As she interacts with the narrator, she expresses specific interest in the effects of an explosion on textiles, foodstuffs, and other domestic items in the home. As she and the male narrator explain the setup to test telephone poles, electrical towers, and gas tanks, Collin's character makes intentional connections to everyday life above the test's relevance to industrial applications. Meanwhile, her male counterpart wades into technical jargon. "Thinking about news during an atomic attack, I

⁵⁵ *Operation Cue*.

⁵⁶ *Ibid.*, 2:37.

⁵⁷ Indeed, virtually all civil defense media presented the dominant cultural prescription of the roles of men and women in the 1950s. See, broadly, K. A. Cuordileone, *Manhood and American Political Culture in the Cold War* (New York, NY: Routledge, 2005); Lizabeth Cohen, *A Consumer's Republic: The Politics of Mass Consumption in Postwar America* (New York, NY: Vitage Books, 2004); Joanne J. Meyerowitz, *Not June Cleaver: Women and Gender in Postwar America, 1945-1960* (Philadelphia, PA: Temple University Press, 1994); Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era* (New York, NY: Basic Books, 1988).

asked about radio towers,” she says, after the male narrator discusses transformer substations and before he moves along to petroleum delivery platforms.⁵⁸

Operation Cue’s gender dynamics are representative of many civil defense guides and films, but this film also carefully constructs an image of scientific authority. The omniscient, invisible male narrator is the expert, his authority established by the two-minute mathematical explanation of the differences between a thirty-kiloton atomic bomb and a twenty-megaton hydrogen bomb.⁵⁹ The narrator is assertive, but friendly; informative, but approachable. Collin’s journalist character interacts silently with a variety of workers on screen, but the narrator is her primary costar. Despite his lack of visual cues, the narrator presents the same attributes as civil defense films’ visible scientists: intelligent, wholesome, and relatable. And, as in the FCDA’s presentation of nuclear science itself, the administration’s fictional scientific characters are close to home.

The Super and Scientific Progress

Several incidents over the course of the 1950s, however, suggested that living with nuclear science in the Atomic Age was not as simple as civil defense media suggested. Americans increasingly questioned the role of the scientist-advisor in democratic culture, and in modern American society in general. High-profile episodes of suspected nuclear espionage, coupled with major developments in nuclear weapons capability, began to cast a dubious shadow over scientific expertise.

⁵⁸ *Operation Cue*, 5:18.

⁵⁹ The voice used during the primer is different from the voice used during the documentary. However, they are similar enough that the switch would likely escape first-time viewers.

Shortly after the United States announced the discovery of a Soviet atomic test in September 1949, policymakers and scientists began to discuss whether or not the United States should pursue research in fusion-based nuclear weapons. Prior to this time, nuclear physicists postulated that fusion weapons were possible in theory, but the federally-sponsored research agenda did not directly support their development. Scientists assumed that fusion weapons, also known as hydrogen bombs, H-bombs, super bombs, or thermonuclear weapons, would be many times more powerful than the atomic bombs used to end World War II. The potential scale difference from earlier atomic devices gave fusion weapons another moniker: the Super.

In the autumn and winter of 1949, a small group of scientific advisors and policymakers met in secret to explore the feasibility, wisdom, and morality of developing the Super.⁶⁰ The Atomic Energy Commission's General Advisory Committee (GAC), headed by J. Robert Oppenheimer, ultimately cautioned against the project, favoring policies that would continue development of less-controversial atomic weapons. Nevertheless, Truman elected to begin a crash program to develop the Super. In his first official public statement on the decision on January 31, 1950, Truman called the program necessary in carrying out "the overall objectives of our program for peace and security."⁶¹

⁶⁰ For additional scholarship on the Super controversy, see Herbert F. York, *The Advisors: Oppenheimer, Teller, and the Superbomb* (Stanford, CA: Stanford University Press, 1989); Barton J. Bernstein, "Crossing the Rubicon: A Missed Opportunity to Stop the H-Bomb?," *International Security* 14 (Autumn 1989); Silvan S. Schweber, *In the Shadow of the Bomb: Oppenheimer, Bethe, and the Moral Responsibility of the Scientist* (Princeton, NJ: Princeton University Press, 2007); Kai Bird and Martin J. Sherwin, *American Prometheus: The Triumph and Tragedy of J. Robert Oppenheimer* (New York, NY: Alfred A. Knopf, 2005).

⁶¹ "Statement by the President on the Hydrogen Bomb, January 31, 1950," in *Public Papers of the Presidents of the United States, Harry S. Truman: 1950, Containing*

Truman downplayed the exceptional nature of the Super in his statement, referring to it as the continuation of existing atomic research.⁶²

Truman's emphasis on continuity in early 1950 could speak to a controversy behind closed doors: one of the reasons experts used to argue against the Super was the immorality of such a large weapon, seeing it as a radical—and to some, unnecessary—departure from earlier bombs.⁶³ And, as historian and scientist Herbert York points out, although the first media reports about the Super began in November 1949, they came too late for genuine public debate to influence high-level policy.⁶⁴

As news of the Super's development went public, American civilians began to articulate a concern that nuclear weapons—and the secretive science they necessitated—posed a threat to American democracy and the practices of citizenship. As briefly mentioned above, beginning with the Manhattan Project, American nuclear science was compartmentalized to prevent any individual from knowing too much about nuclear weapons.⁶⁵ This trend continued into the postwar period, bolstered by legislation that tightly controlled the knowledge of nuclear science. By the early 1950s, some nuclear experts had become important policy advisors, spurring criticisms of scientific elitism and oligarchy. As knowledge of the hydrogen bomb program became public, concerned

the Public Messages, Speeches, and Statements of the President, January 1 to December 31, 1950 (Washington, DC: GPO, 1965).

⁶² In the 129-word statement, Truman uses “continue” three times, along with “consistent,” and “carried forward.”

⁶³ See York, *The Advisors*, ch. 4.

⁶⁴ *Ibid.*, 42-3.

⁶⁵ Sean L. Malloy, “‘A Very Pleasant Way to Die’: Radiation Effects and the Decision to Use the Atomic Bomb against Japan,” *Diplomatic History* 36 (June 2012).

citizens flooded the White House with correspondence. Many of these messages demanded democratic decision-making, arguing that “no one man or small group of men have the moral right to make this decision for American citizens.”⁶⁶ Some suggested a national referendum on the issue, thereby necessitating a greater availability of public information about the scientific and moral implications of the H-Bomb.⁶⁷ An editorial in the *Detroit News* argued that “the very ambiguity of the secrecy which continues to hang like a shroud over matters of atomic energy and the direction of its employment is something to dismay all reflective citizens.”⁶⁸ A number of prominent scientists expressed “similar concern about the dangers of making such decisions by a limited group of men under such secretive conditions.”⁶⁹ However, because Truman’s administration made the decision to move forward with the Super without public oversight, the act continued to be a source of tension between the federal state and its citizens.

Moreover, a climate of domestic insecurity was mounting: the White House press corps continued to barrage Truman with questions about the recent Alger Hiss

⁶⁶ Marguerite Ologhlin Crowe, telegraph to President Harry S. Truman, January 31, 1950; Folder “Miscellaneous”; Box 1693; White House Central File: Official File 692-J; Truman Papers, Truman Library.

⁶⁷ See, for example, Palmer Smith, Jr. to Charles Ross, Presidential Press Secretary, January 18, 1950; Folder “Miscellaneous”; Box 1693; White House Central File: Official File 692-J; Truman Papers, Truman Library.

⁶⁸ “It Does Not Shock Us as It Should,” *The Detroit News*, January 23, 1950.

⁶⁹ York, *The Advisors*, 73; Jessica Wang, “Scientists and the Problem of the Public in Cold War America,” *Osiris* 17 (2002), 342-7. One of Teller’s most-quoted statements in his testimony against Oppenheimer is “I would feel personally more secure if public matters would rest in other hands.” See more broadly, Balogh, *Chain Reaction*.

conviction, and Klaus Fuchs' confession to atomic espionage came just days before Truman's announcement. In response to the Fuchs episode, scientific advisors sent an evaluation of the security breach to the National Security Council, which met just before Truman's press meeting on January 31.⁷⁰

Given the context of these events and other escalating Cold War crises, Truman's announcement seems notably calm and vague.⁷¹ Almost a month later, on February 24, 1950, "whatever ambiguity may have been contained in Truman's January 31 decision was removed," as Truman approved the Super's accelerated development program.⁷² In general, the response from the press and Congress were positive.⁷³

Because news of the Super project came so closely on the tails of the Soviet test announcement, the popular reaction to the possibility of hydrogen bombs is difficult to pinpoint.⁷⁴ Moreover, public debate regarding nuclear weapons in late 1950 and 1951

⁷⁰ Although the Fuchs matter was not addressed directly at the NSC meeting or in Truman's announcement, the matter did not go unnoticed by those involved. See York, *The Advisors*, 68-69; McGeorge Bundy, "The Missed Chance to Stop the H-Bomb," *The New York Review of Books*, May 13, 1982; Paul Boyer, *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age* (New York, NY: Pantheon, 1985), 337-38; Bernstein, "Crossing the Rubicon."

⁷¹ Tracy C. Davis, *Stages of Emergency: Cold War Nuclear Civil Defense* (Durham, NC: Duke University Press, 2007).

⁷² The same announcement launched the study that would become NSC-68. Some of the press coverage and Congressional reaction was in response to the NSC document as a study of rearmament.

⁷³ York, *The Advisors*, 70-1.

⁷⁴ Indeed, York argues that, aside from discussions in the *Bulletin of the Atomic Scientists*, public conversations remained focused on the Soviet atomic test and a renewed emphasis on international regulation at the expense of debate about the hydrogen bomb. *Ibid.*, 43.

turned to the possibility of using atomic weapons in the Korean conflict. Thus, at the start of the 1950s, nuclear weapons progress had become intimately linked with changing Cold War geopolitics. Indeed, many scholars have since suggested that the decision to pursue the Super was inevitable given the political environment at the turn of the decade.⁷⁵ Unquestionably, the Super decision had an enormous impact on diplomacy and policy of the 1950s. But as much as it is useful to see the decision as a turning point, it should also be considered as another step in continuity with Cold War rearmament.

The United States tested its first purely thermonuclear device at the Enewetak Atoll in the Marshall Islands on November 1, 1952.⁷⁶ The so-called “Mike-shot” was not an operable weapon, but it proved conclusively that large fusion reactions were feasible. In fact, the size of the Mike explosion, approximately 1,000 times as large as the Hiroshima explosion, closely met scientists’ predictions.⁷⁷ Mike’s explosion was large enough to decimate its test site, Elugelab, turning the area from an island to an underwater crater.⁷⁸

⁷⁵ Bernstein, “Crossing the Rubicon”; Bundy, “The Missed Chance”; Boyer, *By the Bomb’s Early Light*, 337-40.

⁷⁶ Technically speaking, the first thermonuclear reaction occurred earlier in the year. On May 8, 1951, the George shot used a large fission/atomic explosion to ignite thermonuclear fuel. It demonstrated that a thermonuclear reaction could take place. This test is an important development in the timeline of the Super, which until George, was still only a theoretical possibility. See York, *The Advisors*, 77.

⁷⁷ *Ibid.*, 82.

⁷⁸ Later in November, a very large atomic device was also tested at Enewetak. Although this test, King, probably measured only about 5% of Mike’s size, its success suggested to some that further Super development was unnecessary; atomic bombs were already large enough. See *ibid.*, 83-5.

Building upon Mike's success, the AEC moved on to test fusion in operable weapons applications. In the spring of 1954, the AEC ran a series of tests, code-named Operation Castle, at Bikini Atoll. The first of these tests, Bravo, confirmed that hydrogen explosions could be harnessed for military operations. On February 28, Bravo detonated with a force of approximately 15 megatons (equivalent to 15 million tons of TNT), more than twice its predicted size.⁷⁹ It was the largest weapon ever tested by the United States prior and since. For many members of the AEC, Bravo was the triumphant culmination of years of frenzied research and development. The Bravo test, however, had unforeseen consequences. Not only did the test prove larger than anticipated, but weather conditions also foiled fallout predictions, spreading radioactive debris over approximately seven thousand square miles of the surrounding area. Twenty-eight American servicemen and approximately two hundred fifty local residents had to be evacuated to safety elsewhere in the Marshall Islands.⁸⁰

Later in the month, it became apparent that the fallout contamination had extended beyond the local residents. The Japanese tuna trawler *Fukuryu Maru*—or Lucky Dragon—had witnessed Bravo from a distance between eighty and one hundred miles, and was showered later in the day with radioactive ash. By the time the ship returned to Japan a few weeks later, the crew was ill enough to be hospitalized, exhibiting signs of radiation poisoning. Although approximately 1,000 pounds of the ship's contaminated

⁷⁹ Stephen Salaff, "The Lucky Dragon," *Bulletin of Atomic Scientists* 34 (May 1978), 21; in response to the miscalculation, Britain's *The Observer* posited, "do the scientists in fact really know what they are doing?" Perhaps such a blatant accusation was not possible in the American press. John Davy, "Experiments with the H-Bomb," *The Observer*, March 28, 1954.

⁸⁰ Titus, *Bombs in the Backyard*, 47, n64.

tuna was confiscated and buried, some had already been sold, setting off a contamination panic in Japan.⁸¹

Throughout March, AEC leaders consistently downplayed the effects of Bravo's fallout on local residents, American servicemen, and the crew of the Lucky Dragon.⁸² By the end of March, however, national newspapers reported that the AEC had increased the danger zone radius by a factor of three for future tests.⁸³ The AEC had learned from Bravo, even if the increased caution was only in an effort to curb future public relations problems.

The Lucky Dragon incident incited an unexpected press reaction. Throughout March, the Japanese government pressured the United States to admit that the Japanese fishermen were not at fault for navigating into restricted waters, and to provide remuneration for the country's depressed fishing economy and medical treatment for the boat's crew members. More than the health of the crew, however, American newspapers focused on the health dangers of the boat's contaminated tuna. The Lucky Dragon came

⁸¹ Lindesay Parrott, "Japan Buries Fish Exposed to Atom: Sampan Showered With Ashes from Explosion Provides Anti-American Issue," *New York Times*, March 18, 1954; "Japanese Bid U.S. Curb Atom Tests," *New York Times*, April 1, 1954. Also see Roger Dingman, "Alliance in Crisis: The Lucky Dragon Incident and Japanese-American Relations," in *The Great Powers in East Asia, 1953-1960*, ed. Warren I. Cohen and Akira Iriye (New York, NY: Columbia University Press, 1990). Martha Smith-Norris, "Only as Dust in the Face of the Wind: An Analysis of the Bravo Nuclear Incident in the Pacific, 1954," *Journal of American-East Asian Relations* 6 (Spring 1997).

⁸² For an overview of how the AEC handled early press, see Titus, *Bombs in the Backyard*, 46-54. In the Atomic Energy Commission's Sixteenth Semiannual Report, they continued to downplay fallout's hazards. See "Radiation Exposures in Recent Weapons Tests (Condensed from the *AEC 16th Semiannual Report*)," *Bulletin of Atomic Scientists* 10 (November 1 1954).

⁸³ See, for example "U.S. Widens H-Bomb Test Safety Zone: Enormous Power Surprised Experts at Pacific Blast," *Daily Boston Globe*, March 21, 1954.

to be associated with a new increased concern for the lingering consequences of radioactive fallout.

The reaction to Bravo and the Lucky Dragon incident touched a nerve in the public debate about nuclear weapons. Until Bravo, the tests conducted in the Pacific seemed isolated from human society; the vast ocean offering a geographical buffer between the tests and mankind. The Pacific test sites seemed to be controlled laboratories many thousands of miles away. Bravo, however, demonstrated the opposite. The global reaction to the possible effects on the food supply illustrate a critical moment in changing public opinion of nuclear policy. As will be discussed in the next chapter, geographic and environmental vulnerability encouraged the growth of the nuclear dissent movement in the late 1950s.

More importantly, Bravo demonstrated the destructive power of new hydrogen weapons, and the inadequacy of civil defense practices based on earlier atomic weapons.⁸⁴ The scale of H-bombs weakened the scientific foundation for civil defense practices. In the thermonuclear age, evacuation from a city's center now demanded a much greater radius of area to be evacuated, larger safe zones away from the presumed epicenter, and lengthier travel to reach safety. The feasibility of evacuation practices had long been questioned, but the hydrogen bomb tests signaled that sheltering in place placed too many "Americans in the sitting-duck category."⁸⁵ Moreover, observers citing the unpredictable radius of radiation danger in the event of a thermonuclear attack

⁸⁴ Some civil defense messages, however, considered the H-Bomb to be simply a larger A-Bomb, and argued that earlier civil defense measures were still applicable to larger explosions. See, for example, *You Can Beat the Atomic Bomb*, 17:32.

⁸⁵ Lapp, "Civil Defense Faces New Peril," 349.

suggested that “the mass removal of metropolitan populations to the suburbs or open country may be like jumping from the frying pan into the fire.”⁸⁶ As Ralph Lapp put it in the *Bulletin of Atomic Scientists* in November 1954, civil defense progress limped forward, “despite the vertiginous, almost exponential, rise in the hazards faced.”⁸⁷

The threat of a hydrogen bomb attack undermined completed civil defense projects, as well. When the White House bomb shelter renovation, commissioned in 1949 by President Truman, was completed in the spring of 1953, it had already become obsolete. As David Krugler shows in his study of civil defense in Washington, DC, millions of dollars went into a space that was “grimly exposed” to the power of hydrogen bombs.⁸⁸ New York City’s carefully-considered 1950 civil defense plan to build above-ground parking shelters and use subway infrastructure was severely outdated by 1953.⁸⁹ Some even questioned the usefulness of conducting defense research at all. As novelist Ray Bradbury wrote to *Life* after reading a photo-essay about nuclear testing in Nevada, “shouldn’t it be underlined again and again that if a hydrogen bomb had been used there would have been no buildings, concrete or otherwise, left and certainly no *Life* cameras to

⁸⁶ Ibid., 351. Lapp here is illustrating an opposing viewpoint and believes that “distance is still the best defense against the bomb.”

⁸⁷ Ibid.

⁸⁸ David F. Krugler, *This Is Only a Test: How Washington, D.C. Prepared for Nuclear War* (New York, NY: Palgrave Macmillan, 2006), 75.

⁸⁹ Joseph T. Sharkey, Acting President, “Resolution Requesting Action by the Government of the United States and Alternatively by the Government of the City of New York on the City Planning Commission Report to the Mayor, Entitled ‘An Immediate Program for Atomic Bomb Protection,’” August 15, 1950, Reel MN54003, Folder 227, Box 7, Records of the Council of the City of New York, Municipal Archives.

record it?”⁹⁰ The new scale of H-bombs collapsed the geographic delineation between safety and danger, survival and death.

The memory of Bravo and the Lucky Dragon incident resounded throughout the remainder of the decade. In the weeks leading up to the 1956 presidential election between President Eisenhower and Democratic candidate Adlai Stevenson, hydrogen bomb testing once again came to the forefront of public debate. In a nationally-televised campaign speech on October 16, Stevenson declared that, if elected, he would make a ban on H-bomb testing a political priority. The campaign spot ran longer than any of Stevenson’s other ads, emphasizing the issue’s importance to his campaign, especially in the last crucial weeks. Later in the week, the *New York Times* reported that the platform “had emerged as one of the sharpest issues of the campaign.”⁹¹

The *Times* article framed the campaign testing issue as a direct consequence of the Bravo test in early 1954. Arguing that “the issue was first dramatically posed [to the general public]” with reports about the Lucky Dragon incident, the article went on to cite the dangers of specific radioisotopes, the possibility of genetic mutation, and the split opinion of such fears within the scientific community.⁹² In focusing specifically on the hazards of strontium-90, a radioactive isotope product of fission reaction that targets bone structure in living organisms, the article foreshadowed a major health concern that would come to the front of the antinuclear movement later in the decade.

⁹⁰ Ray Bradbury, “Letter to the Editor,” *Life*, June 20, 1955.

⁹¹ “16 Days to Go,” *New York Times*, October 21, 1956.

⁹² *Ibid.*

In the end, the Bravo test had severe consequences for public debates about nuclear science in American life. Bravo, the Super, and Lucky Dragon all became buzzwords in a growing discomfort with nuclear weapons development and policy, and nuclear science in general.⁹³ Its rise to the surface of the 1956 presidential campaign indicates, if nothing else, that scientific authority and nuclear policy remained a hot-button issue in federal politics. However, by the mid-1950s, the public conversation took a different tone. The possibility of international control of nuclear weapons became less of a focus, although the possibility of cooperating with the Soviet Union on a test moratorium remained. More importantly, the public conversations about nuclear science began to have a sharper focus on the dangers of fallout. Unlike earlier nuclear fears, which centered mainly on the possibility of global annihilation through war, fallout was also a consequence of weapons research. Nuclear testing posed a threat to human life that did not require war to be destructive. Fallout could be, instead, the dangerous consequence of the actions of one's own state during peacetime. Fears about war did not abate, but fallout fears compounded them to create a new era in nuclear anxiety.

By the mid-1950s, public awareness of the dangers of H-bomb began to contribute to a period that historian Paul Boyer has characterized as “an interval of diminished cultural attention and uneasy acquiescence in the goal of maintaining atomic superiority over the Russians.”⁹⁴ Of course, for some civilians, scientists, and policymakers, weapons advancement remained the key to national security and a robust

⁹³ In 1958, Ralph Lapp published a 200-page exposé titled *The Voyage of the Lucky Dragon*. Ralph E. Lapp, *The Voyage of the Lucky Dragon* (New York City: Harper and Brothers, 1958). The *BAS* reflected on the incident again in 1978: Salaff, “The Lucky Dragon.”

⁹⁴ Boyer, *By the Bomb's Early Light*, 352.

scientific research community. But increasingly as the decade wore on, scientific experts and public intellectuals warned of the dangers posed by the present course of testing and development. As the dangers of fallout became a larger part of public discussion, civilians themselves began to use their understanding of nuclear science to push back against the actions of the state.

The Problem of the Scientist

As scientists and experts became a more visible part of public life—and policy circles—in the years after World War II, their image in society escaped a stable categorization. They were at once considered eggheads, geniuses, dupes, Renaissance men, security risks, bureaucrats, highbrow, lowbrow, and, very occasionally, human.⁹⁵ Scientists, especially theoretical physicists, embodied cultural polar opposites: they were dangerous and helpful; independent and tied to the state; nationalist and dangerously internationalist. And because they were leaders in their fields, their accomplishments were both lionized and vilified.⁹⁶

⁹⁵ See, for example, White, “A Newsmen Looks at Physicists,” 16. Historians of science and technology have documented these cultural forces at work in some detail. For imaginings of nuclear physicists, see David K. Hecht, “The Atomic Hero: Robert Oppenheimer and the Making of Scientific Icons in the Early Cold War,” *Technology and Culture* 49, no. 4 (October 2008): 953; and David Kaiser, “The Atomic Secret in Red Hands? American Suspicions of Theoretical Physicists During the Early Cold War,” *Representations* 90, no. 1 (Spring 2005): 42-8. For images of the scientist-expert more broadly, see David K. Hecht, “Constructing a Scientist: Expert Authority and Public Images of Rachel Carson,” *Historical Studies in the Natural Sciences* 41 (Summer 2011); Charles Thorpe, “Disciplining Experts: Scientific Authority and Liberal Democracy in the Oppenheimer Case,” *Social Studies of Science* 32, no. 4 (August 2002).

⁹⁶ Hecht, “The Atomic Hero”; David Kaiser also argues that there was significant slippage in the public image of specific scientific fields. Ultimately, he argues, theoretical physicists became the “formulaic depiction” of scientists in the early Cold War. Kaiser, “The Atomic Secret in Red Hands?” 28.

As the American public watched the hydrogen bomb project progress from Truman's announcement to the awe-inspiring photographs taken at Enewetak, another drama was unfolding regarding the role of nuclear science in American democracy. Anticommunist watchdogs warned the American public that nuclear scientists themselves could have questionable loyalty to the nation, internationalist sympathies, and were vulnerabilities in the national security apparatus.⁹⁷ Since World War II, several former members of the Manhattan Projects had gone on to become high-ranking executive branch advisors, and their public visibility made them easy targets of suspicion. In the early 1950s, the currents of scientific authority shifted within American society and politics at large. Nuclear science stood at the intersection of domestic and international policy, and overlapped in complex ways with anticommunism, espionage, and loyalty concerns.⁹⁸

⁹⁷ Patrick David Slaney, "Eugene Rabinowitch, the *Bulletin of Atomic Scientists*, and the Nature of Scientific Internationalism in the Early Cold War," *Historical Studies in the Natural Sciences* 42, no. 2 (April 2012); Jessica Wang, "Physics, Emotion, and the Scientific Self: Merle Tuve's Cold War," *Historical Studies in the Natural Sciences*, no. 5 (November 2012); Wang, "Scientists and the Problem of the Public in Cold War America"; and Balogh, *Chain Reaction*.

⁹⁸ For more on the extent to which secrets were shared across the Iron Curtain, see Michael S. Goodman, "The Grandfather of the Hydrogen Bomb?: Anglo-American Intelligence and Klaus Fuchs," *Historical Studies in the Physical and Biological Sciences* 34 (2003). These cases had a private, state-oriented function, but they also played out as public controversies. As people who were essential to the goals of the Cold War state and well-known to civilians as public intellectuals, nuclear physicists seemed accountable to both groups. The secrets they purported to know played out in classified hearings, but their loyalty was put on stage in public. As Ellen Schrecker and others have noted, the guilt or innocence of those subjected to public security questioning was not important. Instead, the spectacles themselves cast generalized suspicion on large swaths of American citizens. See Ellen Schrecker, *Many Are the Crimes: McCarthyism in America* (Princeton, NJ: Princeton University Press, 1998) and Stephen Hilgartner, *Science on Stage*:

Prior to the start of World War II, the theoretical physics community was internationalist in character.⁹⁹ The outbreak of the war, however, reorganized these experts along national lines, especially as it became clear that theoretical physics could have military uses. Yet the American nuclear development program retained an international makeup, as many prominent theorists were European émigrés. The American nuclear program demanded loyalty from its scientists, whatever their home nationality, but intelligence officials remained suspicious of foreigners.

In the immediate postwar period, some Manhattan Project scientists became outspoken political figures, expanding the boundaries of their public authority in matters of nuclear science, politics, morality, and governance.¹⁰⁰ But as the Cold War intensified, the flexibility of domestic politics that facilitated such dialogue disappeared. By the late 1940s, it became clear that nuclear research would continue even in peacetime, in order to meet the new diplomatic needs of the Cold War. As one historian of science has argued, the postwar alliance between science and the state was coercive, “[curtailing] the

Expert Advice as Public Drama (Stanford, CA: Stanford University Press, 2000). For the performative aspects of Atomic Age, see Davis, *Stages of Emergency*.

⁹⁹ Patrick David Slaney argues that Eugene Rabinowitch hoped to recreate this scientific internationalism through publishing the *Bulletin of the Atomic Scientists*, but had very limited success. Slaney, “Eugene Rabinowitch...” For perspectives on pre-war internationalist science in the Soviet Union, see Nikolai Kremmentsov, *Stalinist Science* (Princeton, NJ: Princeton University Press, 1997); and during and after the war, see Ethan Pollock, *Stalin and the Soviet Science Wars* (Princeton, NJ: Princeton University Press, 2006).

¹⁰⁰ For an excellent exploration of the role of scientists in American public life after World War II, see Wang, “Scientists and the Problem of the Public.” For a detailed examination of the role of scientists in policymaking, see Balogh, *Chain Reaction*.

political functions of the public as a social space for discussion and debate.”¹⁰¹ Combined with the necessary secrecy of nuclear research, the public outspokenness of state-employed scientists became severely limited by the end of the 1940s.¹⁰²

In the Cold War state, nuclear research became intertwined with the fight against global and domestic communism. Some of the earliest cases in the unfolding McCarthyist drama involved Manhattan Project scientists.¹⁰³ As one historian argues, “scientists were particularly vulnerable... HUAC’s high-profile search for atomic spies within the Manhattan Project damaged the credibility of the scientific community by portraying it as potentially subversive. Loyalty-security programs sent similar signals.”¹⁰⁴ Likewise, foreign scientists were easy targets in anticommunist crusades, both because of their personal history and because they held high security clearances.¹⁰⁵ As other scholars have noted, the media spectacles of the loyalty trials only further cemented the link between subversive politics and nuclear secrets in the public imagination.¹⁰⁶

¹⁰¹ Wang, “Scientists and the Problem of the Public,” 333. Wang also rightly points out that state surveillance played an important role in coercing scientists.

¹⁰² Sean Malloy argues that some of the elements of the compartmentalized secrecy that defined the Manhattan Project carried over into postwar research agendas, illustrating another layer of secrecy and mistrust between the state and its scientists. See Malloy, “Radiation Effects,” 543-5.

¹⁰³ Here I subscribe to Ellen Schrecker’s periodization of McCarthyism as roughly from 1946 to 1956, encompassing, but not limited to, the episodes in which Senator Joseph McCarthy was immediately involved. See Ellen Schrecker, *Many Are the Crimes*, ix-xviii.

¹⁰⁴ *Ibid.*, 378.

¹⁰⁵ Kaiser illustrates the cultural connection made by many critics: “theorists were Jews; Jews were Communists” Kaiser, “The Atomic Secret in Red Hands,” 46.

¹⁰⁶ Schrecker, *Many are the Crimes*, 169.

Moreover, the public held cultural assumptions about scientific theorists as having personality traits that made them “especially susceptible to Communist influence.”¹⁰⁷ In the late 1940s, under pressure from HUAC, the AEC began to make a categorical distinction in how they classified disloyalty among its employees: disloyal acts and disloyal thoughts.¹⁰⁸ Theoretical physicists were, by definition, thinkers. As anticommunist crusades began to criminalize thought, they ushered in an era where thinkers could very easily be criminalized. Seen as a broader indicator of the changing nature of American anticommunism, nuclear scientists stood at the forefront of the movement’s anti-intellectual impulse.

Nuclear espionage, and fears thereof, had existed since the Manhattan Project. Yet the confluence of domestic politics and the rise of nuclear concerns in American life created an atmosphere where a new and complex image of the scientist could be constructed. Even before the Cold War arms race swung into full gear in the early 1950s, American intelligence agencies had—perhaps unintentionally—constructed a strong association between nuclear science and the communist threat.

During the McCarthy era, two high-profile nuclear scientist loyalty cases are worth examining in more detail: those of Klaus Fuchs and J. Robert Oppenheimer.¹⁰⁹ It may seem easy to flatten both episodes into the generic McCarthy narrative of the

¹⁰⁷ Kaiser, “The Atomic Secret in Red Hands,” 42. Kaiser also argues that ethnicity, religious background, personality, and physiognomy aligned to create a scientific “type.” Ibid., 46-8.

¹⁰⁸ Ibid., 43. also see Wang, “Scientists and the Problem of the Public,” 334.

¹⁰⁹ Jessica Wang notes that one could examine the curtailment of scientists’ activities by examining the state surveillance of scientific organizations, as well as loyalty hearings. She later calls this “soft forms of repression.” See Wang, “Scientists and the Problem of the Public,” 341.

anticommunist witch hunt. However, they serve very different functions when examining their impact on public notions of scientific expertise.

Klaus Fuchs was a German physicist working with the British contingent of scientists at Los Alamos during World War II. After the war, he returned to Great Britain to continue working with their nuclear program until he was convicted in early 1950 of delivering nuclear secrets to the Soviet Union.

The Fuchs scandal erupted at a pivotal moment in early Cold War policy developments. The Soviet nuclear test in 1949 incited “a massive spy hunt” in an effort to discover why American intelligence estimates had failed to predict the progress of the Soviet Union’s nuclear program.¹¹⁰ Fuchs, one historian argues, was the effort’s “main trophy.”¹¹¹ Indeed, as others have written, the news of Fuchs’ espionage was a convenience, “offering a simple explanation for the relative speed by which the Soviet Union had managed to break the American atomic monopoly.”¹¹² Yet Fuchs’ contemporaries debated the consequences of his espionage at the time, and scholars today continue to argue about the degree to which Fuchs’ information helped or hindered the Soviet nuclear program.¹¹³

In the context of hardened tensions between the United States and the Soviet Union, the Fuchs case served to bolster several related symbolic functions of 1950s nuclear science. First, the Fuchs case reinforced the secretive nature of nuclear science:

¹¹⁰ Schrecker, *Many are the Crimes*, 177.

¹¹¹ *Ibid.*

¹¹² Goodman, Goodman, “The Grandfather of the Hydrogen Bomb?”, 2.

¹¹³ *Ibid.*

even if a scientist was not a spy, he held “atomic secrets” or “hot formulas” that could be damaging to the United States.¹¹⁴ Secondly, Fuchs served as concrete evidence to many that nuclear scientists could not be trusted to remain loyal to the United States. Later that year, the Greenglass and Rosenberg espionage scandals erupted, confirming that the Fuchs incident was not an isolated case. Finally, the Fuchs controversy lent additional justification to the accelerating nuclear arms race. Fuchs’ conviction came just days before President Truman announced the accelerated Super program, and while little evidence exists that the related National Security Council’s hydrogen bomb discussions considered Fuchs’ actions, his association with the success of the Soviet nuclear program suggested to many that the Soviets would not have trouble developing a hydrogen weapons either. Indeed, according to Herbert York, many of the Advisory Committee’s conclusions about the development of the Super rested on strategic assumptions that the Soviet Union might develop a Super even if the United States did not.¹¹⁵ For the public not privy to such conversations, the close timing of the Soviet test, Fuchs’ conviction, and the Super announcement could not have gone unnoticed. The Soviet explosion and the Fuchs confession demonstrated to the public that there was secret information to know, people who could and might spread it, and an imposing enemy who would put it to use.¹¹⁶

¹¹⁴ Kaiser, “The Atomic Secret in Red Hands,” 38-41.

¹¹⁵ York, *The Advisors*, 51-3.

¹¹⁶ For an investigation into the differences between representations of tacit knowledge, industrial know-how, and theoretical secrets, see Kaiser, “The Atomic Secret in Red Hands.”

As the 1950s progressed, theoretical physicists continued to face anticommunist scrutiny and were what one historian of science calls “the most consistently named whipping-boys of McCarthyism.”¹¹⁷ Even the highest-ranked scientific advisors could not escape suspicion: in December of 1953, the Atomic Energy Commission accused Robert Oppenheimer, renowned nuclear physicist, public intellectual, and top advisor, of being a security risk.

During World War II, Oppenheimer had directed the Los Alamos research facility, eventually earning him the title, “the father of the atomic bomb.” After the war, Oppenheimer remained closely involved in nuclear policy matters, especially in his role as chairman of the AEC’s General Advisory Committee, where he served until 1952. Oppenheimer’s public spotlight increased dramatically after the war, establishing what some have identified as “a cult of personality.”¹¹⁸ Regarded as a brilliant scientist, wise advisor, and of amiable character, Oppenheimer achieved a cultural status that stood apart from the bumbling, inept genius that dominated the postwar image of theoretical physicists. Oppenheimer’s “nonscientific attributes”—he was very personable—contributed most to his popularity.¹¹⁹ Despite having testified before HUAC in 1949 acknowledging his pre-war association with members of the Communist Party,

¹¹⁷ Ibid., 28. David Hecht has a more nuanced view: “the newfound importance of science and the complex interaction between the competing professional cultures of science, military, and government.” Hecht, “The Atomic Hero,” 955.

¹¹⁸ Hecht, “The Atomic Hero,” 951. Also see Bird and Sherwin, *American Prometheus*; and Thorpe, “Disciplining Experts.”

¹¹⁹ Hecht, “The Atomic Hero,” 945-55; and Schweber, *In the Shadow of the Bomb*. Charles Thorpe, however, argues that Oppenheimer’s very power and popularity threatened the anti-elitist “depersonalizing impulses of American liberal democratic political culture.” See Thorpe, “Disciplining Experts,” 550.

Oppenheimer's celebrity and important advising position in the Truman administration sheltered him for a time from FBI scrutiny.¹²⁰

Still, given the increasingly fraught environment of domestic security and nuclear science in the early 1950s, Oppenheimer's "combination of expertise with broad cultural and moral authority" could not persist.¹²¹ In late December 1953, the AEC sent a list of grievances to Oppenheimer, along with notice of the temporary suspension of his security clearance. Oppenheimer denied the charges, addressing them systematically in a response to the AEC. Both letters were published in full in the *New York Times* when the story became public the following April.¹²² Shortly thereafter, Oppenheimer appeared in a hearing before the AEC's Personnel Security Board, during which he was questioned about his past associations with members of the Communist Party and potential spies, as well as his earlier recommendation as part of the GAC against pursuing the development of the hydrogen bomb. In May, the Board determined that Oppenheimer posed a genuine security threat, and in June, the AEC revoked his clearance.

While the Oppenheimer hearings were not open to the public, much of it played out on the public stage. Oppenheimer's celebrity, as well as the fame of those who testified against him and on his behalf, made the saga between April and June rich fodder

¹²⁰ See Schrecker, *Many are the Crimes*, 292-3; Gregg Herken, *Brotherhood of the Bomb: The Tangled Lives and Loyalties of Robert Oppenheimer, Ernest Lawrence, and Edward Teller* (New York, NY: Henry Holt & Co., 2002); and Bird and Sherwin, *American Prometheus*.

¹²¹ Thorpe, "Disciplining Experts," 531.

¹²² "Texts of Letter from A.E.C. General Manager to Dr. Oppenheimer and Scientist's Reply," *New York Times*, April 13, 1954.

for news media.¹²³ But public opinion about communist allegations was slowly shifting. It should not be overlooked that the Army-McCarthy hearings, widely regarded as McCarthy's political downfall, played out on national television over the same months (April to June 1954) as the Oppenheimer hearing unfolded. If figures like Oppenheimer and organizations like the United States Army could be brought down by weak evidence, where was the limit? The public likely saw the two episodes as connected to one another. Although it was impossible in the summer of 1954 to know that McCarthy would soon be censured by Congress for his investigatory tactics, or that despite popular support, Oppenheimer would withdraw from public life, a new political climate was emerging.

The reaction to the AEC's final verdict was mixed. As Spencer Weart, a nuclear historian, argues, "the decision only meant that the physicist was expelled from the sanctum of military secrets, but the impact on public opinion was as great as if he had been condemned for treason."¹²⁴ In the aftermath of the scandal, members of the public, fellow scientists, intellectuals, and the media often framed Oppenheimer as an innocent victim of security excess; his accusers as unjust attackers with unseemly ulterior motives.¹²⁵ That a figure so well known for his wisdom could fall so far "for a policy dissent and a lapse in judgment over ten years before" surprised and outraged many.¹²⁶

¹²³ For an excellent reading of the Oppenheimer hearing as a public ritual of democratic statehood, see Thorpe, "Disciplining Experts," 531-4. From April to June 1954, Oppenheimer was mentioned in 323 articles in the *New York Times* alone.

¹²⁴ Spencer R. Weart, *Nuclear Fear: A History of Images* (Cambridge, MA: Harvard University Press, 1988), 180.

¹²⁵ See Schrecker, *Many are the Crimes*, 292-3.; Weart, *Nuclear Fear*, 180-1.; Hecht, "The Atomic Hero."

¹²⁶ Schrecker, *Many are the Crimes*, 293.

On the other hand, some scholars characterize the popular reaction differently, claiming that the hearing transcripts put Oppenheimer in a negative light to the public, stripping him of his public authority, and thereby, his popularity.¹²⁷

From the end of World War II until the mid-1950s, the public face of nuclear scientists underwent a remarkable transition. While those scientists who were involved in the Manhattan Project during World War II were largely sheltered from public view until after the war, their role as government advisors and researchers was much more apparent by the 1950s, even if their work remained classified. By then, even their loyalty trials became highly-publicized events. This relatively quick transition suddenly placed nuclear scientists at the center of many public debates.¹²⁸ To some, nuclear scientists appeared to have unprecedented influence and access to secret information. Indeed, in many cases they were the very creators of this information. In the context of domestic anticommunism, which targeted people who posed an ostensible threat to American democracy, nuclear scientists were easy targets (whether they were spies or not).¹²⁹

Yet anticommunist politics is not the only framework with which to explore the changing public authority of nuclear scientists. One must not neglect how these individuals were intimately tied to nuclear proliferation and the advancement of weapons. The Fuchs case, at the very start of the 1950s, coincided with an integral moment in

¹²⁷ Thorpe, “Disciplining Experts,” 550-2.

¹²⁸ For an interesting theoretical analysis of how expert and scientific advice constitutes a form of public drama, see Hilgartner, *Science on Stage*.

¹²⁹ Within the scientific community, anticommunism and the Cold War state raised intense debates about the scientific self, academic and scientific freedom, and the ethics of scientific research. See Wang, “Scientists and the Problem of the Public”; Wang, “Physics, Emotion, and the Scientific Self”; Patrick David Slaney, “Eugene Rabinowitch...”; and Thorpe, “Disciplining Experts.”

nuclear proliferation: the American loss of its nuclear monopoly and the subsequent decision to develop the hydrogen bomb. Fuchs' confession became a cautionary tale about the dangers of scientist-spies in high places, and lent concrete proof of the link between nuclear science, espionage, and Cold War competition.

Unlike the secretive wartime development of atomic bombs, hydrogen bombs emerged on a more public stage. It was a technology that, from the very start, carried scientific *and* ethical problems. By the time of Oppenheimer's hearing in 1954, hydrogen bombs had been built and tested, even amid several waves of controversy. The ambiguous reaction to Oppenheimer's clearance revocation hints at a larger problem surrounding nuclear science: even a trusted public intellectual could not escape the damaging uneasiness associated with nuclear science in American life. As one historian shows in his analysis of letters sent to Oppenheimer during and after the scandal, citizens "[mapped their] own concerns and anxieties onto Oppenheimer's image."¹³⁰ This phenomenon can be seen more broadly, as Americans also mapped their fears onto all matters involving nuclear science.

The Oppenheimer episode tarnished the prestige allotted to nuclear scientists who remained part of the scientist-advisor circle. Edward Teller, known as "the father of the hydrogen bomb," emerged from the scandal seeming to some as a villain who muscled political influence over scientific wisdom.¹³¹ That Teller was a scientist of the state further damaged the federal government's authority over nuclear science, as well. If

¹³⁰ Hecht, "The Atomic Hero," 965.

¹³¹ See Weart, *Nuclear Fear*, 180-1.

government scientists could not be trusted—either due to questionable loyalty or morality—could they possibly have the best interests of the state and its people in mind?

Nuclear science was caught between competing needs: those of the state and those of civilians. By the 1950s, policymakers needed nuclear science to support Cold War strategic aims. Yet domestic politics made nuclear science a potential liability. Civilians, too, looked to nuclear science with uneasiness. Conditioned by domestic anticommunism and a growing concern with proliferation, civilians increasingly had difficulty looking to scientists as unquestioned experts. This tension over scientific authority and moral responsibility would come to define the debate over nuclearization for the remainder of the early Cold War.

Conclusion

The history behind Eisenhower's 1953 "Atoms for Peace" campaign was an ongoing negotiation over the role of nuclear science in American public life. Earlier that year, Eisenhower received a National Security Council report on disarmament produced by a panel including Robert Oppenheimer—this was before his security hearing—Vannevar Bush, and Allen Dulles. The report made wide-ranging recommendations about curbing the frightening trends of proliferation and weapons advancement, anchored by a belief that the first necessary change was to open the channels of communication with the American people about the "meaning of the arms race."¹³² The report concluded that "in a democracy an informed public is the best safeguard against extreme public

¹³² Panel of Consultants on Disarmament, "Report by the Panel of Consultants of the Department of State to the Secretary of State: Armaments and American Policy," (January 1953), in *Foreign Relations of the United States, 1952-1954, Volume II, Part 2, National Security Affairs*, eds. Lisle A. Rose and Neal H. Petersen (Washington: GPO: 1984), Document 27.

reactions.”¹³³ The proposal became known as Operation Candor, and it became a long-term goal for Eisenhower.

Increased government transparency was not a new idea in the public sphere or in policy circles. Indeed, transparency had been a focal point for the scientists’ movement in the mid-1940s and a concern for policymakers as they developed civil defense plans. Yet it was not until 1953, bolstered by the new specter of thermonuclear war, that a program for public candor found wider traction in Washington.¹³⁴ Eisenhower continued to work with advisors and speechwriters throughout the remainder of the year on a policy statement, despite the announcement of *Joe 4*, the Soviet Union’s first thermonuclear test, and escalating controversy within the administration about Oppenheimer’s loyalty. The United Nation’s General Assembly meeting in New York City in December gave Eisenhower an opportunity to air his proposal on a world stage. Along with public candor, Eisenhower suggested that a renewed focus on peaceful nuclear science could prevent a global catastrophe.

At the same time, opposing forces worked to complicate the simple relationship Eisenhower outlined for future peace and nuclear research. By the mid-1950s, the state’s

¹³³ National Security Council Planning Board on Armaments and American Policy, “Interim Report by the Ad Hoc Committee of the NSC Planning Board on Armaments and American Policy/NSC 151,” (May 8 1953), in *Foreign Relations of the United States, 1952-1954, Volume II, Part 2, National Security Affairs*, eds. Lisle A. Rose and Neal H. Petersen (Washington: GPO: 1984), Document 88.

¹³⁴ For more information about the Oppenheimer Report, Operation Candor, and Atoms for Peace speech, see Immerman and Bowie, *Waging Peace*, 222-7. As Richard Hewlett has illustrated in great detail, Oppenheimer’s involvement in the Candor Proposal—and Eisenhower’s subsequent enthusiasm for it—contributed to mounting aggression from Oppenheimer’s political opponents, ultimately leading to his security hearing. See Richard G. Hewlett and Jack M. Holl, *Atoms for Peace and War, 1953-1961: Eisenhower and the Atomic Energy Commission* (Berkeley, CA: University of California Press, 1989), 47-55.

authority over nuclear matters was weakening due to rising concerns about nuclear weapons testing and the trustworthiness of those scientists employed by the state. Moreover, the federal civil defense program was consistently underfunded, making the protection of American civilians look like mere lip service. “Atoms for Peace” can be seen as an early attempt to control the public conversation about nuclear science, and to maintain the state’s scientific ownership of nuclear information. Even though the program led to broad changes in the international exchange of nuclear science, its candor platform was vague and difficult to implement on the domestic stage. As the 1950s progressed, Americans began to turn away from the federal government as a scientific authority.

As scientific expertise weakened in the face of the various challenges of the 1950s Cold War landscape, Americans began to look to alternative sources of authority to understand nuclear science and their hopes for survival. Despite efforts such as Eisenhower’s “Atoms for Peace” campaign, a seed of doubt—or perhaps many seeds—had been planted in American public discussion. As we shall see in the following chapter, public and unofficial scientific knowledge worked to erode the authority of the state as the best provider of scientific expertise. By the late 1950s, a new wave of scientific actors took the stage, promoting nuclear dissent, disarmament demands, and disillusionment with Cold War policy in general.

CHAPTER 5

THE FALLOUT FROM FALLOUT: THE PEACETIME THREAT

As the 1950s wore on, an increasing understanding of the harmful effects of nuclear fallout transformed ambivalence about science in American life into fear and outrage. Fallout was a force that moved invisibly, harmed indiscriminately, and knew no national borders. Perhaps most frightening of all, fallout was a product of the peacetime Cold War state, not the result of an enemy's act of war. By the end of the 1950s, concern about fallout had galvanized a vocal contingent of Americans who argued that nuclear policy placed the human community in mortal danger. As a reader of the Salt Lake City *Deseret News* put it in 1957, "the nation's constant worry seems to be the threat of a possible war and the possibility of the terrible effects of that war. It seems to me that we have all the conditions of that fearful war, with none of the causes."¹

Indeed, some of the earliest grassroots dissent against nuclear testing emerged from Salt Lake City and the areas of the United States most intimately acquainted with the "conditions of war": the Mountain West. Living in the shadow of the Nevada Test Site, residents of Nevada, Utah, Colorado, Idaho, and Wyoming had long been at the center of the unfolding debate about the implications of fallout. In the early 1950s, residents in the American West filed lawsuits against the federal government, protest organizations picketed nuclear facilities, and the Atomic Energy Commission waged its

¹ Luana Buhler, "Writer Doubts We Are Expendable - Letter to the Editor," *The Deseret News*, July 3, 1957.

fiercest public relations battles in response.² By the late 1950s, fueled by national controversy, the language of dissent that characterized the western public's protest spread to the United States as a whole.

The rapid emergence of fallout concerns in the late 1950s can be seen as the result of a widespread push to render the invisible visible. Radioactive fallout was a danger that presented a conceptual dilemma of scale. It was seemingly ubiquitous enough to cross borders and hemispheres. Yet it was small enough to imperceptibly permeate bodies and disrupt genetic code, the very smallest building blocks of human life. A nuclear explosion was massive, a tangible indicator of danger, and yet microscopic fallout could linger unseen for decades to come. Moreover, the nature of fallout obscured one's ability to identify perpetrators and victims. As awareness and its resultant fear spread, the public began to demand that the unknown become known.

During this era, several prominent public figures emerged—and reemerged—as crusaders against the nuclear threat. Activist scientists, many of whom had been silenced in the McCarthyist years of the early 1950s, once again became vocal opponents of proliferation. Scientists' cautionary messages inspired citizens outside of scientific circles to form national committees and organize protests. Some groups, especially the Committee for a Sane Nuclear Policy (SANE) and several pacifist organizations, had succeeded in gaining public support and media visibility.

The personalized nature of the danger of fallout made nuclear policy unpalatable to Americans at the grassroots level. Many citizens saw their personal health and safety,

² See Howard Ball, *Justice Downwind: America's Atomic Testing Program in the 1950s* (New York, NY: Oxford University Press, 1986); A. Costandina Titus, *Bombs in the Backyard: Atomic Testing and American Politics*, 2nd ed. (Reno, NV: University of Nevada Press, 2001).

and that of their children and of future generations, jeopardized by the militarized politics of the Cold War and the actions of the state. Here was a threat that even civil defense could not mitigate. More than any other aspect of the Cold War, the threat of fallout hit home hard. Galvanized by interest in their own safety, a new set of Americans entered the public debate about nuclear policy. They appealed to federal leaders and agencies and articulated their concerns as those of engaged citizens. The public pushback against fallout must thus be considered in terms of the political relationship between individual citizens and their state.

The awareness that nuclear testing endangered all people gave Americans cause to think critically about individual and collective rights. Cast in the language of human rights, fallout entered familiar debates about democratic practice and consumer and environmental protections. But it also created new debates about state and global sovereignty. Increasingly, antinuclear advocates pressed for a new understanding of sovereignty that held nations accountable for global health – or, rather, held nations accountable to do no harm beyond their borders. The discovery of fallout’s global reach provoked renewed debate over the wisdom of nuclear policy, and forced Americans to reconsider their position as citizens of the American state *and* as human citizens of the planet.

Fallout gave nuclear citizenship a fearful urgency unlike that which the threat of nuclear war had created earlier in the decade. Rather than imagining nuclear dangers as a part of a war-stricken future, Americans increasingly recognized a changed reality: the danger is here and now. This time, however, the warning was not issued by the state. Instead, new actors emerged as authorities and sources of trustworthy information: non-

government research groups, social critics, humanitarians, and civic leaders. In particular, geneticists—specialists in a new and growing field—used their expertise to reveal why fallout was more dangerous than once believed. With access to new warnings about public health, civilians recognized that American democratic practice was jeopardized by nuclear policymaking and its lack of transparency.

Antinuclear rhetoric in the late 1950s was remarkably flexible and could be used to diverse ends. In the midst of a polarized Cold War, the threat of fallout gave some Americans reason to abandon—or at least question—their rigid ideas of national autonomy. These Americans rekindled calls for disarmament and international regulation. Others, however, protested within the framework of Cold War nationalism, seeing antinuclearism as an opportunity for the United States to assume moral leadership on the international stage.

Nonetheless, amid a cacophony of proposed solutions to nuclear problems, concerned Americans deemed one most urgent: a nuclear test ban. Although such a ban could not prevent a nuclear war in the future, it would curb the immediate problem of atmospheric fallout. The proposed test ban proved to have the most diplomatic traction, too. In 1958, the United States, Soviet Union, and Great Britain began a voluntary temporary test moratorium while entering into negotiations in Geneva to come to a permanent agreement. The talks were lengthy and tense, and exacerbated by international crises of the early 1960s, including the U-2 plane controversy and deteriorating diplomatic relationships pertaining to Berlin. Testing resumed in 1961. By then, however, the idea of a test ban had gained currency among civilians and leaders alike. And the Cuban Missile Crisis in October 1962 reaffirmed the extreme danger of

nuclearization. In part a byproduct of this conflict in Cuba, in 1963 the United States, Soviet Union, and Great Britain reached an agreement to ban all tests conducted above ground, underwater, and in space. This Limited Test Ban Treaty did not halt weapons development, as it still permitted underground testing. However, it significantly reduced the danger of atmospheric fallout to global human populations.

The public's desire to know the unknowable led it to rally behind demands for a nuclear test ban in the mid- and late-1950s in several ways. The landscape of accessible information about fallout changed significantly over the course of the decade. Several high-profile scientific studies proved that fallout presented a personal, individualized threat. However, fallout's dangers were difficult to articulate, measure, and predict, and scientists, policymakers, and the media disagreed about how studies should be interpreted. The only thing clear was that fallout from nuclear explosions presented a threat, albeit an ill-defined one. Soon, the public came to understand the effect of nuclear fallout in their individual lives. Suspicious of the politicization of the scientific conversation surrounding the fallout controversy, concerned Americans turned away from a purely technical way of thinking about fallout. Instead, many civilians began to understand fallout as a troubling moral issue that carried dire consequences for the American family and home. In addition, the threat to individual human life catalyzed antinuclear activism across a wide spectrum, from the lowest grassroots to powerful national organizations. The broad-based response to the threat of nuclear fallout revealed, more acutely than ever, that nuclearization demanded a reorientation of the relationship between individual citizens and their state. By the end of the decade, the public response to nuclear fallout raised important political questions of scale: the

relationship between individual humans and the local, national, and global communities within which they lived.

Public Knowledge

Public awareness of the dangers of radioactive fallout evolved quickly over the course of the 1950s, beginning with a series of specific events and broadening to a wider public debate. The 1954 Castle Bravo test in particular catalyzed important changes in the public economy of information about fallout. It changed how scientists studied fallout, how scientific authority functioned in public debate, and how Americans learned to recognize nuclear dangers in everyday life. The heightened public attention cast toward radioactive debris when Japanese fishermen on the Lucky Dragon fell ill with radiation sickness created both a demand for information and a critique of the information that was available. The Atomic Energy Commission (AEC), operating within the bounds of its Congressional mandate, had typically kept fallout data hidden from wide public consumption. As scientists, pacifists, and other social critics gained traction in demanding federal transparency, they placed themselves in opposition to the AEC. Fallout statistics and information quickly became freighted with political meaning.

The information that was available to the public in the immediate aftermath of Castle Bravo was primarily limited to official AEC press statements that consistently downplayed the deleterious effects of fallout.³ Meanwhile, American newspapers

³ See, for example, "A.E.C. Manual Cited," *New York Times*, March 26, 1954; "U.S. Widens H-Bomb Test Safety Zone: Enormous Power Surprised Experts at Pacific Blast," *Daily Boston Globe*, March 21, 1954; also see the AEC's 13th Semiannual Report, as covered in the *Bulletin of the Atomic Scientists*: Anthony Turkevich, "Assuring Public Safety in Continental Weapons Tests," *Bulletin of the Atomic Scientists* 9, no. 3 (April 1953); "Fortuitous Fallout," *Time*, July 8, 1957.

reported on the ongoing outcry from Japanese officials over the health of the Lucky Dragon crew and a seafood industry severely depressed by public panic over contaminated ocean fish. As a growing number of critics questioned the official AEC line, they called for independent studies that could present information without political bias, bureaucratic partisanship, or classification restrictions.⁴ In November 1954, in their recurring “Matter of Fact” column in the *Washington Post and Times Herald*, Joseph and Stewart Alsop suggested that the lack of reliable information about fallout stood in the way of functional democracy, stating that even the Soviets had better access to scientific information about fallout.⁵ The *Post* continued its push the next month, claiming: “there is no danger so fearful as one on which there are no hard facts.”⁶ In 1954 and 1955, the debate about the future of nuclear testing had already become deeply polarized, with both pro- and anti-testing advocates calling upon the same limited scientific data to bolster their case. In April 1955, a *New York Times* editorial chastised both groups: “on the whole, there has been a tendency on the part of those who would forbid further tests of atomic bombs to overstate their case and on the part of the Atomic

⁴ In 1955, journalist David Lawrence suggested that the reason why the public knew so little about fallout science, but much about the AEC controversy was “because a scientific lingo doesn’t make news and . . . because a denunciation of the Atomic Energy Commission, charging it with giving out supposedly misleading information, does make news.” David Lawrence, “A-Bomb Fallout Not Harmful,” *Sarasota Herald-Tribune*, June 15, 1955.

⁵ Joseph Alsop and Stewart Alsop, “Matter of Fact... The Radiological Hazard: II,” *The Washington Post and Times Herald*, November 24, 1954. Some complained that “there is no area of public policy in which so little firm information is available.” See “How Bad Is Radiation?” *The Washington Post and Times Herald*, April 12, 1955.

⁶ Editorial, “Facts on the Fall-Out,” *Washington Post and Times Herald*, December 16, 1954.

Energy Commission a tendency to interpret atomic explosions statistically to show that the world has nothing to fear from such tests.”⁷ Seeing officials and commentators competing for authority based on limited data, the overwhelming sentiment in national newspapers was frustration over whom to trust.

The early media clamor for trustworthy information about fallout loosely coincided with the ten-year anniversaries of Hiroshima and Nagasaki. While the coverage of the anniversaries varied in tone and opinion, many of the features relied heavily on visual artifacts of the war. For example, the *New York Times* ran a several-page article about Hiroshima’s physical recovery from the ravages of the bombings.⁸ Early nuclear dissent activists, however, used the anniversaries as an opportunity to renew and revive the traumatic memory of the bombings. *Hiroshima Diary*, a first-hand account by an injured Japanese physician in the months following the bombing, was released in English for the first time in 1955 and reviews appeared in major outlets across the nation.⁹

Even more visibly, in May 1955, twenty-five young female victims of the first atomic bombing were brought to the United States to receive cosmetic and reconstructive surgery. The so-called Hiroshima Maidens and their advocate, Kiyoshi Tanimoto—who had figured prominently in John Hersey’s *Hiroshima*—received a great

⁷ “The Academy and the Bomb,” *New York Times*, April 9, 1955. Also see E. J. Story A. H. Rosenfeld, and S. D. Warshaw, “Fall-Out: Some Measurements and Damage Estimates,” *Bulletin of the Atomic Scientists* 11, no. 6 (June 1955).

⁸ Harry S. Truman, “The Truman Memoirs: Part V, ‘Greatest Thing in History’,” *Life*, October 24, 1955; Robert Trumbull, “Hiroshima - Ten Years After,” *New York Times*, July 31, 1955.

⁹ Robert W. Miller, “Historical Vignette: Hiroshima, 1955,” *Radiation Research* 155, no. 2 (February 2001).

deal of press coverage, thanks in large part to the interest of Norman Cousins, the editor of the *Saturday Review*. While some observers noted that “working together in medicine [helped] to heal the animosity from a war that had ended 10 years earlier,” these press events also served to remind the public of the horrors of nuclear war.¹⁰ The peace advocacy of the program’s organizers suggested that the mission was not simply a feel-good publicity stunt but an emotional appeal against nuclearization.¹¹

In their appearances on television, press events, and in print media from 1955 to 1956, the Hiroshima Maidens served as visible reminders of the atrocities of modern war. Although the women’s physical disfigurement was caused by thermal burning and other blast injuries—not by fallout per se—they gave Americans a way to imagine the individualized, human ways that bodies suffered in the aftermath of a nuclear attack. It is important also to consider that the victims were not those from Tokyo or other areas destroyed by conventional bombing. The Hiroshima Maidens were victims of *nuclear* war, occupying a site of especially painful public memory and bearing a warning for the future. Their stay in the United States coincided with renewed conversation about the ethical and medical consequences of nuclear war, a topic from which the Hiroshima Maidens could not be easily separated.

Also in May 1955, the Federation of American Scientists called for a comprehensive international inquiry into the effects of fallout that could overcome politicization and policy interests. Others agreed: “if it is not feasible to have a moratorium on the tests themselves, an international evaluation of data about fall-out by

¹⁰ Ibid.

¹¹ Also see Margot A. Henriksen, *Dr. Strangelove’s America: Society and Culture in the Atomic Age* (Berkeley, CA: University of California Press, 1997), 45-6.

competent scientists in the next best thing.”¹² By early 1956, the National Academy of Sciences (NAS) answered the call with its study, “Biological Effects of Atomic Radiation.”¹³ The press and the public, both hungry for definitive information, eagerly awaited scientifically unbiased opinion. However, the results of the NAS study gave the public few concrete facts. Instead, the report pointed to a variety of avenues for future research, repeating the refrain, “[W]e do not know enough.”¹⁴

There was, however, one area in which the NAS researchers were sure of their conclusions: fallout was genetically dangerous. As the NAS stated in its public release, “the inheritance mechanism [genetic system] is by far the most sensitive to radiation of all biological systems.”¹⁵ The report went on to explain that “there is complete agreement among geneticists... [that] any radiation dose, however small, can induce some mutations.”¹⁶ In this sense, an exposed person did not have to have long or heavy exposure to suffer consequences. He or she may not fall ill to radiation diseases, but a parent could pass on negative effects to their future children and all subsequent

¹² “Evaluating Fall-Out,” *The Washington Post and Times Herald*, June 24, 1955.

¹³ Both the report in full and a digest appeared in “Text of Genetics Committee Report Concerning Effects of Radioactivity on Heredity,” *New York Times*, June 13, 1956; almost simultaneously, the British Medical Research Council released a report with similar findings. See John Hillaby, “British Unit Sees Fall-out Threat,” *New York Times*, June 13, 1956.

¹⁴ For example, National Academy of Sciences, “The Biological Effects of Atomic Radiation: A Report to the Public,” (Washington, DC: National Academy of Sciences - National Research Council, 1956), 22.

¹⁵ *Ibid.*, 14.

¹⁶ *Ibid.*, 16-7.

generations.¹⁷ The press seized upon this information, largely side-stepping the report's other conclusions about atmospheric, oceanographic, and environmental effects.

The NAS studies, and those that followed it, added nuance and complexity to the public understanding of fallout.¹⁸ For the first time, fallout was widely discussed as something that had short- and long-term dangers to humans. By making distinctions between radiation sickness (heavy exposure, quick-onset, high mortality), pathological effects (less exposure, increased lifetime cancer risk), and genetic mutations (small or large dose, consequences for future generations and offspring of those exposed), the scientists involved hoped to keep the effects of fallout from being discussed as a monolithic entity. For a public that had primarily been exposed to warnings about radiation as a peril in the seconds, minutes, and hours after an explosion, the genetic and long-term pathological warnings were new.¹⁹ These dangers were also what made the continuance of nuclear testing so potentially sinister: the consequences of these explosions would be felt for decades—and perhaps centuries—to come. Ultimately, the

¹⁷ Some suggested that radiation-caused mutations might be beneficial, producing “people with an IQ of about 500 who could live indefinitely.” See E. C. Krauss, “Atoms and Evolution,” *Los Angeles Times*, May 23, 1955.

¹⁸ The 1956 NAS study was followed by several other investigations, notably those of the Academy of the American Physical Society and a much-anticipated Congressional hearing in early 1957. Ten months after the NAS published its initial study on the effects of fallout, the Academy and the American Physical Society met in Washington, DC to discuss further research in the field. The follow-up studies gave further specificity to the measurement of atmospheric fallout, and softened the severity of the NAS's original claims. Willard Libby, member of the AEC, used the new consensus as a means for disputing the claims of activists who had been convinced and galvanized by the original studies. See William L. Laurence, “Science in Review: Schweitzer Versus Atomic Authorities on the Dangers of Weapons Testing,” *New York Times*, April 28, 1957.

¹⁹ See, for example, John Hersey, “Hiroshima,” *The New Yorker*, August 31, 1946.

genetic consequences of fallout transformed the argument for a test ban from a prerequisite to world peace into a prerequisite for the survival of the human race.

Yet the first studies about fallout and human health often raised more questions than they answered. For one thing, most investigations, independent and AEC alike, used data based on the continuance of testing “at the present rate.”²⁰ In 1952, Great Britain joined the “nuclear club,” and it was only a matter of time before other nations did as well: France would begin testing in 1960 and China in 1964. Even if the United States continued to test its own weapons at mid-1950s levels (which some doubted could ever remain the case), other nuclear players would unquestionably increase the rate of global testing.²¹

Predictably, new information about fallout quickly became politicized. When Adlai Stevenson called for a cessation of hydrogen weapons tests during the 1956 presidential campaign, his claims about fallout risks galvanized a heated response from the Atomic Energy Commission, several leading physicists and biologists, and anonymous editorial authors.²² While many of these critics objected to the general premise that fallout constituted a major threat to human health, others responded directly to Stevenson’s claims about contaminated milk, and the Eisenhower administration’s

²⁰ See Laurence, “Science in Review.”

²¹ See, for example: “Is Fallout Good?,” *The Washington Post and Times Herald*, April 27, 1957. Subcommittee on Foreign Relations, “Hearings on Control and Reduction of Armaments,” ed. United States Senate (Washington, DC: Government Printing Office, January 1957), 1149.

²² Editorial, “Mr. Stevenson and the Bomb,” *New York Times*, October 17, 1956; “12 Scientists Ask Bomb Tests Go On,” *New York Times*, October 21, 1956.

willingness to conceal the fact from the public.²³ Lewis Strauss, then chairman of the AEC, noted that Stevenson distorted the available data and argued that “Mr. Stevenson’s continuous efforts to frighten the public on the eve of election are not admirable.”²⁴ Throughout the campaign, Stevenson had claimed that in making the test ban a campaign issue he “had no political motives in mind... it was and is too serious for that.”²⁵ Instead, he brought the issue to the national political arena “when it became evident that public interest in the H-bomb question was substantial.”²⁶ But when Stevenson used his presidential bid as a platform for discussing hydrogen bombs, nuclear tests, and fallout, the issue became unavoidably tied to partisan politics.²⁷

As the fallout issue became bound to politics and more non-government experts staked a claim in the debate, scientists once again encountered the contingent position of science in Cold War American public life. For example, when Dr. Warren Weaver, chairman of the NAS Committee on Genetic Effects of Atomic Radiation, testified before Congress in early 1957, he repeatedly emphasized that unbiased scientists were

²³ “Strauss Denies Charge on Milk,” *New York Times*, November 4, 1956.

²⁴ *Ibid.*

²⁵ Adlai E. Stevenson, *Nuclear Test Ban*, 25 minutes, film, Adlai E. Stevenson Papers, Box 350, Folder 12; Public Policy Papers, Department of Rare Books and Special Collections, Princeton University Library.

²⁶ Harrison E. Salisbury, “Stevenson Calls for World Pact to Curb H-Bomb,” *New York Times*, October 16, 1956.

²⁷ William Cuyler Sullivan, Jr., in his work on the Greater St. Louis Citizens’ Committee for Nuclear Information, argues that Stevenson’s test ban bid created public interest. I argue it was one of many public events. Jr. William Cuyler Sullivan, *Nuclear Democracy: A History of the Greater St. Louis Citizens’ Committee for Nuclear Information, 1957-1967*, University College Occasional Papers, no. 1 (St. Louis, MO: Washington University, 1982), 1.

“patriotic.”²⁸ Warren wanted to assure his audience that scientific integrity was not at odds with the state. However, in using such language, Warren placed researchers and their findings in the framework of early Cold War domestic politics. The study of fallout, like previous nuclear matters, had deep political ramifications.

Moreover, the availability of new, seemingly unfiltered, information on fallout put the AEC into conflict with independent scientists. Even when both sides were in agreement over the interpretation of data, the press framed the non-government studies as an antidote to untrustworthy AEC information. The public understood the controversy as insider and outsider experts jockeying for authority. But here, too, an outsider position left experts vulnerable to accusations of disloyalty. As one reader of several New York newspapers pointed out, the political views of the experts involved were on constant trial. She regretted that, even in the mainstream press, “anyone who opposes the tests is either a fool or a Communist.”²⁹

Perhaps most visibly, the insider-outsider drama played out in a 1957 argument between Nobel Peace Prize winner Albert Schweitzer and a then-commissioner of the AEC, Willard Libby. In April of that year, Schweitzer, a theologian, physician, and missionary, issued “A Declaration of Conscience,” a speech condemning nuclear testing.

²⁸ U.S. Senate Subcommittee on Foreign Relations, *Hearings on Control and Reduction of Armaments*, (Washington, DC: GPO, January 1957), 1143; 1151.

²⁹ Eleanor, Clymer to the Editor of the *Saturday Review*, June, 1957; Folder “C”; Box 1; Subseries B-1; Series B; SANE, Inc. Records (DG 058), Swarthmore College Peace Collection (hereafter referred to as SANE-SPC). Cousins responded to such claims in a letter to Phillip Hildreth, a reader from Tucson: “Increasingly, we can expect that all those who are concerned with the question of fallout will be accused of being dupes of the Communist party. But this should not deter us.” Norman Cousins to Phillip Hildreth, June 21, 1957; Folder “Correspondence of Norman Cousins A-K”; Box 2; Subseries B-1; Series B; SANE-SPC.

In light of new scientific evidence and repeated warnings, Schweitzer lamented that the situation had not “influenced public opinion to the extent that one might have expected.” Blaming a lack of public understanding, Schweitzer outlined the science of radiation and fallout, citing easy-to-understand statistics and using common language. Yet his argument carried heavy moral implications, calling nuclear testing the “folly for which humanity would have to pay a terrible price.”³⁰ Although Schweitzer’s appeal was broadcasted in approximately fifty countries, it did not air in the United States. The *New York Times*’ coverage of the event ran aside a short blurb reporting on Secretary of State Allen Dulles’ announcement that the United States would continue its testing program until scientific information could conclude “such tests were perilous to world health.”³¹ Still, Cousins’ *Saturday Review* published the full transcript of the Schweitzer’s broadcast several weeks later and it gained mention elsewhere in the weeks and months that followed.

Some Americans met Schweitzer’s statement with resounding approval. As Elmer A. Hilker wrote, Schweitzer’s statement was “one of the most signal contributions that has been made by any publication that has come to my knowledge. The even, unexaggerated tone of the article, its lack of hysteria, its freedom from condemnation

³⁰ Schweitzer’s lecture was originally broadcast on April 24, 1957. For transcript, see Albert Schweitzer, “A Declaration of Conscience,” *Saturday Review*, May 18, 1957.

³¹ “Schweitzer Urges World Opinion to Demand End of Nuclear Tests,” *New York Times*, April 24, 1957; “Dulles Gives U.S. Policy,” *New York Times*, April 24, 1957.

make it a masterpiece for molding public sentiment.”³² Another reader of the *Saturday Review* called the article “analogous to the literary masterpiece [*Common Sense*] written by Thomas Paine in January 1776.”³³

In response to the Schweitzer appeal’s publicity in the United States, the AEC felt pressured to respond. In a public letter Libby chastised Schweitzer for exaggerating the threat and unnecessarily arousing public panic.³⁴ Libby cited more recent follow-up studies that gave more concrete numbers to the NAS’s original conclusions. These studies demonstrated that the measurable radioactive exposure caused by testing at the present rate constituted a lesser degree of risk than that presently created by cosmic background radiation, and much less of a risk than the radiation the average American received from medical X-rays.³⁵ The genetic threat caused by weapons testing, Libby claimed, “need cause no alarm” and constituted no hazard to human health.³⁶ Despite the

³² Elmer A. Hilker to J. R. Cominsky, Publisher of the *Saturday Review*, May 15, 1957; Folder “H”; Box 1; Subseries B-1; Series B; SANE-SPC.

³³ Nelson R Haas to Norman Cousins, June 10, 1957; Folder “Correspondence of Norman Cousins A-K”; Box 2; Subseries B-1; Series B; SANE-SPC.

³⁴ Laurence, “Science in Review.”

³⁵ As proponents of continued nuclear testing were quick—and correct—to point out, the American public received more radiation from routine medical X-rays and naturally-occurring cosmic background radiation. This aspect of the fallout controversy also led to a critical reappraisal of X-ray procedure in the medical professions. This point of contention, however, would remain an inescapable part of the public and political debate about whether a test ban would significantly improve human safety. Comparisons surface throughout the remainder of the 1950s. Among many others, see: Roy Weinstein, “Letter to the Editor: It May Be Poison, But...” *Daily Boston Globe*, March 31, 1955; Hillaby, “British Unit Sees Fall-out Threat”; “12 Scientists Ask Bomb Tests Go On”; John W. Finney, “Study Minimizes Fall-out Danger,” *New York Times*, May 8, 1959.

³⁶ Laurence, “Science in Review.”

qualification of fallout's threat by Libby and other test supporters, advocates for a test ban insisted that *any* threat was too much of a risk. In a letter responding to Schweitzer's appeal, a reader of the *Saturday Review* reiterated, "*genetic*, or not, the hazard *is* there. And it's the most weasling kind of gobbledegook to imply... that there is little or no hazard involved."³⁷

Others remained skeptical of the view—held by Schweitzer and many scientists—that mutations caused by radiation were unconditionally negative. Shortly after Castle Bravo gained media attention, an editorial ran in the *Los Angeles Times* declaring that “the other side of the picture may have been neglected... It is at least conceivable that radioactivity might produce a race that would enjoy good health during a life of 150 years; or a race with superintelligence, or one that would be larger, or stronger, or handsomer than any that exists today.”³⁸ Proponents of this view cited the background and cosmic radiation that had been part of human evolution since the inception of the species. Yet geneticists, from the NAS and elsewhere, insisted “mutations almost invariably harm the organism in which they occur.”³⁹ Nevertheless, even after the NAS report was made public, the significance of mutations remained open for interpretation. As Marion Hart of New York City put it in a letter to the *Saturday Evening Post*, “three eyes seem to me to present a distinct advantage over two, and that

³⁷ Atlantis Hallam to Editor, *Saturday Review*, May 31, 1957; Folder “Correspondence of Norman Cousins A-K”; Box 2; Subseries B-1; Series B; SANE-SPC (emphasis original). For additional responses and controversial reactions to Schweitzer, see Robert A. Divine, *Blowing on the Wind: The Nuclear Test Ban Debate, 1954-1960* (New York, NY: Oxford University Press, 1978), 122-3.

³⁸ Krauss, “Atoms and Evolution.”

³⁹ National Academy of Sciences, “The Biological Effects of Atomic Radiation,” 15.

two heads are better than one is a proverbial piece of wisdom.”⁴⁰ Although satirical, Hart’s quip reveals an undertone of unease with the physical manifestations of mutation.

The Schweitzer controversy remained in the news cycle throughout the summer of 1957, thanks to a new series of AEC nuclear tests conducted at the Nevada Test Site. Operation Plumbbob, in which 29 tests were conducted between May and October, was a controversial reminder of the federal government’s interpretation of fallout analyses and its decision to continue with testing until more conclusive evidence appeared.⁴¹

Libby, echoing others who pushed for a continuation of tests, claimed that testing was “so vital to assuring the survival of the free world” and argued that postponing, canceling, or banning nuclear tests would appear as a sign of weakness on the international stage.⁴²

At the same time as Plumbbob, the Joint Committee on Atomic Energy held a second round of Congressional hearings with hopes to resolve the controversy over the dangers of radioactive fallout. The Congressional investigation’s caution about and interest in the subject stood in stark opposition to the Eisenhower administration’s unwavering decision to move ahead with testing. Lorraine Klatzkin of Trenton, New Jersey was disappointed by the political process, stating she “was rather distressed upon reading today’s newspaper to find that the President (even though the Congressional hearings are not over yet) has already made up our minds for us about continuing the

⁴⁰ Marion R. Hart to Norman Cousins, June 19, 1957; Folder “Correspondence of Norman Cousins A-K”; Box 2; Subseries B-1; Series B; SANE-SPC.

⁴¹ Nevada Operations Office United States Department of Energy, “United States Nuclear Tests, July 1945 through September 1992,” (Las Vegas, NV: December 2000).

⁴² John W. Finney, “Libby Gives Case for Bomb Tests,” *New York Times*, June 8, 1957.

tests.”⁴³ In addition, by 1957 several members of Congress had come out in support of limiting the AEC’s autonomy, which they linked to harsh critiques of the agency’s lack of oversight. At the international level, Plumbbob provoked continued protests from non-nuclearized nations, protests that had to be managed through American diplomacy.⁴⁴ Thus even at the highest echelons of government, the pressures of fallout were creating fractures and tension.

During Plumbbob, Linus Pauling, also a Nobel Prize winner in biochemistry, joined the growing ranks of test ban advocates. In June 1957, Pauling publicized a petition with the signatures of 2,000 scientists in support of an immediate ban on nuclear testing.⁴⁵ A month earlier, he had made controversial claims that 10,000 people had already died from or were ill with leukemia due to already-executed nuclear tests. He raised the issue “for both political and humanitarian reason,” arguing that the effect of fallout is “large enough [that] anyone interested in human suffering to be concerned about it.”⁴⁶ By January 1958, Pauling had collected over 9,000 signatures from scientists

⁴³ Lorraine Klatzkin to Senator H. Alexander Smith, June 6, 1957; Nuclear Tests; 1957; H. Alexander Smith Papers, Box 422, Folder 14; Public Policy Papers, Department of Rare Books and Special Collections, Princeton University Library (hereafter referred to as HAS-PUL).

⁴⁴ 1957 marked Japan’s “second formal request for the suspension of current nuclear tests in Nevada. “Japanese Students Protest Atom Tests,” *New York Times*, May 30, 1957. In 1956, Indian officials led a UN petition for a test ban, which was promptly rejected by the nuclearized states.

⁴⁵ Gladwin Hill, “2,000 Join Pauling in Bomb Test Plea,” *New York Times*, June 4, 1957.

⁴⁶ “Pauling Lists 10,000 as Fall-out Victims,” *New York Times*, May 1, 1957.

around the world.⁴⁷

Like Schweitzer's earlier appeal, Pauling's petition campaign shows the power of marshaling scientific authority to create a popular appeal in this era. Pauling targeted scientists to support his protest, explaining "that scientists have a moral duty to give their fellow citizens the benefit of their special understanding." Further, Pauling invoked "a deep concern for the welfare of all human beings" to justify his message.⁴⁸ Activists like Pauling and Schweitzer infused their appeals with the argument that science—and scientists—were best-equipped to manage a scientific controversy and educate the public. In the same way that weapons development had given nuclear scientists an entry into policy matters, the fallout debate enabled some to become ethical critics. Expert dialogue about fallout revealed the shifting terrain of public authority and thus blurred the boundary between science, ethics, politics, and culture.⁴⁹

Taken as a whole, the 1957 debate over fallout demonstrates the erosion of government-employed scientists' authority in matters of nuclear safety. The NAS studies and those that followed offered new information, seemingly outside the watchful eye of the government. And, in fact, policymakers sometimes criticized the NAS study for utilizing some AEC data as a means to undermine the Academy's authority as an

⁴⁷ Thomas J. Hamilton, "9,000 Scientists of 43 Lands Ask Nuclear Bomb Test Be Stopped," *New York Times*, January 14, 1958.

⁴⁸ "Pauling to Press Atom Ban Abroad," *New York Times*, June 12, 1957.

⁴⁹ For an interesting parallel in the uses of scientific authority in public protest against nuclear energy production, see Brian Balogh, *Chain Reaction: Expert Debate and Public Participation in American Commercial Nuclear Power, 1945-1975* (New York, NY: Cambridge University Press, 1991).

independent source.⁵⁰ For the remainder of the 1950s, the AEC and its critics engaged in a heated back-and-forth regarding the danger of fallout. Each new study or finding revived old responses from AEC officials, namely that weapons fallout was minimally harmful, found only in minuscule amounts, and did not constitute a legitimate threat to public health.

Despite the ongoing discussion among experts and policymakers, the growing awareness of fallout galvanized general public engagement in nuclear science. For the first time, the public had access to fallout data in clear layman's terms. And it was not long before individual Americans began imagining themselves as players in a global scientific experiment. Schweitzer and Pauling found allies among some members of the public who were outraged by what they saw as the government's willful misreading of scientific fact.⁵¹ Even as Congress convened to try to resolve conflicting opinions about fallout dangers, constituents worried that "if the information disclosed by the investigation is disturbing, the Committee may be inclined to withhold that information from the public."⁵² Although some Americans distrusted the credibility of scientists and policymakers, the emergence of fallout as a field of scientific debate cemented the idea among the public that fallout was something to be concerned about.

⁵⁰ U.S. Senate Subcommittee on Foreign Relations, *Hearings on Control and Reduction of Armaments*, (Washington, DC: GPO, January 1957), 1151-4.

⁵¹ Members of the University of Washington in St. Louis CNI felt this way. Sullivan, *Nuclear Democracy*, 7.

⁵² Ruth L. Morison to Senator H. Alexander Smith, June 20, 1957; Nuclear Tests; 1957; Box 422, Folder 14; HAS-PUL.

The Personal Threat

As information about the dangers of—and controversy over—fallout became more widely known to the American public, many citizens interpreted it as an individual and personal threat. Fallout, they learned, was something that had a more far-reaching effect than matters of scientific experimentation and research. Instead, Americans came to understand fallout as a problem with grave consequences for individual health. Moreover, Americans saw fallout as something that could contaminate the home and threaten families. Framed as a threat to the American family, fallout took on moral meaning. The public debate over fallout proved to be a powerful force in raising public consciousness and concern for the politics of nuclear weapons.⁵³

By the mid-1950s, genetics, like nuclear physics before it, gave civilians a means to understand and express their personal fears. In the early 1950s, genetic science made several important advancements, including the 1953 discovery of DNA's double-helix structure. DNA helped geneticists understand biological inheritance, but it was still a developing field. And it was a subject that had important ramifications for the study of nuclear fallout. Civil defense materials of the early 1950s sometimes had addressed the reproductive dangers of radiation, but almost exclusively by assuring civilians that

⁵³ An interesting parallel case involving scientific expertise, politics, public health, and popular scientific understanding is the controversy over fluoridated water in the United States in the postwar period. See Christopher Sellers, "The Artificial Nature of Fluoridated Water: Between Nations, Knowledge, and Material Flows," *Osiris* 19 (2004). Historians have yet to analyze the intersections between fluoride and fallout as causes of similar patterns of learning, reaction, and activism.

fallout in small doses would not cause male sterility.⁵⁴ By mid-decade, geneticists argued that any bit of radiation could cause genetic mutation in germ cells, the vessels for transmitting genes to offspring. The parent exposed to fallout would never know whether or not a genetic change had occurred, and if it had, whether it would be passed on to a child, would cause discernible problems for that child, or would be carried on and appear several generations in the future.

As experts and the news media reported on the studies, they revealed a problem of scientific fact and interpretation in the realm of public debate. As one of the more unbiased letters to the *New York Times* explained in June 1957, both the supporters and detractors of continued nuclear testing used the same data, but interpreted it in different ways.⁵⁵ Indeed, the concurrent Congressional hearings “served to bring out distinctions that must be made between fact and value judgment, and served to emphasize how difficult it is to give precise scientific definition to such words as ‘clean,’ ‘safe,’ and ‘hazardous.’”⁵⁶ But with the potential stakes of fallout so high for humanity, it was virtually impossible to avoid value, morality, and emotion.

Despite the difficulties in applying value-laden terms to scientific data, again and again opponents on either side of the test ban debate returned to interpreting fallout data on the global human scale. Those who saw testing as a geopolitical necessity described

⁵⁴ *You Can Beat the Atomic Bomb*, directed by Walter Colmes, written by Louis Allen (Emerson Film Corporation and Crystal Productions Inc., 1950), film.

⁵⁵ Louis S. Osborne, “Letter to the Editor: Estimating Fall-out Hazard,” *New York Times*, June 30, 1957.

⁵⁶ United States Congress Joint Committee on Atomic Energy, *Summary-Analysis of Hearings May 27-29, and June 3-7, 1957 on the Nature of Radioactive Fallout and Its Effect on Man*, (Washington, DC: GPO, August 1957).

fallout data in terms of percentages, while those who advocated for an end to testing decried the loss in terms of whole numbers. In other words, if testing was presumed to cause a 0.2% increase in birth defects, the number seemed quite small. However, applied to the world's population, this might translate to 3,000 additional defective births.⁵⁷ By using numbers, rather than percentages, test ban advocates grafted human faces to cold statistics. Applied to a global population, even small percentages took human form in the thousands and hundreds of thousands. The interpretive framework of fallout data thus carried heavy moral implications. For some, the rhetorical meaning was obvious: AEC officials used the term "populations," while their opponents used the word "people."⁵⁸

For some Americans, however, the bleakness of the situation made "any discussion of how many are killed or injured, or how their number compares with the number of victims of more familiar hazards... completely irrelevant." The author, William T. Evans of San Jose, California, continued in a letter to President Eisenhower:

The point is that the damage is done by our deliberate action. There is a random selection of casualties and yet we would not think of holding a lottery to select even one victim to expose to the testing of any other type of new weapon, regardless of the presumed importance of such testing. We must have the moral maturity to see that it makes absolutely no difference whether we can identify the victims of our present nuclear tests, or whether they are alive now, or are yet to be born, genetically defective, in the distant future.⁵⁹

Similarly, a group of concerned citizens wrote in several African American newspapers

⁵⁷ The numbers here are taken from Osborne, "Letter to the Editor: Estimating Fall-out Hazard," where he acknowledges that they are only estimates.

⁵⁸ In his review of *The Voyage of the Lucky Dragon*, Gene Marine credits this observation to his wife. Gene Marine, "Who Makes the Decisions?," *Bulletin of the Atomic Scientists* 14 (June 1958).

⁵⁹ William T. Evans to President Dwight D. Eisenhower, June 15, 1957. Folder "E"; Box 1; Subseries B-1; Series B; SANE-SPC.

to support “scientists who say that the loss is too great and that all testing should stop.”⁶⁰ Or, as Carl Johnson of Wisconsin wrote to *Newsweek*, “once upon a time, war affected only those in the line of fire; now it reaches unto the third and fourth generations.”⁶¹

But the argument against fallout did not only focus on concern for future generations. Antinuclear advocates argued that fallout endangered the health of Americans living at the time as well. The public used scientific information made available to them by the fallout studies to focus on an evolving public health concern: the contamination of American food products. More specifically, fallout anxiety found expression in the controversy surrounding strontium-90 in commercial milk and wheat supplies in the mid-1950s. Strontium-90, a radioactive byproduct of nuclear reactions, became the poster child for the unseen and long-term consequences of atmospheric fallout. Because of its long half-life of 28.8 years, strontium fallout stays in the atmosphere, solids, and water longer than many other byproducts of nuclear explosions. Debris from the Nevada Test Site containing strontium-90 dusted the American heartland and was absorbed by crops and grazing animals. In particular, America’s dairy cows ingested contaminated grasses and passed on the radioactivity to commercial milk products. The level of radioactivity was typically trace. However, strontium’s affinity to calcium meant that living things could easily process it as they process calcium. In humans, strontium can be integrated into bone tissue, which is not easily regenerated or replaced through normal bodily functions. Thus, once in bones, it cannot be flushed out

⁶⁰ “Letter to the Editor: Stop H-Bomb Testing,” *Plaindealer*, August 23, 1957; Concerned Citizens, “The People Speak,” *The Chicago Defender*, August 17, 1957.

⁶¹ Carl W. Johnson, “Letter to the Editor,” *Newsweek*, July 1, 1957.

easily by the liver or kidneys.⁶² Moreover, strontium-90 radiation was known to cause leukemia and bone cancer.

The late-1950s fervor about strontium-90 was due to a number of factors. Because it persisted in the human environment longer, it provided a concrete method of quantifying the changes wrought by nuclear tests on human biology, even if the long-term effect of fallout was not yet totally understood. The issue took on additional urgency when, in early 1957, a Columbia University team published findings in *Science* that the bodies of children with still-developing bones held much higher concentrations of strontium than those of adults.⁶³ Scientists reasoned that children, especially those who had been born since the start of the Atomic Age, may be in unique danger. This concern for children catalyzed a series of additional studies.

Most notably, the St. Louis Citizens' Committee for Nuclear Information (CNI) began collecting children's deciduous teeth in 1958 in order to gauge how much strontium was collecting in human bones.⁶⁴ The Baby Tooth Survey was a non-invasive

⁶² Despite an AEC press release that in 1954 claimed that "with very few exceptions... most radioactive [sic] substances are readily eliminated by the liver." See "A.E.C. Manual Cited," *New York Times*, March 26, 1954.

⁶³ J. Laurence Kulp, Walter R. Eckelmann, and Arthur R. Schulert, "Strontium-90 in Man," *Science* 125, no. 3241 (1957). Like many other early fallout studies, the data was highly controversial. Ralph Lapp, for example, criticized the study for omitting bones of very young children, born since the Bravo series in 1954. See Divine, *Blowing on the Wind*, 117-8.

⁶⁴ Kelly Moore, *Disrupting Science: Social Movements, American Scientists, and the Politics of the Military, 1946-1975* (Princeton, NJ: Princeton University Press, 2008), chapter 4; Rosalind Early, "How to Stop a Nuclear Bomb: The St. Louis Baby Tooth Survey, 50 Years Later," *St. Louis*, September 20, 2013; Sullivan, *Nuclear Democracy*; Caroline Jack and Stephanie Steinhardt, "Atomic Anxiety and the Tooth Fairy: Citizen Science in the Midcentury Midwest," *The Appendix* 2, no. 4 (October 2014).

experiment on human biology and it gathered samples from Americans—including children—eager to participate in advancing scientific research. The materials used to advertise “Operation Tooth” were light-hearted and child-oriented, featuring laughing cartoon children with missing front teeth. In exchange for their teeth, child participants were granted a club card and a button declaring “I gave my tooth to science.” The collection materials made little reference to fallout dangers, although, somewhat incongruously, some featured a tooth fairy sprinkling magic dust made up of stylized atomic diagrams.⁶⁵ However, the scientific team conducting the survey had an established history of fallout activism, and those involved had a vested grassroots interest in a nuclear test ban and disarmament. As Dr. Eric Reiss would put it several years into the experiment, “a community can by its own efforts and resources learn how much [s]trontium 90 is in the bones of its kids. You don’t have to wait for Washington or anyone else to point the way.”⁶⁶ William Cuyler Sullivan, Jr., historian of the CNI, has called this “nuclear democracy.”⁶⁷

Yet strontium-90 in milk aroused concern from the general public for other reasons as well. Strontium’s presence in milk—a foodstuff assumed to be wholesome, healthful, and pure—seemed especially sinister. Milk’s ubiquity in American diets as a staple family food raised an urgent alarm. “Through food,” as environmental historian Kendra Smith-Howard puts it, “radioactive residues could penetrate what had become

⁶⁵ See the Rosenthal Collection, Washington University in St. Louis Archives.

⁶⁶ Bob Poos, “Collection of Baby Teeth Aids Strontium 90 Study,” *Reading Eagle*, February 4, 1962.

⁶⁷ Sullivan, *Nuclear Democracy*, 2.

the very symbol of the American way of life: the suburban home.”⁶⁸ When homogenized with ideas of suburban family, milk’s cultural meaning became a sign of abundance and progress. In the face of fallout, however, milk became a threat to the sanctity of the American home.⁶⁹ Thanks to the rise of industrialized agriculture and the national distribution of food, fallout that contaminated food staples in the heartland could make it to breakfast tables across the nation. Fallout’s distribution in foodstuffs was a reminder of the ubiquity of atmospheric fallout; not even the suburbs could escape this postwar threat.

But perhaps more importantly, fallout in food, especially strontium in milk, threatened the health of America’s children.⁷⁰ Advertisers had long framed milk as a critical component of a growing child’s diet, but the strontium controversy raised doubts about its safety. Scientist-activists emphasized that children would bear the heaviest burden of nuclear test dangers because they had spent their entire lives in fallout’s shadow, suggesting illness later in life and a shortened life expectancy, in addition to the possible effects on future generations.

For some American parents, this threat to their families was the most convincing reason to halt testing. When asked about his involvement in antinuclear protest,

⁶⁸ Kendra Smith-Howard, *Pure and Modern Milk: An Environmental History since 1900* (New York, NY: Oxford University Press, 2014), 130.

⁶⁹ Also see Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era* (New York, NY: Basic Books, 1988).

⁷⁰ SANE’s 1958 ad demands “we must stop the contamination of the air, the milk children drink, the food we eat,” suggesting a special connection between milk and childhood health. National Committee for a Sane Nuclear Policy, “Advertisement: Nuclear Bombs Can Destroy All Life in War,” *New York Times*, April 11, 1958.

prominent pacifist Albert Bigelow noted that “it is now the little children, and most of all the as yet unborn who are the front line troops.”⁷¹ In April 1958, Stephen Pfeiffer sent a snapshot to his Senator. The backside of the photograph, which captures a smiling young girl playing on a suburban sidewalk, carries only the caption, “for the sake of my niece, Jessica and the world’s children stop bomb testing [sic].”⁷² Lois Grebbs of Sandy, Utah, feared for her children’s “little bodies, and the bodies and minds of all the little children who have been exposed to this terrible condition.”⁷³ Appearing alongside a letter to the editor that blamed a rash of juvenile delinquency on working mothers, the positioning of Grebbs’ letter implicitly suggests that fallout was perceived as yet another condition of modern life threatening the 1950s American family.

Concerned citizens interpreted fallout science in more emotional ways. Irene Burke, a letter-writer to the *Los Angeles Times* was outraged that her and her husband’s future “children might be monsters or freaks.”⁷⁴ Suddenly, the science fiction of irradiated creatures applied to humans. Because these warnings centered around children, they galvanized everyday Americans in a new way. Americans who responded

⁷¹ Mrs. Walter S. Davidson, “Letter to the Editor,” *East Hampton Star*, February 27, 1958.

⁷² Stephen D. Pfeiffer to Senator H. Alexander Smith, July 23, 1958; Nuclear Tests; 1958; Box 468, Folder 18; HAS-PUL.

⁷³ Lois Grebbs, “Another Plea to Halt Nuclear Bomb Tests - Letter to the Editor,” *The Deseret News*, July 22, 1957.

⁷⁴ Irene Burke, “Letter to the Editor: ‘Fallout’ Fears,” *Los Angeles Times*, May 28, 1955. Others used language such as “monstrosities and low grade morons.” See Sarah Sprague, “Why Pacific Tests Should Be Cancelled,” *Daily Boston Globe*, April 11, 1958. Helen Hosler of Green Valley, CA suggested that perhaps the “mutants or monsters” be called “‘Libbyans’ or some such appellation” in order to bring public scorn onto pro-test policymaker such as Willard Libby. See Helen Hosler, “Letter to the Editor: Fall-out Fear,” *Los Angeles Times*, June 16, 1957.

to the milk scare had a basic understanding of the new and nuanced understanding of fallout. They understood that its entry into their homes and the bodies of their children posed an especially egregious threat. But as Associated Press science writer Alton Blakeslee reported, parents often overreacted to the scientific reports about fallout, noting “the scientist’s phrase of ‘might be hazardous’ is sometimes taken to mean any amount will be hazardous.”⁷⁵

Finally, the milk contamination controversy reinvigorated a long-standing dialogue about access to safe food as a basic democratic right. Thus it constitutes an important site of postwar political activism.⁷⁶ Since the Progressive Era, food safety had long been on the agenda of consumer rights organizations. Milk, in particular, had a long history of engaging citizen consumers, especially women. In fact, several prominent members of local consumer groups collaborated with scientists to form the St. Louis Citizens’ Committee.⁷⁷ Still, the fallout contamination in milk took on characteristics unique to the Atomic Age. Unlike earlier fights over bacterial contamination and antibiotic usage, fallout in milk was a consequence of state-led actions. For these fallout activists, the culprit was the state, not industry. Fallout as a food contaminant brought consumers into direct conversation with federal policymakers over matters of rights and responsibilities. Indeed, fearing consumer boycott, the dairy industry even led some of

⁷⁵ Alton Blakeslee, “Parents Often Too Fearful About Radiation’s Dangers,” *The Gadsden Times* (Alabama), May 2, 1962.

⁷⁶ Historians such as Lizabeth Cohen have identified the “widely accepted linkage of consumption and citizenship,” but have not examined how this relationship evolved under the pressures of the Atomic Age. Lizabeth Cohen, *A Consumer’s Republic: The Politics of Mass Consumption in Postwar America* (New York, NY: Vintage Books, 2004), 183.

⁷⁷ Smith-Howard, *Pure and Modern Milk*, 129.

these charges against the AEC. Thus, the fallout controversy can be considered an informative site at which—as historian Lizabeth Cohen has described—“political practice and American values, attitudes, and behaviors tied to mass consumption became intertwined.”⁷⁸ Milk, as a consumer good that could potentially imperil citizens, was a powerful locus for political action.

Given the powerful misgivings about fallout, the American public must have been heartened by the Eisenhower administration’s decision to agree to a temporary test moratorium with the Soviet Union and Great Britain beginning on October 31, 1958. The relief was short-lived. Because all three nations ramped up weapons testing in the months leading to the moratorium, atmospheric fallout was at its highest level yet in the year that followed. Indeed, the United States alone conducted 77 nuclear tests in first 10 months of 1958, slightly more than the previous four years combined.⁷⁹ So much for the assumption that testing would continue at a stable rate. Historian Robert A. Divine notes that “the American people, unprepared for this sudden rise in radiation levels, reacted with an alarm that at times bordered on panic” as food contamination scares once again made headlines and came under investigation in Congress.⁸⁰ The delayed increase in fallout levels again reminded the public that fallout was invisible and persistent and would be a troubling presence for years to come, even if the moratorium was extended indefinitely.

In the late 1950s, activists and everyday Americans alike latched onto a new and

⁷⁸ Cohen, *A Consumer’s Republic*, 8.

⁷⁹ Nevada Operations Office U.S. DOE, “United States Nuclear Tests,” xi.

⁸⁰ Divine, *Blowing on the Wind*, 262.

broadened understanding of fallout dangers and used it to make claims in the civic sphere. The strontium-90 controversy could not have emerged without the newly-available and rapidly-evolving fallout research. With an eye toward consumer safety and public health, activist research teams carved out new public authority to explain scientific research on fallout. Their messages transformed the public perception of fallout from a scientific technicality to a deeply worrisome threat to individual lives. Put another way, the science that supported a test ban was a science that prioritized the human over the nation. In questioning the state's use of fallout research, concerned citizens articulated an unwillingness to support the state's broader nuclear policy agenda.

The new fearsome face of fallout—something that now lurked in every corner of the earth—was becoming an unacceptable consequence of Cold War geopolitics. Although scientists on both sides of the controversy continued to admit that there was much science could not yet definitively explain about human health and fallout, fallout's ubiquity, perceived danger, and its effect on the general public caused more and more Americans to adopt a no-risk attitude toward nuclear testing. Even without knowing with certainty how humans would suffer in the long run, a broad group of concerned individuals coalesced around demands for a ban on nuclear testing. Perhaps the unknown, in this case, was even more of a catalyst than the hard scientific “fact.”

Activism and Public Pushback

Personal concern about the dangers of fallout manifested a range of responses and actions. Americans talked with their neighbors, boycotted certain consumer products, sought out the newest scientific research, wrote letters to elected officials and editors of newspapers, formed awareness committees, and participated in nonviolent

protest. Protest could be found from the most local grassroots level to that of national civic organizations. Methods, desired outcomes, and constituency varied, but at the root of all these responses was a discussion of democracy. Those involved in antinuclear protest connected the problem of fallout to issues of representation, public access to information, and governance, while embracing strategies of civic protest. The problem of fallout gave Americans a new and urgent means for discussing how nuclear weapons were transforming the relationship between citizens and their state.

When Albert Schweitzer had warned the public of “the greatest and most terrible danger” in April 1957, he noted that “an opinion informed of the dangers involved... stands in no need of plebiscites or of forming committees to express itself. It works through just being there.”⁸¹ For Schweitzer, public opinion based on reason was enough to sway policymakers to reach an agreement to halt testing. He believed in the power of a government’s accountability to its citizens and saw public education and discussion as part of that project.

Others likewise recognized that the very integrity of democratic practice was at stake. During a televised debate between Linus Pauling and Edward Teller in 1958, the moderator introduced the fallout matter as “an enormous burden” because “it is the very essence of democracy that the people are sovereign in determining the policies to be pursued with respect to their [weapons’] future use. It is apparent that we are appallingly unprepared to make these decisions.”⁸² In his *Bulletin of the Atomic Scientists* review of Ralph Lapp’s 1958 *The Voyage of the Lucky Dragon*, Gene Marine linked the fallout

⁸¹ Schweitzer, “A Declaration of Conscience.”

⁸² “Fallout and Disarmament: A Debate between Linus Pauling and Edward Teller,” *Daedalus* 87, no. 2 (Spring 1958).

controversy and American democracy more explicitly. Marine praises Lapp's narrative as presenting "the central question on whose answer may depend the survival of our democracy."⁸³ Lapp's story, he contended, uses a narrow group of actors to bring attention to a problem that faces all Americans:

In a democracy, the decision-making process belongs to you and me. That process... is directly dependent on the circulation of accurate information... The important thing about the voyage of the *Lucky Dragon*—aside from the effect on the particular human beings involved—is that it forced, ultimately, information that was and is so vital to the decision-making process.⁸⁴

For Marine, the guardians of that vital information were both obscured from public view and guilty of obscuring information. Citing philosopher Charles Frankel, Marine says that the *Lucky Dragon* incident demonstrated that "the overhanging problem... is the drift of decision-making authority into key positions that are anonymous, the development of an institutional structure that denies the individual genuine options, and the increasing inadequacy of our inherited mechanisms of public discussion and consent to control this situation."⁸⁵ The fallout controversy not only revealed a problematic relationship between the public and the AEC, but also signaled a wider crisis in the state of American democratic culture.

And yet, there existed a hunger for information and a group of concerned citizens determined to act upon it. After Schweitzer's appeal appeared in the *Saturday Review*, Americans across the country wrote to the magazine requesting copies of the article and

⁸³ Marine, "Who Makes the Decisions?," 236.

⁸⁴ *Ibid.*, 237.

⁸⁵ *Ibid.*, quoted from Charles Frankel, *The Case for Modern Man* (New York, NY: Harper and Brothers, 1956).

the series of editorials that followed. Their requests ranged from small—a few copies to be distributed to close friends and family—to larger and more organized. The “Declaration” was reviewed from churches and synagogues to high school history classes to bridge parties.⁸⁶ Others saw it as an ideal document to send to their elected officials, or as B. J. Arsnato of Akron, Ohio, put it, the statement “should be required reading for all; not least for [AEC chairman] Admiral Strauss and the golfer with the fatuous smile who unfortunately graces the White House.”⁸⁷

Many readers understood the importance of grassroots education and lamented that Americans remained unaware of the dangers of testing. Some readers worried that the *Review*’s readership was too narrow and suggested that Schweitzer’s statement be republished in newspapers, *Woman’s Day*, or *Reader’s Digest*. As Beth Campbell of Vernon Center, New York argued, “if the message is meant for us, seems to me it ought to be in a publication read by more of us.”⁸⁸ Phillip Hildreth, a real estate agent in Tucson, Arizona, addressed the issue by starting what he called “a sort of one man crusade on a purely local level.”⁸⁹ Hildreth made what Cousins called an “excellent radio statement” when interviewed by a local station. Hildreth planned to organize other

⁸⁶ Lynn Hough Corson, “Caught in the Fallout,” *The Bulletin of the Haddonfield Methodist Church*, May 26, 1957; Folder “C”; Box 1; Subseries B-1; Series B; SANE-SPC; Meredith Bloss to the *Saturday Review*, June 9, 1957; Folder “B”; Box 1; Subseries B-1; Series B; SANE-SPC; Vera D. Bruestle to Norman Cousins, June, 1957; Folder “B”; Box 1; Subseries B-1; Series B; SANE-SPC.

⁸⁷ B. J. Arsnato to the *Saturday Review*, July 7, 1957; Folder “A”; Box 1; Subseries B-1; Series B; SANE-SPC.

⁸⁸ Beth Campbell to the *Saturday Review*, May 20, 1957; Folder “C”; Box 1; Subseries B-1; Series B; SANE-SPC.

⁸⁹ Phillip Hildreth to Norman Cousins, May 4, 1957; Folder “Correspondence of Norman Cousins A-K”; Box 2; Subseries B-1; Series B; SANE-SPC.

publicity on television, radio, and print in the Tucson area. “Perhaps,” he admitted, “it’s silly...

With all the national publicity what can a little local bit hope to accomplish? Perhaps nothing. However, the man you meet on the street or talk to at the bank has greater reality than someone hundreds or thousands of miles away. It is my hope that some of this (close-at-hand, people talking to people) reality may rub off onto the subject [of fallout].⁹⁰

Americans identified a need to form committees and mobilize educational groups in hundreds of letters sent to Cousins at the *Saturday Review*. In the summer of 1957, Albert V. Baez, a physics professor at Stanford University, had attracted almost 300 citizens of Palo Alto to the first meeting of an ad hoc organization, the Peninsula Committee for the Abolition of Nuclear Tests. Because Baez was Quaker and came from a family of pacifists, he had resisted involvement in Cold War arms development in his professional life. However, his research into X-rays made him well-connected in the San Francisco Bay-area scientific community. The committee enlisted help from local newspapers, peace groups, women’s organizations, and Baez’s scientific colleagues. Leaders boasted that the committee’s first meeting was well-attended, despite being “on a night when a local school issue of great importance was being discussed elsewhere.”⁹¹ The next year, Baez’s daughter, Joan, who would go on to become a prominent musician activist in the 1960s, performed her first act of civil disobedience by refusing to participate in her high school’s civil defense drill.⁹²

⁹⁰ Ibid.

⁹¹ Albert V. Baez, “Acting on the Schweitzer Declaration of Conscience,” c. July 1957; Folder “B”; Box 1; Subseries B-1; Series B; SANE-SPC.

⁹² “Joan Baez Appears at Stamford Palace,” *The Hour*, November 14, 1989.

Fallout concerns gave women, even those bound by their roles as mothers and housewives, cause to stake a claim in national policy through grassroots organizing.⁹³ In a 1956 campaign film for Adlai Stevenson, Eleanor Roosevelt spoke for all “women, who are the natural conservers of human life,” and believed that women “will realize that [a test ban] is almost the most important thing to the peace of the world and the existence of the human race in the future.”⁹⁴ In June 1957, Mrs. John W. May and Mrs. Martin Davis, “two young Connecticut mothers,” formed the Connecticut Committee to Halt Nuclear Testing and gathered approximately 2,000 petition signatures in just two weeks.⁹⁵ May and Davis delivered the petition to the White House and walked the halls of Congress to spread their message. On the north side of Chicago, nine women organized special parent-teacher association meetings to discuss fallout’s effects on children.⁹⁶ Fallout thus became an arena within which women could claim political authority.

Like Baez’s Peninsula Committee, larger national organizations tapped into existing activist networks to act against nuclear testing. In the late 1950s, established interfaith and pacifist organizations took up the cause of a nuclear test ban.

Organizations such as the Fellowship of Reconciliation, the (Quaker) Friends Peace

⁹³ Mrs. Lee B. Lusted, “Fearful Mothers,” *The Washington Post and Times Herald*, June 18, 1957. Women also marshaled motherhood as authority for the other side of the argument, too. See Bobbie B. Coppage, “Necessary Risk,” *The Washington Post and Times Herald*, May 14 1958, who was afraid of fallout for her children but more afraid of the fall of democracy.

⁹⁴ *Nuclear Test Ban*, 11:57-12:13.

⁹⁵ Reporter By Elsie Carper Staff, “Housewives Petition Ike to Halt Nuclear Testing,” *The Washington Post and Times Herald*, June 26, 1957.

⁹⁶ “5 PTA Units to Hear of Atom Fallout,” *Chicago Daily Tribune*, September 26, 1957.

Committee, Non-Violent Action Against Nuclear Weapons, the War Resisters League, the Committee for Nonviolent Action, and the Women's International League for Peace and Freedom collaborated to lead vigils, stage protest marches, and organize publicity campaigns across the nation. Many of these organizations were well-established before the advent of nuclear weapons but found common cause against war and the machinery of the Cold War. Although supported by church congregations and subsidiary groups throughout the country, the national leadership of these organizations was remarkably insular. Prominent members in many groups included well-known social activists, including Lewis Mumford, A. J. Muste, Clarence Pickett, Norman Thomas, Dorothy Day, and George Willoughby. The organizations overlapped and grew out of one another, often with executive committees convening at the same building in Center City, Philadelphia.⁹⁷

Until the fall of 1957, however, many of these national committees were located on the fringes of the mounting public pushback against nuclear weapons. Their weeks-long vigils at the Nevada Test Site and in Washington, DC, occasional run-ins with local law enforcement at protests, and a tendency to be framed as Soviet sympathizers made them targets for public criticism. Conversely, local committees and individuals like Phillip Hildreth, the lone crusader in Tucson, suffered from a lack of national visibility. Then, in November 1957, the National Committee for a Sane Nuclear Policy, what

⁹⁷ 2006 Walnut Street was also home to the Central Committee for Conscientious Objectors, as well as other organizations that undoubtedly interacted with one another. The CNVA, in particular, was acutely aware of its position among many organizations and went out of its way to cooperate, but not overlap. Committee for Nonviolent Action, Meeting Notes, September 17, 1959; Folder "Executive Committee Minutes 1957-1959"; Box 1; Series I; Records of the Committee for Nonviolent Action (DG 017), Swarthmore College Peace Collection (hereafter referred to as CNVA-SPC).

would become known as SANE, published a full-page ad in the *New York Times* declaring “we are facing a danger unlike any danger that has ever existed...”⁹⁸ Simultaneously declaring its establishment as an organization and its pledge “to the cause of peace with justice on earth,” SANE attracted more attention than perhaps any other campaign since Schweitzer’s appeal. Indeed, SANE had the backing of those who could assure its publicity: Norman Cousins was its leader. This first appeal carried with it the signatures of a host of established figures, including Pickett, Thomas, and Mumford, as well as antinuclear journalist John Hersey and Eleanor Roosevelt, by then the chairwoman of the international Human Rights Commission.

Although not completely separate from the Friends and previous protest organizations, SANE became more prominent than its predecessors. In assuming the leadership of fledgling group such as Baez’s Peninsula Committee, the Emergency Bay Area Fallout Committee, the Connecticut Committee to Halt Nuclear Tests, the San Diego Society to Abolish Nuclear Weapons, and others, SANE became a uniting organization that could garner national mainstream attention. Newspapers across the country reprinted the November SANE ad and those that followed.⁹⁹ By the summer of 1958, SANE had a membership of around 25,000 people in 130 chapters across the

⁹⁸ National Committee for a Sane Nuclear Policy, “Advertisement: We Are Facing a Danger Unlike Any Danger That Has Ever Existed...”,” *New York Times*, November 15, 1957.

⁹⁹ By December 26, “the advertisement had been reprinted in 20 other newspapers... [and] publication is planned in an additional 37 cities within the coming weeks.” “Sane Nuclear Policy Group Reports Strong Response,” *Milwaukee Journal*, December 30, 1957.

nation.¹⁰⁰ By 1959, widespread advocacy for a test ban had expanded outside the boundaries of American scientific, intellectual, and religious circles, and had come to incorporate the voices of grassroots America.

As with earlier campaigns against nuclear testing, SANE's campaign encountered resistance. Some journalists thought the campaign's claims were too emotional and sensationalist.¹⁰¹ In April 1958, *Time* published a feature article titled "How Sane the SANE?" which called the organization's objectives the same as "what the sworn enemies of religion, liberty and peace itself" hoped to accomplish.¹⁰²

As attention to fallout ran the gamut from individual grassroots activism to powerful national organizations, its discussion pointed to a paradox in democratic governance in the Atomic Age: how could a democratic state potentially sacrifice the safety of its subjects with the very activities that leaders claimed would guarantee public safety? Self-help, the dominant rhetoric used to prescribe safety for civilians in the event of an attack, could do nothing to protect Americans from the dangers of nuclear fallout from weapons testing. As public pressure for a test ban mounted, policymakers instead turned to other strategies in an attempt to manage public opinion.

Arguing that they were acting in the interest of public safety, many federal leaders defended the continuation of nuclear testing by framing it as a Cold War necessity. Tests, they argued, allowed the United States to maintain a diplomatic upper

¹⁰⁰ As quoted in Milton S. Katz, *Ban the Bomb: A History of Sane, the Committee for a Sane Nuclear Policy* (New York, NY: Praeger, 1986), 29. Some controversy in the number: "Sane Nuclear Unit Backs Eisenhower," *New York Times*, August 23 1958.

¹⁰¹ Divine, *Blowing on the Wind*, 167-8.

¹⁰² "How Sane the Sane?," *Time* 71, no. 16 (April 21, 1958).

hand on the international stage. The possession and development of nuclear arms assured civilian safety because the threat of massive retaliation was the only way to prevent global war. These leaders use a familiar language of arms race competition to suggest that the status quo be maintained. Indeed, their rhetoric made little distinction between the cessation of tests and disarmament more broadly. Similarly, they used familiar tropes of McCarthyism to accuse test ban supporters of a lack of patriotism, naiveté, or communist sympathies. While these strategies found resonance among some American citizens, the political weight of anticommunism had waned by the end of the decade.

By placing their arguments within the framework of earlier aspects of nuclear citizenship, test supporters suggested that little had changed in the years since Castle Bravo. When well-known public officials such as Edward Teller or Willard Libby discussed the science of fallout, they stuck to a remarkably consistent message throughout the late 1950s: fallout is not especially dangerous. For them, fallout was an acceptable—and almost negligible—risk that did not outweigh the need to maintain a diplomatic course or merit a change in policy.

Those Americans who supported continued testing used this kind of logic to underpin how they understood the diplomatic situation of the late 1950s. They framed the Soviet Union as simultaneously calculating, unreasonable, unpredictable, and irrational. Diplomatic agreements for nuclear de-escalation hinged upon trust, something that many Americans were not willing to grant to Soviet leadership. Indeed, in public opinion polls conducted prior to 1958, Americans “strongly [opposed] unilateral American [test] cessation while generally approving, by fairly large majorities, a

multilateral agreement.”¹⁰³ As official talks for a test ban emerged in the final years of the 1950s, the most troubling point of contention was whether an effective monitoring system could hold nations to their word, a clear indicator of a similar culture of mistrust characterizing diplomatic decision making.

In the context of the global Cold War, the cases for continuing and halting testing were both powerful. The great dilemma of fallout was that the unknown—and what could not be known—greatly outweighed certainties. Proponents of continued testing and weapons development argued that nuclear research kept Americans safe by keeping them at the forefront of the arms race. It was unknown whether a war would ever come, but present global safety was a more important goal than guarding future individuals against a small chance of harm. What *was* certain was that if a war should come, many millions would suffer. As such, test supporters frequently argued that any resulting contamination would still be better than upsetting a fragile nuclear stalemate and bringing the world into nuclear holocaust. Others noted that “it is indefinitely preferable to gamble with the atomic unknown than to gamble against what the Kremlin would do if it ever got a nuclear stranglehold on the world.”¹⁰⁴

Yet an increasing number of Americans used a similar logic to argue just the opposite. For proponents of a test ban, the only certainty was that nuclear tests caused genetic changes, however imperceptible or dormant. The possibility of war was unknown, and probably unknowable. As C. P. Snow would put it in 1960, “between a

¹⁰³ Eugene J. Rosi, “Mass and Attentive Opinion on Nuclear Weapons Test and Fallout, 1954-1963,” *The Public Opinion Quarterly* 29, no. 2 (1965): 281.

¹⁰⁴ “The Known and the Unknown,” *Wall Street Journal*, May 13, 1957.

risk and a certainty a sane man does not hesitate.”¹⁰⁵ In their formal and informal organizing, Americans implemented a range of critiques and protest methods. They were responsible for organizing educational campaigns, circulating and signing petitions, participating in nonviolent demonstrations, sending civilian diplomats to the Soviet Union, and even filing lawsuits against the federal government.¹⁰⁶ Through these actions, a growing number of Americans protested against nuclear policy and demanded a new relationship be built between the citizen and the state, one that could better protect civilians and was better suited to the new demands of the Atomic Age.

For many Americans, it was clear that if the United States had chosen to fight the Cold War as a means to assure democracy and freedom in the world, the nation would also have to reconcile how democratic governance was changing on the domestic front. Indeed, one of SANE’s later ads ran with the title, “no contamination without representation,” calling upon a powerful tradition of protest against the abuses of government.¹⁰⁷ Armed with the knowledge of the threat to personal health, civilians suggested that nuclear policymakers no longer had claims to preventing danger. In fact, it seemed that they had created the unacceptable consequences of war in peacetime. As a New Jersey resident wrote in 1957, “the times are so urgent that the same old way of

¹⁰⁵ National Committee for a SANE Nuclear Policy, “What Is Sane?,” (c. 1961), Box 1; “Civil Defense,” Subject Files, Swarthmore College Peace Collection.

¹⁰⁶ “Atomic Test Foes to Ask Soviet Ban,” *New York Times*, April 15, 1958; “Pacifists Picket Again,” *New York Times*, April 16, 1958; “600 Rally in City for Atomic Peace,” *New York Times*, March 29, 1959.

¹⁰⁷ “Advertisement: No Contamination without Representation,” *New York Herald Tribune*, March 24, 1958.

trusting in armed might must give way to an entirely different approach.”¹⁰⁸ For these Americans, the AEC seemed to be sacrificing the health and safety of future individuals for a militarized logic that seemed increasingly illogical. Diplomatic strategy thus became the shared territory of scientists, peace activists, consumer watchdogs, and a host of new Americans brought into the dissenting fold. The push for a test ban stood in direct opposition to the core of American Cold War strategy. Thus, the test ban debate revealed fractures in American citizens’ willingness to support the Cold War state. As such, their protests—whether rooted in consumer, human, or philosophical rights—were a political expression of nuclear citizenship.

Human, Nation, Globe

The public debate over fallout and the American nuclear weapons program also incited discussion about citizenship on a wider scale. To understand the science of fallout was to recognize the shared experience of every citizen of the planet. Fallout gave activists a means for discussing rights on a global scale, paralleling and reflecting the postwar conversation about human rights and international governance. As antinuclear advocates defended the rights of individuals to unencumbered access to safety, they raised difficult theoretical questions about sovereignty, authority, and geography. Concerns over fallout gave individuals a new way to conceptualize the relationship between individuals and their local, national, and global communities.

On November 12, 1957, the Non-Violent Action Against Nuclear Weapons (NVA) met in New York City to discuss future direct action disobedience campaigns. Meeting just weeks after the Soviet Union launched Sputnik I, the earth’s first artificial

¹⁰⁸ Edith McGrin to Senator H. Alexander Smith, July 21, 1957; Nuclear Accident Claims; 1957; Box 422, Folder 6; HAS-PUL.

satellite, Reverend A. J. Muste declared that “World War III [had] already started.” With “the decision to respond to the Russian satellite launching by a stepped up arms competition,” he continued, “we may now have passed from the Cold War stage in which the possibility of peaceful settlement was always in people’s minds to the stage where an all out arms race can no longer be halted.”¹⁰⁹ Moved by what it identified as a new chapter in the Cold War, the NVA began planning an intervention that far exceeded the scope of their earlier protests. Targeting the next series of nuclear tests, slated for Enewetak Atoll in April, the committee would sail a ship into the heart of the test site.

The NVA’s ketch, the *Golden Rule*, set sail for Hawaii in February 1958. The committee publicized the voyage widely—it went so far as to publish in newspapers across the country an open letter to President Eisenhower outlining their plan—and attracting the attention of media, government agencies, and civilians.¹¹⁰ Hampered by last-minute AEC regulations, stopped by court injunctions, and chased by the Coast Guard, however, the ship never made it to the proving grounds. Despite its failure to interrupt the test series, the *Golden Rule* provoked widespread discussion, not all of it positive. But like the spread of American fallout, the fight against nuclear weapons testing had grown beyond its borders.

Although Americans understood fallout to be a problem that affected the entire planet, issues like food contamination demanded a regionally-specific focus on North America because they were products of testing at the Nevada Test Site. But the largest

¹⁰⁹ Committee for Nonviolent Action Against Nuclear Weapons, Summary of Committee Meeting, November 12, 1957; Folder “Executive Committee Minutes 1957-1959”; Box 1; Series I; CNVA-SPC.

¹¹⁰ “Letter to President Dwight D. Eisenhower,” *Northport Journal*, January 9, 1958.

weapons, and those producing the most fallout, were tested at the Pacific Proving Grounds (PPG) in the American-protected Marshall Islands. As the location of Ivy Mike, Castle Bravo, and 65 other nuclear tests, the PPG was significantly more contaminated than anywhere on the North American continent, and its fallout shadow was more expansive. But the PPG's location apart from the American homeland raised significant questions about the United States' responsibility to other nations and the world. If the fallout from American nuclear tests could not be contained by American borders, what responsibility did the United States have to protect the health and well-being of those in foreign lands? The public debate about the meaning of fallout gave such ideas about sovereignty and geography a new meaning.¹¹¹

Debates over the political and cultural meaning of sovereignty had come to define postwar philosophical discussions about the international community and human rights. Still reeling from World War II atrocities, in 1945 the United Nations delegates

¹¹¹ For the purposes of this section, sovereignty is to be understood as the construction of “supreme authority within a territory” (Philpott, SEP). Sovereignty, in this definition, has two sides: external sovereignty, which is defined by a state's ability to maintain autonomy from other nations; and internal sovereignty, which describes a state's authority over the body politic within its own borders. As Dan Philpott and others have argued, two major epochs have constituted state sovereignty since its rise in the Middle Ages: the consolidation of sovereign authority along lines of nation, and the circumscription of state sovereignty in the form of global governing bodies, regulatory agencies, and economic communities. The latter era evolved in response to the abuses of sovereignty during World Wars I and II, paving the way for the League of Nations and, later, the United Nations, which increased the power of extra-sovereign global agencies to protect human rights and enforce international law. For a thorough overview of the theoretical foundations for the study of sovereignty, see the Stanford Encyclopedia of Philosophy, which argues that “supreme authority within a territory” is a commonly-held, if simplified, working definition of sovereignty. Dan Philpott, “Sovereignty,” in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta (2014); and Dan Philpott, *Revolutions in Sovereignty: How Ideas Shaped Modern International Relations* (Princeton, NJ: Princeton University Press, 2001).

included a provision for “commissions in the economic and social fields and for the promotion of human rights.”¹¹² After lengthy and difficult negotiations, the UN Human Rights Commission issued the Universal Declaration of Human Rights (UDHR) in 1948. In the decades that followed, a series of international conventions and declarations expanded on the UDHR’s lengthy list of rights to further delineate conditions that states must and must not provide for their citizens. The postwar human rights era challenged the unconditional sovereignty of nations and forced leaders, at least on paper, to concede some powers of authority to international law.¹¹³

Despite the American state’s centralization of federal power during the early Cold War, its diplomatic strategies evolved in a period when states began agreeing to partial curtailment of their sovereignty in the interest of global community.¹¹⁴ One sees the shades of this trend in the way in which American officials defended continued nuclear tests as “[contributing] to the maintenance of international peace and security, which is a basic [United Nations] Charter goal.”¹¹⁵ But by the mid-1950s, the public

¹¹² United Nations General Assembly, “Universal Declaration of Human Rights,” (1948), Article 68.

¹¹³ Upon its adoption, the UDHR incited significant backlash among American conservatives and other critics. See Barbara J. Keys, *Reclaiming American Virtue: The Human Rights Revolution of the 1970s* (Cambridge, MA: Harvard University Press, 2014), 21-8.

¹¹⁴ Here, I side with Andrew Grossman’s argument “that postwar American political development depended on a robust, not a weak, state.” Andrew D. Grossman, *Neither Dead nor Red: Civil Defense and American Political Development During the Early Cold War* (New York, NY: Routledge, 2001), xi. Also see Aaron L. Friedberg, *In the Shadow of the Garrison State: America’s Anti-Statism and Its Cold War Grand Strategy* (Princeton, NJ: Princeton University Press, 2000).

¹¹⁵ Lindesay Parrott, “Atom Arms Tests by U.S. To Go On,” *New York Times*, July 14, 1956, 2.

began discussing nuclear policy within the language and framework of sovereignty as a way to dispute nuclear testing. Americans increasingly felt that fallout was an example of the failure of America's internal sovereignty, its authority over the body politic. Fallout also stood to compromise other nations' external sovereignty, their authority to maintain autonomy outside their borders. As they imagined themselves as individual players in a global drama where sovereignty came into question, fallout activists located themselves at a site where political philosophy and the lived experience of the Cold War converged.¹¹⁶

In this sense, growing concerns for the human cost of fallout emerged in the context of an era of changing ideas about global responsibility. As Americans pondered the consequences of proliferation and weapons development, test ban advocates began using the language of global human rights to challenge nuclear policies.¹¹⁷ These

¹¹⁶ Seyla Benhabib would call these discussions *democratic iterations*, or the “complex processes of public argument, deliberation, and exchange - through with universalist rights claims are contested and contextualized, invoked and revoked, posited and positioned - throughout legal and political institutions as well as in the associations of civil society.” Seyla Benhabib, “The Legitimacy of Human Rights,” *Daedalus* 137, no. 3 (2008): 98.

¹¹⁷ The use of human rights as a means for supporting a nuclear test ban foreshadows what Keys calls the new and “extraordinary heights of recognition and popularity” in the 1970s. Indeed, she and several other historians have recently argued the UDHR “failed to interest many people [at the time of its signing] or for decades” to come. Samuel Moyn, *The Last Utopia: Human Rights in History* (Cambridge, MA: Harvard University Press, 2010), 7. (Moyn says flatly that human rights, as conceived in the UDHR “inspired no movement.” *Ibid.*, 47.) In the 1940s and 50s, Keys argues, human rights discussions were restricted to several small religious organizations (“marginality”). I, too, would argue that antinuclear human rights language was rooted in these religious protest traditions. However, as secular organizations such as SANE began to adopt a similar posture, I argue that, in antinuclearism, the logic of human rights found a wide audience among antinuclear activists well before the 1970s. See Keys, *Reclaiming American Virtue*, 1. Keys later says this of postwar international

Americans seized upon genetic research to sound the alarm, echoing the universal applicability of human rights. The fallout controversy also aligned easily with evolving critiques about colonization, illustrating the disproportionate burden of fallout on non-nuclear states. And, as human rights became the purview of international regulation, some Americans marshaled renewed faith in an international body that could govern nuclear weapons. For these Americans, an international sovereign power could better protect individual humans than the states that stood between them.

Across these discussions, it is evident that nuclear weapons created a tense relationship between individual humans, their states, and the global community. As Eugene Rabinowitch, editor of the *Bulletin of the Atomic Scientists*, wrote in early 1957:

It is traditional for a nation to accept hardships and risks to defend its national independence and to further what it considers its national interests; but can a nation—any nation—claim the right to impose without consultation, hardships and risks on all other nations? Not unless its paramount aim is the common interest of all mankind; not unless it accepts its responsibility to all men, and not only to its own people.¹¹⁸

As the American public worked through this tension, a kind of nuclear globalism emerged. Concerned with the wellbeing of the planet, test ban seekers placed their concerns above the immediate needs of nation-states. Fallout, they argued, was stateless, and therefore demanded a transnational or stateless solution. In doing so, these Americans reimagined the political contours of the global Cold War, believing that a test

social justice organizations: Freedom House's "lack of interest in international law and its avoidance of a human rights label means that it should not be considered a human rights organization in these years, even if some of its activities focus on concerns that overlapped with human rights." *Ibid.*, 30. Neither Keys nor Moyn consider the nuclear weapons in their analyses of the early Cold War years.

¹¹⁸ Eugene Rabinowitch, "The First Year of Deterrence," *Bulletin of the Atomic Scientists* 13, no. 1 (January 1957).

ban—and eventual disarmament—could not only reduce environmental dangers to humans but could also bring a conclusion to the pressing global crisis of the Cold War.

Prominent test ban advocates used the language of sovereignty to argue that nuclear tests disregarded the rights of other nations. Writing to Senator H. Alexander Smith, George Willoughby, a Quaker who would go on to man the *Golden Rule*, claimed: “it is no more moral for America to threaten the lives of other peoples through the danger of fall out than it would be for our country to invade another country destroying life and property.”¹¹⁹ By framing fallout clouds as military forces invading other nations, dissenters further blurred the lines between testing as an act of war or of peace, one of the formal responsibilities of a sovereign entity. Legal scholars who had been studying the international consequences of nuclear testing agreed in their own terms, stating the difficulty in establishing a “geographic quarantine and the physical consequences of thermonuclear tests in the Pacific... are at a variance with the solemn treaty obligations.”¹²⁰ Other Americans echoed this rhetoric in layman’s terms. In response to a press release announcing the mission of the *Golden Rule*, an editorial in the *Denver Post* called on international law, arguing, “certainly no government could possibly justify forcible removal [of the ketch] on any legal ground; the waters of the Pacific are not the property of any country.”¹²¹

Indeed, the permeability of geographic boundaries gave test ban advocates a way

¹¹⁹ George Willoughby to Senator H. Alexander Smith, May 28, 1957; Nuclear Tests; 1957; HAS-PUL.

¹²⁰ Emanuel Margolis, *Yale Law Journal*, April 1955, as cited in editorial: “Fallout in Reverse,” *The Washington Post and Times Herald*, September 9, 1956.

¹²¹ “The Case of Four against the Many,” *Denver Post* c. 1958 in Box 23; Series VII; CNVA-SPC.

to portray fallout as a transnational human issue. As longtime antinuclear advocate Walter Lippman argued, “when all the other nations are liable to the same harm, we have no right, without their consent, to impose the risk upon them.”¹²² SANE claimed that “none of the differences separating the governments of the world are as important as the membership of all peoples in the human family.”¹²³ More broadly, however, Americans wondered, as Mrs. H. B. Hoffman of Pasadena wrote in 1955, “What possible justification can we have for so jeopardizing the future of the human race? Isn’t this ultimate proof that we must give up our reliance on instruments of death and destruction and replace fear with faith in the instruments of life...?”¹²⁴

Some advocates extended the human rights argument by pointing out that the burden of heavier fallout fell disproportionately on citizens of countries not involved in the Cold War arms race. Immediately after the Castle Bravo test, its unexpectedly large fallout radius forced the relocation not only of American servicemen, but of several hundred Pacific Islanders living on nearby islands. The AEC spun this situation into a narrative of happy relocation benefitting these residents; a *Baltimore Sun* article claimed that the relocated Marshallese “never had it so good” because of their access to modern housing and better land.¹²⁵ But the incident demonstrated that geographic proximity to

¹²² Walter Lippmann, “Today and Tomorrow,” *The Washington Post and Times Herald*, June 13, 1957.

¹²³ SANE, “Advertisement: We Are Facing a Danger Unlike Any Danger That Has Ever Existed....”

¹²⁴ Mrs. H. B. Hoffman, “Atomic Genetic Dangers,” *Los Angeles Times*, April 4, 1955.

¹²⁵ “Never Had It So Good H-Bomb’s ‘Poisoned People’ Happy and Lazy on U.S. Aid,” *The Sun*, July 3, 1955; “Fortuitous Fallout,” *Time*, July 8, 1957. Also see Norman Solomon Harvey Wasserman, Robert Alvarez, and Eleanor Walters, “The

tests became evermore dangerous with the development of H-bombs. For the American tests in the Pacific and the Soviet tests in Kazakhstan, assumptions that the regions were “empty” were highly racialized and disregarded local inhabitants.¹²⁶ By the time the French nuclear program began testing nuclear weapons in the Sahara Desert in 1960, antinuclear advocates were already using the language of nuclear colonization to protest the abuses of indigenous residents in the area.¹²⁷

The dire consequences for non-nuclear nations were nowhere more evident for Americans than in the 1957 book and its 1959 film adaptation, *On the Beach*. The plot follows the last living people on the planet in the aftermath of a nuclear war. Marooned in Melbourne, Australia, the survivors wait impending death as the radioactive fallout from the war slowly works its way south through the world’s wind and water currents.¹²⁸ Although the drama relies on World War III as the catalyst for global annihilation, it demonstrates that by the time of the film’s release, fallout had been cemented in the public imagination as a force that could reach the farthest corners of the earth. The narrative simultaneously indicts the logic of the arms race while serving as a warning

Islanders,” in *Killing Our Own: The Disaster of America’s Experience with Atomic Radiation* (New York, NY: Dell Publishing Co., Inc., 1982).

¹²⁶ Committee for Nonviolent Action, Summary Information on the Sahara Nuclear Bomb Test Protest Team, December 22, 1959; Folder “Projects – Sahara Project Printed Releases”; Box 13; Series VI; CNVA-SPC.

¹²⁷ Lawrence S. Wittner, *The Struggle against the Bomb*, vol. 2, *Resisting the Bomb: A History of the World Nuclear Disarmament Movement 1954-1970* (Stanford, CA: Stanford University Press, 1997), 80; A. J. Siggins, “Africa Watches Helplessly as Western World Moves Slowly to Destruction,” *Philadelphia Tribune*, July 2, 1957.

¹²⁸ *On the Beach*, directed by Stanley Kramer, Los Angeles, CA: Lomitas Productions, Inc., 1959, film. Based on the novel by Nevil Shute, *On the Beach* (London: Heinemann, 1957).

about fallout, even in places that have not experienced an attack (or a test). Writing to the *Pittsburgh Post-Gazette*, Helen F. Dice claimed the film “forces on our unwilling minds the consideration of the possibility of annihilation by the explosion of nuclear weapons, either directly or as the result of radiation.”¹²⁹

Finally, some American test ban groups took the logic one step further, questioning the very utility of the nation-state in the Atomic Age. The Committee for Non-Violent Action called upon moral and legal authority when it claimed, “we believe that the natural rights of humanity are above the law of any national state.”¹³⁰ And, as the 1957 SANE ad put it,

...the sovereignty of the human community comes before all others - before the sovereignty of groups, tribes, or nations. In that community, man has natural rights. He has the right to live and grow, to breathe unpoisoned air, to work on uncontaminated soil. He has the right to his sacred nature. / If what nations are doing has the effect of destroying these natural rights, whether by upsetting the delicate balances on which life depends, or fouling the air, or devitalizing the land, or tampering with the genetic integrity of man himself; then it becomes *necessary for people to restrain and tame the nations*.¹³¹

Concern for the effects of fallout thus created a new politics, one that questioned state authority in the interest of both the individual and the global.

All the same, many Americans, even those who supported a test ban or

¹²⁹ Helen F. Dice, “Act While There’s Time to Stop War,” *Pittsburgh Post-Gazette*, February 15, 1960.

¹³⁰ Committee for Nonviolent Action Against Nuclear Weapons, “A Call to Non-Violent Action against Nuclear Weapons,” c. 1957; Folder “Projects – Nevada Vigil 1957”; Box 11; Series VI; CNVA-SPC. Laura McEnaney, *Civil Defense Begins at Home: Militarization Meets Everyday Life in the Fifties* (Princeton, NJ: Princeton University Press, 2000).

¹³¹ SANE, “Advertisement: We Are Facing a Danger Unlike Any Danger That Has Ever Existed...” (emphasis added).

disarmament, remained committed to the integrity of the American state and the American way of life. The fallout controversy did not incite a revolution to cast off the authority of the state. It did, however, foster significant and powerful currents of doubt as to whether there was room for nuclearization in American democracy.

Conclusion

Within several years of the National Academy of Sciences study and the grassroots fervor that followed, nuclear test ban advocates had gained a foothold in American public culture. Policymakers followed suit, always with an eye toward maintaining diplomatic power. Although nuclearized nations had moved closer to disarming during the test moratorium in the late 1950s, their progress was dashed in the early 1960s in the face of escalating confrontations between the United States and the Soviet Union. Nevertheless, the idea of a test ban had enough resonance throughout this period to culminate in the Limited Test Ban Treaty of 1963.

By the early 1960s, the nuclear test ban movement had subsumed disparate sources of concern from a broad contingent of American and international critics. Activists saw a test ban as a first step toward longer-term goals, including nuclear disarmament, progress toward decontaminating the earth of radioactive materials, and an assurance of world peace. The push for a test ban revealed the shifting terrain of cultural citizenship. Nuclear fallout changed the way Americans understood their role as subjects of a nation, what they expected from federal leadership, and the role of global authority in negotiating these relationships. Thus, using familiar discourses about rights, power, and responsibility, test ban advocates constructed a new definition of nuclear citizenship.

Public engagement with the fallout issue had no small part in making a test ban

come to pass. Fallout galvanized citizens like no other aspect of the nuclear threat. It gave Americans a language for expressing ideas of human solidarity. Nuclear weapons testing simultaneously united all people across borders and problematized the political structures that separated them. The awareness of fallout gave civilians cause to doubt the wisdom of Cold War policymakers in areas outside of nuclear weapons testing as well. The next chapter will examine how public faith in civil defense waned in the late 1950s and early 1960s, even as federal support for civil defense reached its zenith.

CHAPTER 6

ATOMIC AMERICA: THE EXPERT PUBLIC AND THE COLD WAR

Throughout the 1950s, public interest in civil defense increased when international crises erupted and decreased as tensions subsided.¹ This ebb and flow had become a routine and led to little discernible change across presidential administrations, congressional sessions, and civil defense structures. When the Cold War seemed to be heating up in the early 1960s, the clamor for renewed civil defense programs was predictable.² In his first year in office, President Kennedy devoted considerably more support to national civil defense and public safety than had his predecessors. But although Kennedy was able to secure a hefty budget line for a new civil defense mandate, his actions drew harsh criticism. Despite renewed press attention, high-profile speeches, and a revamped program, civil defense could not get off the ground.

How, then, do we explain why a public that had generally supported the idea of civil defense throughout the 1950s could turn away from it at a time when nuclear war

¹ The New York State 1958 civil defense annual report lamented this cycle, saying “Civil Defense preparations should not be turned on and off depending on the temporary state of international relations...” New York State Civil Defense Commission “Annual Report,” (1958), forward page 4, Folder 292, Box 25, Subseries 2: Reference Files; Series 29: William J. Ronan (FA371), Nelson A. Rockefeller Gubernatorial Records, Rockefeller Archive Center (hereafter NARGR-RAC).

² With regards to the “heating up” of the Cold War: in September 1961, 53 percent of surveyed Americans expected a war within five years, compared to only 19 percent in August 1959. Tom W. Smith, “Trends: The Cuban Missile Crisis and U.S. Public Opinion,” *The Public Opinion Quarterly* 67, no. 2 (2003): 267.

seemed most imminent?³ Put more simply, why did Americans reject civil defense?⁴

To begin with, public faith in civil defense strategies had declined drastically by the end of the 1950s and the early 1960s. By then, the public had become aware of the dangers of testing fallout, the harsh realities of hydrogen warfare and strategies of massive retaliation, and the inadequacy of policies purported to assure survival. Indeed, policymakers faced mounting criticism of civil defense policies: at best, the scale of the national civil defense program was insufficient. Echoing calls from as early as the late 1940s, some Americans continued to demand large-scale, federally-financed survival assurances. When critics cast civil defense in its worst light, however, federal civil defense policy seemed negligent and intentionally deceptive. Some of the same individuals and groups that had mobilized against nuclear weapons testing in years past came to find civil defense just as reprehensible and objected accordingly.

But the public pushback against civil defense was not simply an attack on federal

³ Public opinion researchers noted in 1978 that throughout the 1950s, 60s, and 70s, there existed an “underlying climate of strong support” for the idea of a civil defense program. Jiri Nehnevajsa, “Issues of Civil Defense: Vintage 1978, Summary Results of the 1978 National Survey,” ed. Defense Civil Preparedness Agency (Pittsburgh, PA: University of Pittsburgh University Center for Social and Urban Research, 1978), 123. Public opinion data collection throughout these decades, however, did not always ask consistent questions from year to year, nor did it always account for nuanced answers that qualified favorable and unfavorable responses from those polled.

⁴ Dee Garrison takes this question head on in her book, *Bracing for Armageddon: Why Civil Defense Never Worked*. This chapter takes cues from Garrison’s synthesis, but attempts to remove the framework of civil defense as a “tragicomedy” that blurs the boundaries between her two groups of actors: policymakers who promoted civil defense doctrine and individual Americans who pushed back against its absurdity. I hope to show that grassroots America carved out its own ideas about civil defense, survival, and nuclear policy. In the process, they made nuclearism an issue of civic practice. Even when they rejected it, these Americans made nuclearism a component of national identity.

officials and civil defense planners, or on the sufficiency of their efforts. As civil defense once again took the public stage in the early 1960s, the conversation became entrenched in moral, philosophical, and even existential issues. The details of civil defense policy—public versus private shelters, debates over survivability, its relationship to nuclear diplomacy—revealed uncomfortable tensions in how Americans imagined the future of their nation.

In assuring Americans that they could survive nuclear war through proper civil defense, and in framing civil defense practices as a civic duty, federal leaders built a fragile and contingent link between survival and good citizenship. For over a decade, policymakers had urged Americans to participate in civil defense in order to assure their own survival. Indeed, even in the early 1960s, policymakers clung to an idea that emerged over a decade earlier that “there need not be a Hiroshima, USA.”⁵ But by the end of the 1950s, it had become apparent that if a war came many Americans would not survive, whether they met their end in the fireball, from post-attack radiation, or as new currents of public discussion raised at the hands of their neighbors. As soon as a significant portion of Americans no longer believed that the state’s solution to survival was tenable, they began to put their own safety above the needs of the state, often in organized and sophisticated ways.

Without a guarantee of survival, the promise underlying nuclear citizenship broke down: if the state could provide no legitimate means of protecting its civilians, notions of

⁵ For example: District Health Officer, Office of Civil Defense of the City of New York, Medical Emergency Division to Nelson A. Rockefeller, December, 1951, Folder 177, Box 20, Series Q: World Affairs (FA326), Office of the Messrs. Rockefeller Records, Rockefeller Archive Center.

civic duty could no longer compel civilians to participate in civil defense. Despite the fact that federal leaders continued to promote civil defense as a measure of civic responsibility, many civilians separated the rubric of citizenship from the planning for survival. They sought survival through other means, most often by pushing back against the state apparatus that created the threat in the first place. Feeling unwilling to or incapable of affecting meaningful change in policy, some went further and simply declared that survival in the postwar world was no longer desirable. If nuclear war came, they did not want to live to see it through.

The Americans who marshaled these claims did not defect or renounce their legal citizenship. Their actions were not so radical or absolute. But increasingly, they viewed nuclear policy as incompatible with the requirements of a democratic national community. As discussed in previous chapters, the tensions between nuclear policy and American expectations of democracy were manifold, and they became more apparent as the 1950s went on. For example, the possession of nuclear weapons technologies, especially in the earliest years of their development, demanded secrecy that made the functioning of government less transparent to average citizens. The resulting suspicion of policymakers' motives merged with cultural suspicion about the role of nuclear scientists, especially those whose elite expertise earned them an advisory role in high policy circles. The threat posed by fallout from nuclear testing also raised questions about whether the American state was adequately protecting its citizens. And, for some, American nuclearization undermined the United States' moral authority by threatening the sovereignty of other nations; it also occupied an ambiguous in international law. Civil

defense protesters argued that if nuclear weapons jeopardized the sovereign relationship between citizens and their government, these weapons must be abolished.

For an increasing number of Americans, then, the only sustainable means for survival was peace. But peace, of course, was a nebulous term. At times peace meant disarmament, the abolition of weapons of mass destruction, or a weapons test ban. At other times peace meant restoring diplomatic relations with the Soviet Union or ending proxy conflicts. In all of these scenarios, however, nuclear weapons—the teeth to the Cold War conflict—were defined as the key problem.

For these critics, then, the existence of nuclear weapons began to erode the logic of international diplomatic policy and public safety programs at home.⁶ The crises in Berlin and, later, Cuba, seemed to prove the illogic of nuclear war, rather than being a rationale for civil defense and survival procedures. In addition, antinuclear sentiment explains why public pressure continued for a test ban treaty, partially realized with the Limited Test Ban Treaty of 1963. Many saw the LTBT as a stepping stone toward total disarmament, and it also resolved the immediate peacetime worry over fallout contamination from testing. But the growing antinuclear movement also explains why civil defense never again received mainstream support from the public or policymakers.

Civil defense policy underwent a series of changes over the course of the 1950s, eliciting a public reaction that ultimately coalesced around nuclear protest. As had been the case earlier in the 1950s, policymakers struggled to align civil defense strategies with the changing nature of the nuclear threat, and their initiatives were hamstrung by postwar fiscal austerity and bureaucratic organization. Despite these ongoing problems, civil

⁶ Garrison, *Bracing for Armageddon*, 10-11.

defense officials developed a series of new methods for promoting civil defense in these years. Their efforts, however, were met with a variety of public resistance and criticisms, and the public began to articulate strong objections to the national civil defense program. These challenges took the form of passive resistance and active protest, but largely called out the insufficiency of federal plans. At the same time, a different strand of public discussion contributed to the growing opposition to civil defense: doubts as to whether nuclear war was survivable, and if surviving a nuclear war was desirable at all. This brand of nuclear cynicism, when combined with protests against civil defense practices, made Americans less willing to accept the promises of deterrence peacekeeping and nuclear policies writ large.

By the early 1960s, Americans increasingly expressed a vision of nuclear citizenship that renounced the nuclear entirely, calling for peace—not civil defense, nor deterrence—but peace as the antidote to the problem of survival in the Atomic Age. The final section of this chapter will examine the Cuban Missile Crisis and the ratification of the Limited Test Ban Treaty in light of American calls for peace and antinuclearism.

Civil Defense in the 1950s

Throughout the early 1950s, federal civil defense policy was mired in partisan maneuvering, funding battles, and a lack of direction. The Federal Civil Defense Administration (FCDA) had struggled to find authority within the federal government since its creation in 1951. Congress consistently neglected to fund its programs, despite giving lip service to the program's importance.⁷ As in the period before the FCDA's

⁷ Laura McEnaney notes that Cold War escalation, especially the Korean War, "made elected officials both more inclined to endorse the idea of civil defense (they had

establishment, state and city leaders complained that the federal government was giving little direction to their localized needs. Some federal leaders also worried that the FCDA appeared to be relegated to the periphery of federal power. The FCDA's relocation to Battle Creek, MI, in 1954 only furthered its apparent distance from the operations and authority of the federal government.⁸ Indeed, the logic behind the relocation was to move the office away from Washington's target zone, so that the FCDA could continue operations if an attack occurred. However, some critics argued that the move would be "a tragic error... and to so widely separate it from all [other agencies in Washington] would only increase the gap that already exists."⁹ The FCDA's position within the federal structure thus was constantly in flux during these years.¹⁰

Between 1953 and 1954, as part of President Eisenhower's "New Look," the

nothing to lose by supporting a national security program) and more skeptical of funding it (given the more immediate wartime active defense needs)." Laura McEnaney, *Civil Defense Begins at Home: Militarization Meets Everyday Life in the Fifties* (Princeton, NJ: Princeton University Press, 2000), 45. As weapons systems advanced over the course of the 1950s, active defense capabilities continued to take financing precedence.

⁸ The original relocation to Michigan was part of a broader effort to decentralize government agencies out of critical target areas. David Krugler argues that this decision was one of the few that the administration made at the advice of the obsolete-at-delivery Project East River. David F. Krugler, *This Is Only a Test: How Washington, D.C. Prepared for Nuclear War* (New York, NY: Palgrave Macmillan, 2006), 101.

⁹ C. O. Thrasher, Director of Civil Defense, Kansas City, MO, to Colonel Robert L. Shulz, Military Aide to the President," August 16, 1954, Official File 20, Box 149, White House Central Files, Dwight D. Eisenhower Presidential Library.

¹⁰ For additional information about the evolution of civil defense policy in the 1950s, see McEnaney, *Civil Defense Begins at Home*, chapter 2.

FCDA adopted the strategy of city evacuation as the primary mode of civil defense.¹¹ Director Millard Caldwell's stubborn support for a national civil defense program centered on a national system of bomb shelters in 1951-2 had proven wildly unpopular in Congress, primarily because of its exorbitant cost. Yet it was new weapons that drove a final nail in the coffin of Caldwell's shelter strategy: the size and power of thermonuclear blasts seemed to render the bomb shelter useless. During the early Eisenhower years, under the leadership of newly-appointed Director Val Peterson, civil defense turned to a strategy of massive urban evacuation in the event of attack. Unlike bomb shelters, evacuation was appealing to federal lawmakers because it maintained an emphasis on self-help and individual responsibility while placing the planning burden squarely on the shoulders of local officials.

But Peterson had his critics.¹² The thermonuclear revolution also opened evacuation-based civil defense policy to criticism. In the face of large thermonuclear explosions with a wide radius of resulting fallout, evacuation plans stood little chance of success. Even allowing an optimistic estimate of advanced warning, it was clear that civilians living close to the epicenter of a nuclear strike would have to cover too much ground too quickly to escape harm's way. This was to say nothing of the complex logistical effort necessary to coordinate a large urban center's evacuation with its

¹¹ Edward A. Conway, "Let's Get out of Here!: What the 'New Look' in Civil Defense Can Mean for You," *America: A Catholic Review of the Week*, April 17, 1954.

¹² Led by Chester Holifield (D, CA), dissenters in the House of Representatives began to introduce legislation to strengthen national civil defense as early as spring 1954. For example, *Joint Resolution to Constitute the Federal Civil Defense Administration an Executive Department, and for Other Purposes*, HJR 491, 83rd Cong., 2nd sess.

surrounding regions, areas that would suddenly need to support a massive influx of refugees. With a few notable exceptions, evacuation planning demanded energy and time that cities chose not to commit to the cause. In the event of a nuclear strike, city centers were, as had long been assumed, doomed.

By his second term, President Eisenhower also recognized that “our whole civil defense effort needs both strengthening and modernizing. This need arises not from any increase in international tensions but, rather, from the recent spectacular developments in weapons and methods of delivery.”¹³ Eisenhower had created an Advisory Committee on Government Organization in 1955 to study the organizational structure of civil defense.¹⁴ Following the Committee’s recommendations, Eisenhower invited the director of the FCDA to future Cabinet meetings and called for federal changes that would enable the FCDA to have “the prestige and effectiveness... equal to the heavy responsibility it

¹³ President Dwight D. Eisenhower to Governor Val Peterson, White House Press Release, July 17, 1956, Part 1, Volume 35, Subseries 5C: President’s Advisory Committee on Government Organization (PACGO), Series O: Washington DC (FA350), Nelson A. Rockefeller Personal Papers, Rockefeller Archive Center (hereafter referred to as NARPP-RAC).

¹⁴ The committee was commissioned in 1955-6 to explore whether “from an organizational point of view, FCDA is handicapped in carrying out [their] responsibilities because of its status as an independent agency of less than Cabinet rank. It has also been reported that there is some confusion regarding the respective roles of the Office of Defense Mobilization and FCDA in the non-military defense area.” Nelson A. Rockefeller, Chairman of the President's Advisory Committee on Government Organization, memo for the President, “Organization for Non-Military Defense,” March 28, 1956, Part 1, Volume 35, Subseries 5C: President’s Advisory Committee on Government Organization (PACGO), Series O: Washington DC (FA350), NARPP-RAC. This committee continued to wrestle with finding an appropriate organizational mandate for civil defense well into 1957 and utilized outside consultants as well.

holds.”¹⁵ He called upon Congress to continue reviewing national programs and to propose appropriate amendments to the Federal Civil Defense Act of 1950.

Eisenhower’s civil defense rhetoric in these years largely sidestepped the problems of evacuation, as well as the upsurge in public awareness of the dangers of fallout. The Congressional hearings that followed, however, took on head first the issues of nuclear war, public safety, evacuation, and sheltering.¹⁶ In 1956 and 1957, Chester (Chet) Holifield, a Democratic Representative from Southern California, revived Congressional hearings on the issue of civil defense, based at least in part on his belief that evacuation plans were impossible to implement.¹⁷ Following the hearings, Holifield introduced legislative that provided at least \$20 billion to invest in a national shelter program.¹⁸ By the end of the year, the FCDA aligned itself with Holifield’s recommendation, proposing its own \$32 billion shelter program.¹⁹ Having repudiated the effectiveness of evacuation, civil defense officials returned to a focus on shelters, a

¹⁵ Eisenhower to Peterson, July 17, 1956.

¹⁶ E.W. Kenworthy, “Civil Defense Cuts by House Indicate Doubts on Program,” *New York Times*, March 24, 1957, 44.

¹⁷ Holifield called evacuation “an inexpensive substitute for atomic shelter,” as quoted in B. Wayne Blanchard, Planning Specialist for Civil Defense Programs, Federal Emergency Management Agency, *American Civil Defense 1945-1984: The Evolution of Programs and Policies*, FEMA 107/July 1986 (Emmitsburg, MD: National Emergency Training Center, 1986). Dee Garrison calls the six-month hearings an “outburst of truth telling” that “the FCDA and [Director] Peterson never recovered.” Dee Garrison, *Bracing for Armageddon*, 64.

¹⁸ United Press, “Big Shelter Plan Being Considered,” *New York Times*, February 14, 1957.

¹⁹ Harry B. Yoshpe, “Our Missing Shield: The U.S. Civil Defense Program in Historical Perspective,” ed. Federal Emergency Management Agency (Washington, DC: GPO, 1981).

program that was wildly unpopular five years earlier. In light of the FCDA's about-face, Eisenhower commissioned Horace Rowan Gaither, a trustee of the RAND Corporation, to lead a committee to reassess broad defense strategy. The resulting *Deterrence and Survival in the Nuclear Age*, or Gaither Report, concluded that not only did the United States lag behind the Soviet Union in weapons capabilities, the American public was woefully unprepared for an attack.²⁰ The report recommended that the United States funnel \$25 billion in federal funding into fallout shelter construction.²¹ The next year, both RAND and the Rockefeller Brothers Foundation, led by Herman Kahn and Henry Kissinger, respectively, recommended similar programs.

Despite the findings of Congress, the FCDA, President Eisenhower's own exploratory committee, and top policy think tanks, Eisenhower rejected an expansion of the civil defense program. Instead, in order to eliminate "a serious overlap among agencies carrying on [civil defense] leadership and planning functions," in 1958 Eisenhower consolidated the national-level civil defense program, relocating it to the Executive Office of the President under the name Office of Civil Defense Mobilization (OCDM).²² The move constituted fiscal pragmatism—it was probably the least costly

²⁰ Security Resources Panel of the Scientific Advisory Committee, "Deterrence & Survival in the Nuclear Age," (November 7 1957). Also See David L. Snead, *The Gaither Committee, Eisenhower, and the Cold War* (Columbus, OH: Ohio State University Press, 1999).

²¹ Security Resources Panel, "Deterrence & Survival," 20.

²² Dwight D. Eisenhower, "Special Message to the Congress Transmitting Reorganization Plan of 1958," April 24, 1958, in Gerhard Peters and John T. Woolley eds. *The American Presidency Project*, <http://www.presidency.ucsb.edu/ws/?pid=11361> (accessed February 17, 2017). Order number 10773 made the OCDM effective July 1, 1958. On August 26, 1958, the name was changed to OCDM in order to

option available to him—and was part of a larger mission to make federal agencies more efficient and streamlined. In particular, the reorganization clarified and limited the process by which states and localities could receive federal funds for personnel, administrative costs, and education.

Throughout federal discussions, shelters reemerged as the dominant thread of federal civil defense recommendations by the end of the decade. But unlike in earlier years, by 1958, official civil defense efforts turned to an emphasis on *fallout* shelters: areas of refuge designed to protect civilians from the effects of fallout during and after a strike. Fallout shelters could not withstand significant blast pressure, but they could offer relative safety for civilians outside the immediate zone of destruction.

Indeed, the OCDM's major accomplishment in its first year was the release of the National Shelter Policy, which initiated several federal exploratory studies but primarily “[urged] that the property owner provide fallout protection on his premises.”²³ Despite the OCDM's claim that the reorganization “gave increased stature and unity to our nonmilitary defense effort,” most of the American public saw the OCDM as functionally identical to its predecessor organizations.²⁴ However, the reorganization signaled the end of evacuation as a credible civil defense strategy. For the remainder of the 1950s and into the following decade, civil defense became largely synonymous with fallout shelters.

maintain consistency, by public law 85-763, and executive order amended and changed to number 10782 of September 6, 1958.

²³ Office of Civil and Defense Mobilization, *Annual Report of the Office of Civil and Defense Mobilization for Fiscal Year 1959* (Washington, DC: U.S. Government Printing Office, 1960), 12.

²⁴ *Ibid.*, 1.

As civil defense recommendations officially transitioned from *bomb shelter* to *fallout shelter*, little changed in the rest of established lexicon of civil defense. Even for Holifield and other advocates of an expanded federal system of civil defense, self-help had remarkable staying power. After breaking from Eisenhower's administrative lead, the FCDA still called its 1956 shelter plan "subsidized self-help."²⁵ By the late 1950s, civil defense materials told Americans that it was their responsibility as citizens to construct fallout shelters in their own home, at their own expense.

For Americans who still supported a broad national civil defense agenda, the changes to the official program were far from satisfactory. Frustrated citizens continued to send counterproposals to lawmakers. One such program, proposed by Arthur K. Smith of Bloomfield, New Jersey, recommended a compulsory civil defense program that required all adult citizens to participate in what he called a "Civilian Defense Indoctrination Program." Smith conceded that "no other population in this world so vigorously reacts in protest against involuntary regimentation as does the population of the United States," but insisted that "common sense dictates that we must endure some lessening of our personal liberties and face up to our responsibilities to ourselves, our communities and our nation" through civil defense practice.²⁶ Smith's local governing

²⁵ As quoted in B. Wayne Blanchard, Planning Specialist for Civil Defense Programs, Federal Emergency Management Agency, *American Civil Defense 1945-1984: The Evolution of Programs and Policies*, FEMA 107/July 1986 (Emmitsburg, MD: National Emergency Training Center, 1986).

²⁶ Arthur K. Smith to Nelson Rockefeller, January 14, 1958, Folder 280.33, Box 30, Series L: Projects (FA348), NARPP-RAC. Also see Smith's report, "A Citizen's Plan for an Adequate Civilian Defense Program," January 9, 1958, Folder 280.33, Box 30, Series L: Projects (FA348), NARPP-RAC. Before his death in 1959, Smith also circulated his report to the House Armed Services Committee. See:

body, the New Jersey Division of Civil Defense, publicly condemned his efforts to circulate his report and solicit donations for the project, and his proposals were not adopted.²⁷ Nevertheless, Smith's proposal indicates that at least one Americans found civil defense to be such a pressing and urgent necessity that they were willing to curtail freedoms in its interest.

Civil defense once again took on a new operational form after John F. Kennedy entered office. Kennedy, who had decried the so-called missile gap between the Soviet Union the United States during the presidential campaign, also entered office with an aggressive stance on civil defense.²⁸ In May of his first year, Kennedy stated that "one major element of the national security program which this nation has never squarely faced up to is civil defense."²⁹ Exactly two months later, as a response to the rapidly-escalating crisis in Berlin, Kennedy reconstituted civil defense activities within the Department of Defense's Office of Civil Defense (OCD).³⁰ Against the backdrop of stepped-up militarization and defense spending in July, Kennedy said flatly that to ignore

"A. K. Smith, Sea Bright," *Red Bank Register*, October 19, 1959. He also sent similar material to the Ford Foundation: Arthur Kenneth Smith to Henry T. Heald, President of the Ford Foundation, January 15, 1958, Reel C-1250 (1958), General Correspondence (FA735), Ford Foundation Records, Rockefeller Archive Center.

²⁷ "Warns Local Residents," *The Ocean Grove Times* (NJ), May 16, 1958.

²⁸ See "Fallout Shelters Are Part of Our Defenses," *The Providence Journal*, January 22, 1958.

²⁹ John F. Kennedy, "Special Message to the Congress on Urgent National Needs," May 25, 1961, in Gerhard Peters and John T. Woolley eds. *The American Presidency Project*, <http://www.presidency.ucsb.edu/ws/?pid=8151> (accessed February 17, 2017).

³⁰ As part of the reorganization, Kennedy also maintained the OCDM as the office in charge of stockpiling and coordinating local plans.

civil defense “would be a failure of responsibility.”³¹ Congress readily approved Kennedy’s \$207 million supplementary budget request for civil defense.

In an appeal to the public, Kennedy published an open letter to American citizens in *Life* in early September 1961. “There is much that you can do to protect yourself,” he wrote, “and in doing so strengthen your nation.”³² Using familiar rhetoric that conflated self-help civil defense with civic duty, Kennedy called upon the American public to continue to build family fallout shelters. Kennedy’s ongoing emphasis on shelter construction created a marked rise in public interest in civil defense during the five-month crisis in Berlin. However, Kennedy’s plans created deep rifts in public opinion, and over the coming months much ink would be spilled over the benefits and costs of fallout shelters.

Aside from reinvigorated rhetoric, Kennedy’s civil defense plan led to little recognizable change during the summer of 1961 and after. Critics accused the Kennedy administration of being “caught off guard [and] unprepared for the type of confusion and fear that has spread across the country” following the president’s speeches on the need

³¹ John F. Kennedy, Radio and Television Report to the American People on the Berlin Crisis, July 25, 1961, The John F. Kennedy Presidential Library and Museum, <https://www.jfklibrary.org/Asset-Viewer/Archives/JFKPOF-035-031.aspx> (accessed February 17, 2017).

³² The same issue of *Life* ran a series of articles and photographs about family fallout shelters and made the controversial claim that 97 out of 100 Americans could be saved if they built shelters. “A Message to You from the President,” *Life*, September 15, 1961; “A New Urgency, Big Things to Do - and What You Must Learn,” *ibid.*; Rose notes “furious backpedalling” from *Life*’s editors about these claims just four months later. Kenneth D. Rose, *One Nation Underground: The Fallout Shelter in American Culture* (New York, NY: New York University Press, 2001), 81.

for civil defense.³³ This renewed public interest could have led to an energetic reconsideration of civil defense in the United States, but as historian Kenneth Rose puts it, “these halcyon days [of civil defense] would be short-lived.”³⁴ In the months and years leading up to the Cuban Missile Crisis, civil defense took the same form as it had since its inception: a federal advisory program that remained almost entirely dependent on civilian participation guided and funded by local agencies. And, as in years past, critics—both those in support of an expanded civil defense program and those who wanted to abandon it outright—continued to identify civil defense as an ongoing unmanageable bureaucratic boondoggle.

Authority over Survival

Throughout the 1950s, civil defense agencies struggled to maintain authority as credible resources for assuring survival. In the span of just ten years, the evolution of nuclear weapons systems forced the federal civil defense officials to make significant changes to their overarching recommendations. The moves from bomb shelters to evacuation to fallout shelters demonstrates how much trial-and-error was involved in early civil defense policy. But as official policy changed, leaders tried to find creative ways to adapt an existing philosophy of self-help civil defense, rather than abandon it entirely. As policymakers developed new incentives and arguments to try to engage the

³³ Pamela Abel Hill, “Report No. 2 Civil Defense, September 15 - December 1, 1961,” December 5, 1961, Folder 3101, Box 82, Subseries 8: Position Papers and Policy Proposals; Series 34: Diane Van Wie (FA373), NARGR-RAC; echoed in Rose, *One Nation Underground*, 78-9; and Spencer R. Weart, “History of American Attitudes to Civil Defense,” in *Civil Defense: A Choice of Disasters*, ed. John Dowling and Evans M. Harrell (New York, NY: American Institute of Physics, 1987).

³⁴ Rose, *One Nation Underground*, 37.

public in civil defense practices, they encountered a great deal of resistance. From apathy to outright refusal, Americans mounted a growing critique of the logic of civil defense.³⁵

Throughout the postwar period, civil defense leaders had difficulty convincing the public to participate in training and educational programs. Despite countless pamphlets and printed literature distributed to millions of Americans, very few individuals had taken the initiative to prepare their own homes for nuclear war.³⁶ As many historians have shown, although it is difficult to gather accurate data, few Americans built shelters.³⁷ It is even more difficult to gauge how many Americans stockpiled food and supplies, the minimal cost of entry into civil defense preparation. It is likely that more than a few Americans kept extra cans of food and containers of water on hand, but the historical record does not tell us much in this regard. What the archival record *does* reveal, however, is a constant and persisting call from civil defense leaders for more Americans

³⁵ Senator Stephen M. Young argued in 1960, “public apathy... is rapidly burgeoning into widespread public resentment.” Stephen M. Young, “Civil Defense: Billion Dollar Boondoggle,” *Progressive*, December 1960, 18.

³⁶ In its peak year of publication distribution, FY 1959, the OCDM distributed 106,127,403 guides, handbooks, exhibits and posters, promotional pamphlets, and training bulletins and reports. This number presumably does not include printed material made available to private publishers to reprint and distribute, as had been common in the early 1950s. Between 1950 and the end of FY 1961, just over 500,000,000 publications had been distributed and sold. Office of Civil and Defense Mobilization, *Annual Statistical Report, Fiscal Year 1961* (Battle Creek, MI: Office of Civil and Defense Mobilization, 1961), 48. By contrast, the OCDM trained only 241,062 Americans in the Home Preparedness Workshop in fiscal years 1960 and 1961, *ibid.*, 53. The OCDM was the first federal civil defense agency to write detailed statistical reports, so comparable numbers do not exist for the years prior to 1959.

³⁷ See Rose, *One Nation Underground*, 78-81. Also see Alice L. George, *Awaiting Armageddon: How Americans Faced the Cuban Missile Crisis* (Chapel Hill, NC: University of North Carolina Press, 2003).

to participate in civil defense. Effective civil defense depended on the participation of a critical mass of Americans, a quota that policymakers never seemed to be able to meet. For policymakers, public apathy was the largest impediment—and the easiest scapegoat—for the failures of the program.

By the late 1950s, civil defense planners began defending their public safety policies in a new way, identifying them as explicitly utilitarian. They advocated for what they saw as the best possible solution for the greatest number of people: the promise that some, if not most, of the American public would survive a nuclear war. President Eisenhower made repeated claims during the final years of his presidency that “fallout shelters offer the best single non-military defense measure for the protection of the greatest number of people.”³⁸ These messages, however, downplayed the reality that Americans—potentially millions—would die in the event of a prolonged war. Still, accepting casualties as a given, policymakers insisted that nuclear war could be won.³⁹

How, given that Americans increasingly understood that nuclear war could only be “won” at the expense of millions of American lives, did civil defense proponents try to convince Americans to build family fallout shelters? A number of states proposed or passed tax incentives for individuals, businesses, and industries that constructed fallout shelters. Several cities and states also had mandatory civil defense drills, but even so, participation tended to be inconsistent. Indeed, even in urban high-rises with active civil

³⁸ Governors' Committee on Civil Defense, “White House Conference on Fallout Protection,” January 25, 1960, Reel 13, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

³⁹ Kahn made a distinction between “unprecedented” and “unlimited.” Louis Menand, “Fat Man: Herman Kahn and the Nuclear Age,” *The New Yorker*, June 27, 2005.

defense committees, business operations trumped participation in city-wide drills. In 1961, RCA's Civil Defense Warden directed employees on several floors of Rockefeller Center to sit out New York City's scheduled drill due to scheduled office maintenance. Instead, the warden asked employees to "carry on your business as usual [but] stay away from the windows, please," so as to not draw attention to their non-participation.⁴⁰ Even government workers in Washington, DC, arguably the individuals at the top of federal protection ledgers, had a poor track record for participating in civil defense drills.⁴¹

Other states took more drastic legislative action to spur public participation in civil defense. In a controversial 1959 platform that gained national attention, New York Governor Nelson A. Rockefeller proposed legislation that would require every property owner in the state to build his or her own shelter. The program was highly controversial and received significant resistance from New York City residents and legislators in Albany.⁴² While Rockefeller abandoned the initial legislation, the state assembly eventually passed a \$100,000,000 proposal mandating that public schools build fallout shelters. A host of students, parents, teachers, school administrators met this law, and similar ones outside of New York, with equal vehemence, citing it as a misuse of public funds, criticizing its potential to "delude people into accepting the inevitability of

⁴⁰ Raymond H. Wilkens, Civil Defense Warden. "Memorandum to All Staff Members, 55th and 56th Floors, RCA Building," April 26, 1961, Folder 280.33, Box 30, Series L: Projects (FA348), NARPP-RAC.

⁴¹ Krugler, *This is Only a Test*. In 1955, Congress and the Supreme Court remained in session for Operation Alert. Garrison, *Bracing for Armageddon*, 75.

⁴² For example, Warren Weaver Jr. "Rockefeller Drops Fight to Require Shelters in Home," *New York Times*, March 24, 1960.

disaster,” and condemning its general “psychological impact.”⁴³

Some state-level leaders spent a great deal of energy promoting the feasibility, desirability, and value of building home fallout shelters in an effort to raise public opinion of civil defense. Several state governors built fallout shelters in executive mansions, emphasizing their affordability—they built theirs to thrifty OCDM specifications—and countering claims that leadership was out of touch with the financial restraints of average Americans.⁴⁴ To illustrate the comforts and features of shelters, Governor Rockefeller staged a press event in a mock shelter in a bank’s shop front window on 6th Avenue. Seated next to a first aid kit, lantern, and canned food—and in another shot, next two children tucked into bunk-bed cots—Rockefeller smiled as observers peered through the window. A few weeks later, he appeared in a similar space for an interview on the *Today Show*. Indeed, public officials all over the nation appeared with civil defense infrastructure.⁴⁵

⁴³ For delusion, see: Norine Zimberg to Governor Nelson A. Rockefeller, February 25, 1962, Reel 71, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC. For psychological impact, see: Lucy L. Solow to Governor Nelson A. Rockefeller, March 7, 1962, Ibid. For others, see: Muriel Zoref, President of the Parents' Association, P.S. 114, Queens, NY, to Governor Nelson A. Rockefeller, March 5, 1962, Ibid.; and Gene Currivan “Educators Score School Shelters,” *New York Times*, February 22, 1962.

⁴⁴ Hodges’ shelter was less than \$300. See Office of Civil and Defense Mobilization, “Information Bulletin: Fallout Shelter Constructed at North Carolina Governor's Mansion,” November 12, 1959, Reel 13, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC. For accusations of being out of touch, see Don Hunt, Don Hunt to Governor Nelson A. Rockefeller, February 19, 1960, Reel 15, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

⁴⁵ See Governor Harold W. Handley (IN), and other governors: Robert M. Hanson, Director of Training, Education, and Public Affairs, Region 4, Office of Civil and

Yet for many Americans, the most basic problem with family fallout shelter policy was its cost.⁴⁶ Parents asked, “When you have to choose between building a shelter which might save your family in a possible attack, and sending your son to college, what do you do?”⁴⁷ Despite building costs quoted in civil defense publications, the cost of personal fallout shelters varied enormously. Official federal civil defense materials estimated that an inexpensive but effective shelter could be built for \$150.⁴⁸ A few months later, the *Buffalo Evening News* declared that the OCDM’s estimates in 1959’s *The Family Fallout Shelter* for hiring a contractor to build a four-person shelter was underpriced by a factor of almost three.⁴⁹ On a do-it-yourself basis, the *News* found, the OCDM’s estimates were 60% too low.⁵⁰ Even if Americans chose to build a shelter, to some it seemed to some like wasted square footage. In response, in 1960, the American

Defense Mobilization, memo to Emil Reutzel, Assistant to the Director, OCDM, “Summary Information on Shelters and Governor’s Mansions,” June 9, 1960; Box 2; OCDM Publications, 1950-60 (Entry #1022); Records of the Office of Emergency Preparedness; Record Group 396; National Archives at College Park, College Park, MD.

⁴⁶ See also Rose, *One Nation Underground*, 188-9.

⁴⁷ Catherine Novak to Governor Nelson A. Rockefeller, April 15, 1960, Reel 15, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC; and Marie K. Mulligan to Governor Nelson A. Rockefeller, March 21, 1960, Ibid.

⁴⁸ Office of Civil and Defense Mobilization, “The Family Fallout Shelter,” (Washington, DC: U.S. Government Printing Office, 1959), 6. \$150 in 1959 equals approximately \$1,242 in 2016.

⁴⁹ “Fallout Shelter Builders Say Cd Estimates Are Too Low,” *Buffalo Evening News*, April 26, 1960.

⁵⁰ Ibid. The OCDM estimated \$105-115 for DIY and \$225 to hire a contractor, but the *News* claimed the costs were \$185 for DIY shelter and approximately \$750 for a contractor.

Institute of Decorators designed a multipurpose “rumpus room” shelter designed to be used for exercise and play during peacetime. It was estimated to cost \$2,500 at a time when the median home value in the United States was \$11,900.⁵¹

Even for Americans who could afford the space and means to build or buy a shelter, many chose not to do so. In one case, a Detroit real estate company that outfitted a housing development with top-of-the-line shelters had difficulty convincing buyers of their utility. A news blurb reported that “housewives... thought the shelters stuffy, oppressive, useless, and a waste of money.”⁵² When the builders began marketing the shelter spaces as wine cellars, however, “sales zoomed.” Some Americans simply did not want to be reminded of the potential horrors of war in their own home.⁵³

Economic concerns about civil defense weighed especially heavily on urban Americans. Some city dwellers worried that landlords would either not abide by regulations and provide tenants with shelters, or would pass on the costs of constructing such areas to tenants by raising rents. Cities faced another irony, too: the areas of the

⁵¹ “A Spare Room Fallout Shelter,” *Life*, January 25, 1960. Notably, the model shelter’s wall coverings included wallpaper reminiscent of Paleolithic cave drawings. A critic responded several weeks later: “If William Tecumseh Sherman thought war was hell he had not seen a fallout room designed to keep a family healthy, if insane, following nuclear explosions and attack.” Whitney Bolton, “Fallout Shelter: Family Room with Extras,” *Newark Evening News*, February 12, 1960. For other examples of making shelters less bleak, see Rose, *One Nation Underground*, 191-2. For home values see Housing and Household Economic Statistics Division U.S. Census Bureau, “Historical Census of Housing Tables - Home Values,” (June 6, 2012).

⁵² “Wine before Bombs,” *Des Moines Tribune*, September 26, 1958.

⁵³ Kenneth Rose also identifies “the troubling moral aspects of shelters” as a primary cause for public rejection. See the discussion below and Rose, *One Nation Underground*, 10.

nation with the densest population were the presumed likeliest targets. As an engineer in New York State pointed out, suburban or rural civilians needed less fortified shelters that were cheaper to build. He cited Jamaica, New York, as an example. Only “a hardened, hermetically sealed shelter would serve the purpose,” he argued, and such shelters would come at a much greater cost to these residents. In other words, survival would be significantly more expensive to obtain in the cities than outside of them.⁵⁴ As another civilian asked, comparing inner cities with their wealthier suburbs, “are poor districts less worth ‘saving’?... What about New York City? Is it written off?”⁵⁵ These were questions that officials in Albany and Washington could not answer.

Protest Energy

Protesters’ defiance of civil defense practices in public spaces was a direct and visible indicator of the fractured authority of civil defense. Many American cities, beginning in New York City and eventually spreading elsewhere, had a long history of

⁵⁴ Francis E. Csendes to Governor Nelson A. Rockefeller. March 17 1960, Reel 15, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

⁵⁵ Bruce Hunt to Governor Nelson A. Rockefeller, February 18, 1962, Reel 71, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC. These arguments often fell into the framework of rich/poor and white/black neighborhoods. Neither state-level nor the federal government’s civil defense programs seriously considered issues of economic (or racial) disparity in planning. Political scientist Andrew Grossman has explored the contours of racial protest against civil defense planning in the very earliest years of the federal program, but much work remains to be done on these topics. See Andrew D. Grossman, “Segregationist Liberalism: The NAACP and Resistance to Civil-Defense Planning in the Early Cold War, 1951-953,” *International Journal of Politics, Culture, and Society* 13 (Spring 2000). Similarly, John Kenneth Galbraith wrote a letter to Kennedy in 1961 saying shelters were “a design for saving [rural/suburban] Republicans and sacrificing [urban] Democrats,” cited in Weart, *Nuclear Fear*, 23.

questioning civil defense as a worthy route to survival. The annual Operation Alert (or Opal) drills, which simulated a nation-wide attack and were designed to put emergency response systems into practice, became a flashpoint for protest. As early as 1955, pacifists, radical labor leaders, and others were routinely arrested during annual mandatory drills. Their demonstrations in public spaces—on city streets, in front of Atomic Energy Commission facilities, or on military sites—made for small-scale media spectacles. Activist organizations celebrated the efficacy of such demonstrations, using attendance statistics, arrest reports, and public reaction to further their cause in publications.

But by the late 1950s, civil defense protest began to emerge from less radical corners of society. Mary Sharmat and Janice Smith, two New York City mothers, protested the city's 1959 Operation Alert drill, highlighting the danger that militarization posed to their young children. The pair eventually formed the Civil Defense Protest Committee (CDPC), an organization that galvanized a powerful contingent of angry parents. Using their children's playgrounds and schools as rallying points for planning for the protest against 1960 drill, the CDPC marshaled an image of fiercely protective maternalism, one that transcended partisanship or geopolitical concerns. That year, the Committee's members were part of the almost 2,000 civilians, parents, and children who occupied New York City streets and parks in passive resistance to the take-cover orders.⁵⁶

⁵⁶ Through interviews and archival research, historian Lawrence Witter claims that there were 1000 demonstrators in City Hall Park prior to the drill. He also notes that there were approximately 2000 demonstrators city-wide. See Lawrence S. Wittner, *The Struggle against the Bomb*, vol. 2, *Resisting the Bomb: A History of the World Nuclear Disarmament Movement 1954-1970* (Stanford, CA: Stanford University Press, 1997), 250. However, *New York Times* journalist Peter Kihss

The presence of children was notable: the protesters “guessed correctly that the police would not want to take parents, complete with children, playpens, trikes, bikes, and assorted childhood paraphernalia, into custody.”⁵⁷ In the following years, other women’s organizations, notably Women Strike for Peace, would pursue similar tactics to combat nuclearization.⁵⁸

Importantly, the organizations who used motherly protection to protest civil defense promoted themselves as “everyday” women who were otherwise unmotivated by political issues.⁵⁹ And, although they were supported in various ways by members of the established War Resisters League and the Women’s International League for Peace and Freedom, the CDPC adamantly chose a centrist position, wanting to “give a place in the

reported that only between 500 and 600 protesters demonstrated in City Hall Park. Peter Kihss, “Governor Thanks Workers in Alert,” *New York Times*, May 5, 1960.

⁵⁷ Garrison, *Bracing for Armageddon*, 98. For press reports, see Kihss, “Governor Thanks Workers in Alert”; and Wittner, *Resisting the Bomb*, 250-3.

⁵⁸ Women Strike for Peace (WSP) similarly marshaled their role as mothers, PTA members, churchwomen, and civic-minded citizens to combat nuclearization. First organized in November 1961 by a small group of Washington, DC women to combat the arms race and weapons testing, the WSP grew to include 100,000 people in 145 groups across the country by the following summer. See Wittner, *Resisting the Bomb*, 251. Wittner explains that these numbers were probably an exaggeration, but concedes that WSP “tapped enormous energy and talent among American women.” Local chapters of WSP protested used maternalist rhetoric to protest civil defense, fallout shelters, and, more broadly, weapons testing and proliferation. Sharmat and Smith were among early members; Garrison notes that about 50,000 women in 60 U.S. cities marched in November 1961. See Garrison, *Bracing for Armageddon*, 115. For WSP, see Amy Swerdlow, *Women Strike for Peace: Traditional Motherhood and Radical Politics in the 1960s* (Chicago, IL: University of Chicago Press, 1993).

⁵⁹ Wittner, *Resisting the Bomb*, 252-3. Again, Wittner believes this is an exaggeration of their actual constituency.

movement to all brands of political beliefs.”⁶⁰ Indeed, mothers and housewives lent an air of moderation to civil defense protests. These mainstream activists often distanced themselves from organizations like SANE, which frequently had to fend off accusations of radicalism and communist infiltration.⁶¹ And SANE, too, was acutely aware of needing to appear in the mainstream: a 1961 civil defense vigil planning memo noted that, in terms of dress, demonstrators were “urged that we do not want to set up barriers to getting our point across. (Please, no slacks on girls or women; no guitars!).”⁶² Thus in many forums, civil defense protesters tried to marshal a broad appeal, one that would not alienate more conservative segments of the public.

In early 1960, New Jersey Governor Robert Meyner called out civil defense leaders for “fostering a cruel deception on the American people” that underground shelters could provide a legitimate defense against a nuclear attack.⁶³ This oft-quoted

⁶⁰ Garrison, *Bracing for Armageddon*, 96.

⁶¹ See, for example, Milton S. Katz, *Ban the Bomb: A History of Sane, the Committee for a Sane Nuclear Policy* (New York, NY: Praeger, 1986), chapter 3.

⁶² Greater New York Council of the National Committee for a Sane Nuclear Policy, “Memo to Local Committee Regarding Civil Defense Vigil,” January 26, 1961; from the SANE, Inc. Records (DG 058), Swarthmore College Peace Collection. Available at *Nuclear New York* (blog), <https://sites.google.com/a/nyu.edu/nuclearnyc/antinuclear-movement-1950s-1960s/protest/anti-civil-defense-drill-protests> (accessed February 16, 2017); Garrison writes that the token arrests made during the 1960 Operation Alert were all men and women wearing pants. See Garrison, *Bracing for Armageddon*, 99.

⁶³ “A Governor Says No to Atomic Shelters,” *New York Post (Magazine)*, April 10, 1960. Meyner’s objections were cast directly in opposition to fellow governor Nelson Rockefeller’s shelter legislation proposal. The feud received national attention. See, for example, Darrell D. English to Governor Robert B. Meyner, April 1, 1960, Reel 15, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

phrase, along with other pithy statements made by high-profile office holders about the absurdity of civil defense policy and current strategy, lent mainstream authority to civil defense protest groups: within several months, the Civil Defense Protest Committee, the Committee for Nonviolent Action, and others were using Meyner's words in their promotional literature.⁶⁴ Later that year, other officials joined the chorus of dissenters. Among them was Democratic Senator Stephen M. Young of Ohio, who repeatedly referred to the national civil defense program as a "billion dollar boondoggle."⁶⁵

Rejecting the Nuclear Absurd

Alongside the civil defense protest that emerged in the early 1960s, a concurrent thread of public discussion wrestled with the philosophical and cultural meaning of survival in the Atomic Age. Although the state framed the family fallout shelter as a symbol of national survival, some Americans raised uncomfortable questions about individual survival at the expense of others.⁶⁶ As the general public became better informed about the dire consequences of what a nuclear war could look like by the late 1950s, it was clear that civil defense would not guarantee survival for all Americans.

⁶⁴ Civil Defense Protest Committee, "Civil Defense Protest: A Call to Sanity," 1960; Folder "Flyers and Bulletins, 1958 – 1962"; Box 2; Series III; Records of the Committee for Nonviolent Action (DG 017), Swarthmore College Peace Collection (hereafter CNVA-SPC); and Committee for Nonviolent Action, "Polaris Action Walk to Oppose the Fish of Death," 1960; Folder "Flyers and Bulletins, 1958 – 1962"; Box 2; Series III; CNVA-SPC. Also see Wittner, *Resisting the Bomb*, 264.

⁶⁵ Young, "Civil Defense"; "Senator Attacks Civil Defense as 'Billion-Dollar Boondoggle,'" *New York Times*, November 25, 1960. The latter report was reprinted as far as the Virgin Islands: "Senator Attacks Civil Defense as 'Billion Dollar Boondoggle,'" *Virgin Islands Daily News*, December 2, 1960.

⁶⁶ Rose, *One Nation Underground*, chapter 3; and Weart, *Nuclear Fear*, 23.

And, even if one were to survive, would the world that remained after a war be a world worth inhabiting? These dark discussions not only made Americans question the utility of civil defense, but they also undermined public faith in diplomatic strategies that purported to keep Americans safe. By the early 1960s, then, the American public increasingly believed that survival could not be assured by either civil defense or deterrence policies, and voiced vocal opposition to both.

Although the federal government seemed to come to an uneasy consensus about family fallout shelters as the best option for national civil defense, the public remained unconvinced.⁶⁷ For many, shelters revealed ugly truths about American individualism. As historian Kenneth D. Rose has explained at great length, “shelters... produced their own fallout, attracting a torrent of criticism and making them popular objects of vilification.”⁶⁸ As Americans rehearsed—or, more likely, imagined—their retreat into a fallout shelter, it raised a painful question: what would become of the neighbors and countrymen left behind? If, as policymakers had emphasized, building a shelter space was a part of good citizenship, were those who did not or could not prepare un-American? Should individuals feel any responsibility for the greater community, whether immediate neighbors or strangers at the shelter door? These questions delineated a line between

⁶⁷ It is important to note that, as Rose puts it, “the gun-thy-neighbor issue was a gold mine for editorialists, who worked themselves into a froth of moral indignation on the subject.” Rose, *One Nation Underground*, 97. Given such heightened media attention, the historiographical treatment of fallout shelters has generally reflected the fallout shelter debate in the press onto that of the public at large, sometimes uncritically. In this work, I have attempted to pair media representations of shelters with the voices of average Americans in order to give nuance to the established historiography.

⁶⁸ Rose, *One Nation Underground*, 81.

insiders and outsiders, one that was deeply troubling to some Americans.

If the shelter debate drew boundaries between good nuclear citizens and bad ones, the shelter door became the metaphoric object that separated these groups. Because supplies—food, water, and oxygen—and space within the shelter were precious, the shelter door served as a fortified barrier against outsiders. By the late 1950s, firearms took a place on the supply list for an adequately-stocked shelter. Edward A. Hawkes, a ballistics engineer, suggested that shelter builders needed “a suitable weapon of defense for our American homes,” to “cope with the lawless element” after a nuclear attack.⁶⁹ A 1961 *Time* story titled “Gun Thy Neighbor?” recounted a Chicago man’s desire to “mount a machine gun at the hatch to keep the neighbors out if the bomb falls... If the stupid American public will not do what they have to do to save themselves, I’m not going to run the risk of not being able to use [my] shelter.”⁷⁰ Aside from the violence of the nuclear explosion itself, some Americans assumed neighborly violence would be a necessary part of an attack scenario.

The discussion of guns contributed significantly to the development of ideas of “shelter morality,” a fiercely-debated topic, but many noted more than a hint of the absurd in these debates.⁷¹ Indeed, if official civil defense suggested that good nuclear citizens were those who prepared to retreat to their shelters in the event of a strike, critics argued that perhaps it was those Americans *behind* the shelter door that deserved

⁶⁹ Edward A. Hawks to Nelson A. Rockefeller, January 14, 1958, Folder 280.33, Box 30, Series L: Projects (FA348), NARPP-RAC.

⁷⁰ “Gun Thy Neighbor?,” *Time*, August 18, 1961.

⁷¹ Rose, *One Nation Underground*, chapter 3.

derision. Fictional accounts, articles, and editorials focused on the shelter door as a portal of moral corruption, one that made those who crossed the threshold willing to turn on their neighbors and fellow human beings. As Norine Zimburg of Flushing, New York, wrote, the “desensitization of human response to one another is morally insulting.”⁷² *The Twilight Zone*, a popular television show known for focusing on the unsettling aspects of human nature, seized on the theme of shelter morality. A 1961 episode called “The Shelter” portrays a well-respected neighborhood doctor who is forced to make the difficult decision to lock his neighbors and their children out of his family’s shelter during an attack. As his neighbors desperately pound on the locked door, and fight among one another, they confront the awful awareness that shelters may allow some “to survive, but with blood on [their] hands.” When the attack proves to have been a false alarm, the trauma of the event leaves all involved questioning what the Atomic Age has done to human morality.⁷³

Official rhetoric about the continuity of American life after an attack, after one emerged from the shelter, exacerbated this tension between the individual, their community, and the nation. Throughout the 1950s, federal officials reminded the public that the objective of civil defense was not only survival but also recovery after the attack. Using familiar Cold War language about preserving the American way of life, officials suggested that civil defense would help Americans win the ultimate conflict: the triumph of democratic society over socialism. But national recovery would depend on a great deal

⁷² Zimburg to Rockefeller, February 25, 1962.

⁷³ *The Twilight Zone*, “The Shelter,” season 3, episode 3, directed by Lamont Johnson, written by Rod Serling, CBS, September 29, 1961, broadcast.

of cooperation between those who survived, a condition that stood in stark contrast to the individualist conflict that could occur at the shelter door.⁷⁴ Still other American civilians believed that the focus on civil defense was a distraction from the failings of democracy at home. A Rockefeller constituent echoed a common refrain when he wrote that the government should “concentrate more on trying to get this democracy and people out of the holes - rather than into the holes.”⁷⁵

Some Americans recoiled at the violence inherent in official civil defense materials. In an attempt to appear grounded in fact and reason, civil defense films and print publications often included images of the destruction of actual homes, property, and mannequin stand-ins for American people. But such images were far from reassuring. Indeed, as historian Laura McEnaney points out, “the FCDA’s political viability and public acceptance depended on such scary reenactments, but the reportage could be only so vivid until it had the potential to backfire.”⁷⁶ Applying the knowledge that they had gathered over the last decade about the nature of nuclear war, the science of fallout, nuclear strategy, and the logic of preparation, Americans reached troubling conclusions about the short- and long-term feasibility of civil defense strategies. In doing so, they cast doubt on the very premise that the nation could survive, recover, and rebuild.⁷⁷ And, even

⁷⁴ See Rose, *One Nation Underground*, 98-100.

⁷⁵ Sidney Schwartz to Governor Nelson A. Rockefeller, May 11, 1961, Reel 14, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

⁷⁶ McEnaney, *Civil Defense Begins at Home*, 55.

⁷⁷ Robert Erhlich and Ruth H. Howes grouped civil defense planning concerns into principle categories of “short-term feasibility” of immediate survival strategies

if it could, many asked, would it be a world worth inhabiting?

In the most immediate sense, one's ability to survive the first minutes of an attack was dependent upon the serendipity of space and time. Individuals could not control or reliably predict how close they were to a target at any given point in their day-to-day lives. If, as would be true for many millions of urbanites, a civilian was close enough to a ground zero, no protection short of the very best—or fortunately positioned—blast shelter would ensure survival. Of course, this, too, depended upon having access to an adequate shelter in general. Yet because officials instructed individuals to build their family shelters as opposed to the state providing them, access was almost never a given.⁷⁸

Moreover, even if officials were able to predict how much advance warning they could offer to American civilians, survival depended upon the time it took to move indoors or underground. Civil defense films and publications showed families taking cover together, an unlikely condition in a society in which children, parents, and extended families so frequently spent their days apart. Shortly after he left office in 1961, Eisenhower voiced misgivings about this point specifically, stating that if he had a shelter available to him in a time of crisis but his family was not there, he “would just walk out.

(“band aid” solutions), and “long-term feasibility” or solutions to long-term hazards to survival. Ehrlich and Howes wrote at the height of the 1980s controversy over the possibility of nuclear winter. See Robert Ehrlich and Ruth H. Howes, “Political and Psychological Issues in Civil Defense,” in *Civil Defense: A Choice of Disasters*, eds. John Dowling and Evans M. Harrell (New York, NY: American Institute of Physics, 1987).

⁷⁸ Officials in New York State felt compelled to regulate the sale and construction of fallout shelters “to prevent deceptive and fraudulent advertising and to protect the public from being victimized by such advertising.” New York State Civil Defense Commission, “Administrative Order No. 15,” December 29, 1961, Reel 13, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

[He] would not want to face that kind of world.”⁷⁹

Other Americans pointed to the inadequacy of the post-attack assumptions about the hours and days following an attack.⁸⁰ Although official policy held that civilians should stock their shelters with two weeks of supplies, many individuals assumed that it would be much longer before the world above was inhabitable again. In the days and weeks following an attack, water, food, fuel, and medical supplies would be difficult to come by, even if pre-attack stockpiling programs were adequate. Moreover, public utilities could not be counted on to survive unscathed. Communication systems might be damaged, especially without reliable electricity.

In the weeks and months after an attack, moreover, survivors would experience other difficulties. American foodstuffs would likely be tainted by radiation, and the

⁷⁹ See Garrison, *Bracing for Armageddon*, 118. Walter Karp, “When Bunkers Last in Backyard Bloomed,” *American Heritage* (February - March 1980); and “Eisenhower Says He’d Quit Shelter If Family Exposed,” *Lakeland Ledger* (FL), October 18, 1961. Eisenhower had other personal misgivings about family fallout shelters: when his Gettysburg country club asked him to endorse a shelter construction project, Eisenhower privately doubted whether he “would really want to be living if this country of ours should ever be subjected to a nuclear bath.” See Benjamin P. Greene, *Eisenhower, Science Advice, and the Nuclear Test-Ban Debate, 1945-1963* (Stanford, CA: Stanford University Press, 2007), 255.

⁸⁰ See for example, Alfred Hassler to the Editor of the *New York Times* (not published), February 18, 1960, Reel 15, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC. Hassler was a leader of the Fellowship of Reconciliation. Similarly, see Committee for a Sane Nuclear Policy of Hicksville, NY, Petition to Governor Nelson A. Rockefeller, March 18, 1960, Reel 15, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

transportation networks used to deliver them might not be operable.⁸¹ American industry would take time to rebuild. And, in the end, recovery programs relied heavily on the successful assurance of continuity of government. In other words, coordinated national recovery would depend on the survival of a critical mass of governing leaders. Although the federal government invested great sums of money in building emergency seats of government outside of Washington, DC, it could never be guaranteed that officials would survive or that martial law would not take the place of democratic governance.⁸²

Without national and global systems of communication, governance, or information, what would it mean to be American? Would democracy or communism survive at all to claim the mantel of Cold War victory? Moving to evolutionary and geologic time, widespread nuclear war would have unpredictable consequences for Planet Earth. Like the changes potentially wrought by nuclear testing, war would cause changes in global biology. Changes caused by genetic mutation in plants, animals, and humans could persist for generations to come. Some suspected, too, that global nuclear war might upset meteorological, seismic, or oceanic systems.⁸³ And, as historian Kenneth Rose

⁸¹ One of Kahn's more controversial claims was that contaminated food could be fed to older people, because they would die of other causes before they developed fallout-related cancers. Menand, "Fat Man." Also see, for example, Eileen Peck to Governor Nelson A. Rockefeller, March 24, 1960, Reel 15, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC; and Hassler to *NYT*, February 18, 1960.

⁸² See Garrison, *Bracing for Armageddon*, 72-3.

⁸³ Lyndon Johnson was concerned that Sputnik meant that the Soviets could control oceans, drought and floods, and freeze the world. See Garrison, *Bracing for Armageddon*, 84; Garrison points to Michael S. Sherry, *In the Shadow of War: The United States since the 1930s* (New Haven, CT: Yale University Press, 1997), 214.

points out, many Americans began to think that “fallout shelters represented a devolution of the human species, and that humanity’s long climb out of the dark caves was now being reversed.”⁸⁴ When asked to outfit a prototype shelter in the late 1950s, the American Institute of Decorators used a wallpaper print reminiscent of Paleolithic cave drawings. Their decorative choice was likely a bizarre coincidence of postwar design trends, but it could have been a tacit gesture to a recurring thread of nuclear critique: that nuclear weapons, seemingly a symbol of humankind’s progress, could ultimately be the source of humanity’s regression.⁸⁵

These immediate and longer-term considerations led some Americans to conclude that the post-attack world would be brutish, difficult, and dangerous. In addition to firearms, imaginings of post-attack scenarios also featured looters, thugs, and cannibals.⁸⁶ When the Sunday evening drama anthology series *Playhouse 90* televised a version of Pat Frank’s *Alas Babylon* in April 1960, it cemented these images. “I never realized how horrible it would be until I saw the play last night,” a viewer noted.⁸⁷ Another was horrified, but not surprised, by “the rapid loss of elemental human decency by the

⁸⁴ Rose, *One Nation Underground*, 89.

⁸⁵ State of New York Civil Defense Commission, “Annual Report 1960,” (1960), photographic pages inserted between pages 48 and 49, Folder 294, Box 25, Subseries 2: Reference Files; Series 29: William J. Ronan (FA371), NARGR-RAC.

⁸⁶ For example, see Peck to Rockefeller, March 24, 1960.

⁸⁷ Eileen Peck to Governor Nelson A. Rockefeller, March 24, 1960, Reel 15, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

survivors.”⁸⁸ That is, if humanity survived at all. As one New Jersey resident darkly put it:

My life is not so precious to me that I should survive to see the mass murder all about me, for surely I would have to come up sooner or later [from a shelter] and count my dead. And there will be dead and the near dead and those longing for death. If this happens to my country it will have happened to other countries, other people, not just my people. I have no desire to live in a world screaming with pain.⁸⁹

Critics claimed that, perhaps worst of all, civil defense and its impossible promises gave Americans false hope. A New York City resident wrote in 1960, “there is only one incontrovertible fact - there is no protection possible against nuclear attack. The alternative is peace, and it is indeed cruel and irresponsible to delude the public into thinking otherwise.”⁹⁰ This line of thinking, which increased in currency over the course of the 1960s, reflects a growing distrust of federal leadership. And, importantly, the idea that politicians orchestrated a grand deception of the public in the interest of secretive international goals has had a lasting influence on how historians and later generations of Americans remember civil defense in the early Cold War.

Even accepting the promises of self-help civil defense, then, survival was never completely within the control of individuals. Coincidences of place, time, and a host of

⁸⁸ George W. Marshfield to Governor Nelson A. Rockefeller, April 7, 1960, Reel 15, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

⁸⁹ M. Gilbertsen to Governor Nelson A. Rockefeller, May 1, 1960, Reel 14, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

⁹⁰ Gloria Jennings to Governor Nelson A. Rockefeller, May 3, 1960, Reel 14, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC (emphasis original).

other contingencies could matter much more. Increasingly, as Americans realized that the likelihood of survival was out of their hands, they refused to buy into civil defense plans that purported to assure it. As one constituent wrote to an official, “cut out this shelter racket and stop wasting our money on it. And please stop thinking that we are a bunch of morons to be led around by the noses.”⁹¹

Although civil defense policy encouraged Americans to think about what they, as individuals, could do to assure their own survival, many found civil defense to be a constant reminder of the problems of larger national and international conflicts. Most explicitly, the strategic logic of deterrence directly linked the fortunes of individuals to that of the nation and the world.

Deterrence or Provocation?

Public opinion on civil defense programs also shifted in response to changing deterrence strategy in the late 1950s. Throughout most of the decade, U.S. nuclear policy relied on the deterring effect of massive retaliation. Massive retaliation dominated American grand strategy in the Eisenhower years, promoted by John Foster Dulles and others. In theory, this strategy prevented an enemy attack through the promise that any initial strike would be met with a retaliatory counterstrike that inflicted intolerable damage. And, as an organizing principle, it encouraged the stockpiling of weapons and the continued development of delivery systems including nuclear submarines, bombers, and medium-range and intercontinental ballistic missiles. By the end of the 1950s, with the advancement of missile delivery systems and nuclear-armed submarines and

⁹¹ Blanche E. Kopper to Governor Nelson A. Rockefeller, March 24, 1960, Reel 15, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

bombers, this triad was firmly established.⁹²

Weapons advancement, however, changed the forecast of war. By the end of the Eisenhower administration, both the United States and the Soviet Union arsenals had advanced to the point that, through stockpiling and the dispersal of warheads, they could leverage credible secondary strikes, even after devastating first blows—a state known at the time as nuclear plenty. No longer could deterrence provide a guarantee against a prolonged, destructive engagement and nuclear strategists worked to develop theories to accommodate these new conditions. By the late 1950s and early 1960s, strategists and advisors, including Henry Kissinger, Herman Kahn, and Robert McNamara, came to the conclusion that a foreign policy that rested on deterrence through massive retaliation posed too much risk and created geopolitical destabilization rather than stabilization. Instead, they argued, officials should make moves toward a policy that emphasized limits on war. These limits included refraining from targeting civilian populations and using smaller nuclear warheads to destroy military installations. Doing so would bolster the credibility of a nation's threat posture and provide an incentive for an enemy to adopt the same limits. If the latter aspect was successful, it would provide a higher degree of protection for American civilians should general deterrence fail.⁹³

⁹² Using Robert Powell, "Nuclear Deterrence Theory, Nuclear Proliferation, and National Missile Defense," *International Security* 27, no. 4 (2003).

⁹³ See, for example, Herman Kahn, *On Thermonuclear War* (Princeton, NJ: Princeton University Press, 1960); Defense Secretary Robert McNamara, "University of Michigan Commencement," Ann Arbor, MI, June 16, 1962; Henry Kissinger, interview by Mike Wallace, *The Mike Wallace Interview*, ABC, July 13, 1958; For secondary literature, see Lawrence Freedman, "I Exist; Therefore I Deter," review of *Nuclear Fallacy: Dispelling the Myth of Nuclear Strategy* by Morton H.

Many Americans had long objected to massive retaliation as a guiding policy philosophy, arguing that it used civilians as bargaining chips in a high-stakes game of chance. Should deterrence fail, American civilians would most certainly pay the price, whether by blast and fire or indirectly through fallout. But as new versions of deterrence theory gained attention in the early 1960s, the meaning of deterrence (and the possibility of its failure) took on new complexities. On one hand, counterforce strategy, which focused on bombing military targets, presented a less horrific kind of war, with fewer civilian casualties and a limit to prolonged conflict. In 1960 Kahn insisted that, given an adequate civil defense program, the majority of Americans would emerge from the war and “the survivors [would] not envy the dead.”⁹⁴ On the other hand, such theories seemed to gesture toward policymakers’ willingness to engage in nuclear war.

By the late 1950s, in response to changing strategic circumstances, policymakers began using the language of deterrence to discuss civil defense policy.⁹⁵ The flurry of civil defense studies that appeared following the 1956 Holifield hearings contributed to this shift, clearly identifying civil defense as an equal pillar to strategic offense and military defense in national security. As the Gaither Report put it, “active defense cannot alone provide adequate protection to the civilian population... a shelter program would

Halperin and *Blundering into Disaster: Surviving the First Century of the Nuclear Age* by Robert McNamara, *International Security* 13, no. 1 (1988).

⁹⁴ Kahn, *On Thermonuclear War*, 40-95; also see Menand, “Fat Man.”

⁹⁵ While perhaps they implied it in earlier discussions, policymakers did not frame civil defense as an aid to deterrence explicitly until the late 1950s.

forcibly augment our deterrent power.”⁹⁶ But because the outcome of deterrence strategy weighed so heavily on the fortunes of the civilian population, deterrence theory took on new meaning for average Americans.⁹⁷

By the time of Eisenhower’s reorganization of civil defense in 1958, survival, if it had not been already, became an issue more often discussed in hypothetical and grossly general terms: ten million people would die in this scenario, twenty million in that one.⁹⁸ In the earlier days of the Atomic Age, “national survival” was a matter of protecting key cities and resources. By the early 1960s, the rhetoric had changed: “under certain ghastly circumstances, [civil defense] *might* save millions of lives—and the nation.”⁹⁹ By this time, national survival meant something quite different: have a larger percentage of one’s civilians survive a war than one’s enemy. Collateral damage, or “overkill,” was a given. The question became, which nation can survive better? If a war should start, civilians would die. Aside from hard truths and straight talk, civil defense was the only assurance

⁹⁶ Security Resources Panel Committee, “Deterrence & Survival,” 18, 22.

⁹⁷ Andrew Grossman argues that policymakers needed to establish their legitimacy by the public’s acceptance of deterrence theory. Andrew D. Grossman, *Neither Dead nor Red: Civil Defense and American Political Development During the Early Cold War* (New York, NY: Routledge, 2001).

⁹⁸ 1958 or 1959 Operation Alert concluded that 16 strikes in New York State would immediately kill 1.2 million New Yorkers, 3.6 million would die from fallout, and 4 million more would be disabled by fallout. Nelson A. Rockefeller, Speech to Women’s Civil Defense Seminar, December 3, 1959, Folder 1255, Box 47, Subseries 6: Meetings, Luncheons, Dinners; Series 34: Diane Van Wie (FA373), NARGR-RAC. In 1955’s Operation Alert, 8.5 million Americans perished and 8 million were wounded. See Garrison, *Bracing for Armageddon*, 77. In 1956 the number of casualties had risen to 20 million. See *ibid.*, 78. Garrison calls all of these numbers “absurdly low.” Or, as Kahn put it, “in most cases we can expect as many casualties as the enemy cares to inflict.” Kahn, *On Thermonuclear War*, 112.

⁹⁹ Editorial, “Use and Limit of Shelters,” *Life*, January 12, 1962 (emphasis original).

policymakers could give citizens.

For civil defense supporters, shelters had both a practical and a strategic value. On one hand, shelters were a practical physical fortification, designed to save lives during a crisis. Since at least the early 1950s, the public, press, and policymakers assumed that nuclear war would hit civilian targets. Indeed, a 1952 civil defense poster series had warned, “make no mistake... civilians can be bombed!”¹⁰⁰ However, the strategic value was less concrete: as policymakers viewed it, the act of building shelters could quell civilian fear and anxiety and signal to an enemy that the United States would not easily be defeated. As the *National Review* put it in 1961, “the better our protection against nuclear blasts, the less effect Khrushchev will produce by threatening nuclear war.”¹⁰¹ In this strategic light, civil defense, like the proliferation of nuclear weapons and missiles, was seen as a deterrent.

The deterrence rationale sat uncomfortably within the public discussion of civil defense, as it seemed to equate individual civilian lives and homes with the military arsenal. In 1959, T. E. Phipps, an analyst from the Massachusetts Institute of Technology worried, “a ‘defense race’ ... could be as unstabilizing to deterrence as an arms race.”¹⁰² A few years later, a *Life* editorial argued, “there is unwisdom, if not added danger in an over-ambitious shelter program... it might accelerate the arms race.”¹⁰³

¹⁰⁰ Alert America poster 1B-6; Staff Member and Office File: Federal Civil Defense Administration; 040 File 2 of 2; Truman Papers, Truman Library.

¹⁰¹ “Fallout Shelters - the Word,” *National Review* 11, no. 24 (1961).

¹⁰² Hanson W. Baldwin, “Civil Defense Debate,” *New York Times*, January 8, 1962.

¹⁰³ Editorial, *Life*, January 12, 1962.

Policymakers, however, went to great lengths to frame deterrence, and its connection to civil defense, as something ordinary and understandable to the average American. President Kennedy often used the word *insurance* in the place of deterrence when addressing the public, perhaps as a way to distance the idea from its geopolitical significance.¹⁰⁴ Indeed, insurance was a concept that would have been familiar to civilians with homeowners' insurance or life insurance policies. So, when Kennedy published an open letter to the American public in *Life* in 1961, his plea that the public "prepare for all eventualities" dovetailed with established ideas of protecting one's family and assets in the event of a catastrophe of any kind.¹⁰⁵ Some Americans, such as Arthur L. Smith of Mechanicsville, New York, adopted this language easily, saying, "we generally believe in insurance, this is insurance against war."¹⁰⁶

Officials also used the term *blackmail* to discuss changing ideas about nuclear strategy. As a word that had familiar connotations outside the realm of high politics, blackmail was an easy idea to apply to the convoluted logic of nuclear deterrence.

¹⁰⁴ In President Kennedy's special State of the Union address in May 1961, he used deterrence and insurance in equal frequency. However, *deter*, *deterrent*, and *deterrence* are used to discuss the strategy, while *insure* and *insurance* are used to discuss civilian action. JFK goes so far to call civil defense "survival insurance." John F. Kennedy, "Special Message to the Congress on Urgent National Needs," May 25, 1961, John F. Kennedy Presidential Library and Museum, https://www.jfklibrary.org/Research/Research-Aids/JFK-Speeches/United-States-Congress-Special-Message_19610525.aspx (accessed February 17, 2017). The *Life* editorial early the next year used the same language: Editorial, *Life*, January 12, 1962.

¹⁰⁵ John F. Kennedy, "A Message to You from the President," *Life*, September 15, 1961.

¹⁰⁶ Arthur Smith to Governor Nelson A. Rockefeller, June 29, 1959, Reel 14, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

However, unlike insurance, blackmail is a loaded term, carrying more sinister connotations of nefariousness or corruption. As the political scientist Richard Betts puts it, “to most people, deterrence sounds far more innocent than blackmail.”¹⁰⁷ When the general public used the term nuclear blackmail, they almost always used it to signify Soviet actions. The willingness to call Soviet strategy blackmail fit into the framework of Cold War moral competition, while, at the same time, removing any notion of neutrality or detachment from the idea of deterrence. But a Cold War critic could just as easily apply the term as judgment of American diplomacy. In this way, *blackmail* could also complicate the vision of the United States as a victim of senseless bullying, revealing that it, too, was a perpetrator of blackmail.

Aside from the rhetorical manipulation of survival and deterrence, the public debate over civil defense revealed its strategic contradictions.¹⁰⁸ Among civilian commentators, it was unclear whether civil defense could deter an attack, or if it actually *encouraged* a nuclear confrontation with the Soviet Union.¹⁰⁹ On one hand, civil defense bolstered the credibility of the United States’ strategic posture. As a *National Review* article in favor of shelters argued, “if it comes to [war], the President will find it easier to touch the red button if he knows that the destructive consequences of a nuclear exchange

¹⁰⁷ Richard K. Betts, *Nuclear Blackmail and Nuclear Balance* (Washington, DC: The Brookings Institution, 1987), 4.

¹⁰⁸ For a good overview of how these contradictions appeared in popular press, see Louis Cassels, “Is CD Survival Insurance or Billion Dollar Failure,” *Star-News*, December 19, 1961.

¹⁰⁹ Frances Egelman to Governor Nelson A. Rockefeller, March 12, 1960, Reel 15, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

have been, in our country, greatly reduced by the shelter program.”¹¹⁰ The psychologist Erich Fromm, however, was troubled by the strategic consequences of credibility, arguing, “what we gain in political deterrence we pay for in increased probability of war.”¹¹¹ Some commentators went further, suggesting that civil defense undermined the logic of deterrence. As one letter-writer to the *Christian Science Monitor* argued “that to invest in [fallout] shelters is to admit to the collapse of the doctrine of deterrence by nuclear weapons. The supposed entire justification for nuclear weapons is that they shall never have to be used. To build shelters is to admit, however indirectly, that the deterrent does not deter.”¹¹²

Americans had been conditioned for over a decade to believe that national security was based on preventing the use of nuclear weapons entirely and many still believed that nuclear war was a condition to be avoided at all costs.¹¹³ As one New Yorker wrote in 1960, “there could be no ‘victory’ in such a war and... we have a responsibility to all the people of the world and to future generations to see that no such

¹¹⁰ “Fallout Shelters - the Word,” *National Review*; and Editorial, *Life*, January 12, 1962.

¹¹¹ “Fallout Shelters - the Word,” *National Review*. This was echoed by Linus Pauling in Linus Pauling to Corning Knot, Chairman of the National Parents Committee for Civil Defense, December 20, 1960, Special Collections & Archives Research Center, Oregon State University, <http://scarc.library.oregonstate.edu/coll/pauling/calendar/1960/12/24-x1.html> (accessed February 16, 2017).

¹¹² Norman K. Gottwald, “Letter to the Editor: Compulsory Shelters?,” *Christian Science Monitor*, n.d., in Reel 15, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

¹¹³ Eisenhower’s grand strategy depended upon avoiding nuclear war at all costs. See Robert R. Bowie and Richard H. Immerman, *Waging Peace: How Eisenhower Shaped an Enduring Cold War Strategy* (New York, NY: Oxford University Press, 1998).

war occurs.”¹¹⁴ Rather than making the public more comfortable with the idea of deterrence, by the late 1950s and early 1960s, civil defense served to remind Americans that war was possible and that their lives were fragile contingencies in a larger political strategy. As historian Laura McEnaney points out, “each Operation Alert confirmed the impossibility of protecting civilians from nuclear attack.”¹¹⁵ Given these misgivings about the strategic result of civil defense, many Americans came to the same conclusion as antinuclear advocate Linus Pauling when he wrote that “I feel sure that more American lives would be saved by devoting our funds to steps to decrease the probability of war than by devoting the same funds to civil defense.”¹¹⁶

Ultimately, to debate whether civil defense served as a deterrent to or a provocation for Soviet attack was to reveal the difficulty in calculating Cold War strategic assumptions. Deterrence peacekeeping relied on the predictability of Soviet leaders’ actions. But 1950s anticommunist crusades had cast Soviet leaders (and their operatives) as duplicitous, wily, and altogether unpredictable. Would Khrushchev bother to launch an attack on the United States if he knew that he could only kill some fraction of Americans who hadn’t prepared? Would Americans’ participation (or non-participation) in civil defense even be a point of consideration? Moreover, civil defense as deterrence could only succeed if other variables of Cold War weapons competition remained static. As an editorial in favor of a fallout shelter program stated in the

¹¹⁴ Robert Wayland-Smith to Governor and Mrs. Rockefeller, April 16, 1960, Reel 15, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

¹¹⁵ McEnaney, *Civil Defense Starts at Home*, 51.

¹¹⁶ Pauling to Knote, December 20, 1960.

Providence Journal in early 1958, “a fallout shelter program is increasingly beginning to look like an essential component of our deterrent power [because] our capacity for deterrence through punishment has been strikingly diminished by Soviet progress toward atomic parity and missile superiority.”¹¹⁷ The need for civil defense followed a logic of deterrence that was a constantly-moving target.

Some Americans questioned whether nuclear war could be prevented at all, despite the best intentions of policymakers. As Kennedy told Congress in 1961, “the history of this planet, and particularly the history of the twentieth century, is sufficient to remind us of the possibilities of an irrational attack, a miscalculation, an accidental war... which cannot be either foreseen or deterred.”¹¹⁸ By the late 1950s, popular media reminded Americans that nuclear war could be started due to miscommunication, technological malfunction, human error, or errant human evil. Pat Frank’s *Alas, Babylon*, published in 1959, recounted in gripping detail the aftermath of a global nuclear holocaust instigated by a Navy maneuver gone awry.¹¹⁹ A similar plot drives the slow apocalypse of 1959’s *On the Beach*. As one character speculates, the human race was meeting its end because “some poor bloke saw something on a radar screen... so he

¹¹⁷ “Fallout Shelters Are Part of Our Defenses,” January 22, 1958. This article emphasized the findings of the Gaither Report and certainly bought into the missile gap suggested therein.

¹¹⁸ Kennedy, “Special Message to the Congress on Urgent National Needs.”

¹¹⁹ Pat Frank, *Alas, Babylon* (Philadelphia, PA: J.B. Lippincott, 1959). Quaker George W. Marshfield noted the reach of the “Playhouse 90” television presentation of the drama in 1960. See George W. Marshfield to Governor Nelson A. Rockefeller, April 7, 1960, Reel 15, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC. See *Playhouse 90*, “Alas, Babylon,” season 4, episode 14, directed by Robert Stevens, CBS, April 3, 1960.

pushed a button and the world went crazy.”¹²⁰ Within a few years, the trope of accidental nuclear war had solidified in popular culture. In the final scene of *Fail-Safe*, the President of the United States admits with regret that “we let our machines get out of hand.”¹²¹ The satirical counterpart to *Fail-Safe*, *Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb*, takes the technology-gone-wrong theme even further: a deadly combination of volatile personalities and the human struggle with technology brings the world to nuclear holocaust.¹²² Thus, the American public imagination could easily envision nuclear war as a possibility even if strategists were able to accurately deduce Soviet plans.

By the early 1960s, doubts about the efficacy of civil defense policies, deterrence theory, and nuclear survival in general, had gained significant traction. Like those Americans uncomfortable with the idea of citizens as agents of deterrence, an increasingly vocal contingent of nuclear nihilists came to the conclusion that the only way to assure survival on a local, national, or global scale was by pursuing peace. As many Americans pleaded, “our way to real safety is Peace. Please sir, concentrate your efforts on converting our defense efforts to peaceful ones.”¹²³

¹²⁰ *On the Beach*, directed by Stanley Kramer, Los Angeles, CA: Lomitas Productions, Inc., 1959, film. Based on the novel by Nevil Shute, *On the Beach* (London: Heinemann, 1957).

¹²¹ *Fail-Safe*, directed by Sidney Lumet, Los Angeles, CA: Columbia Pictures, 1964, film. Based on the novel by Eugene Burdick and Harvey Wheeler, *Fail-Safe* (New York, NY: McGraw-Hill, 1962).

¹²² *Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb*, directed by Stanley Kubrick, Los Angeles, CA: Columbia Pictures, 1964, film.

¹²³ Gilbertsen to Rockefeller, May 1, 1960.

Peace, of course, had a fluid, changing definition. For some, peace meant the restoration of diplomatic ties with the Soviet Union and the end of militarized proxy conflicts. As a real estate manager in NYC put it, “I for one would rather take a chance working out an agreement with the communists than building a shelter with the dim hope of surviving an atomic war.”¹²⁴ For others, however, global peace in the future would depend on the eradication of weapons that made global catastrophe possible. Recalling the painful lessons from *On the Beach*, Milton Heimlich of New Rochelle, New York argued, “we desperately need peace and security... and nothing is going to give it to us but abolition of the atom bomb.”¹²⁵ For these individuals, peace could only come with the wholesale abolition of nuclear weapons.

And Then Came Cuba

The first two years of John F. Kennedy’s presidency were years of crises, or “twilight regions between peace and war.”¹²⁶ When Premier Khrushchev blockaded West Berlin in June 1961, President Kennedy threatened war to defend NATO allies. In the year that followed, seeing no immediate resolution to ongoing negotiations over a permanent test ban and an increasingly insecure international environment, the Soviet Union and the United States ended the moratorium on nuclear weapons testing that had been in place in 1958. Then, in October 1962, tensions came to a head over the

¹²⁴ M. Kenneth Boss to Governor Nelson A. Rockefeller, March 18, 1960, Reel 15, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

¹²⁵ Milton Heimlich to Governor Nelson A. Rockefeller, April 23, 1960, Reel 15, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

¹²⁶ Betts, *Nuclear Blackmail*.

clandestine placement of Soviet nuclear warheads in Cuba. During these hottest days of the early Cold War, “all Americans got a taste of life on death row.”¹²⁷ The Cuban Missile Crisis exists in textbooks and public memory as a turning point in the early Cold War; a terrifying moment that, once resolved, contributed to a significant lessening of Cold War extremism.

Viewing the Cuban Missile Crisis as a watershed moment, however, obscures the threads of continuity that persisted both before and after the crisis itself. Indeed, historians have had a great deal of difficulty accounting for the reaction of the average American to the Cuban Missile Crisis because public opinion polling was spotty and inconsistent.¹²⁸

First, one must look to the months leading up to the Cuban crisis. As mentioned above, the Kennedy administration was caught off guard by the shelter fervor that followed the Berlin crisis and Kennedy’s sudden support of civil defense programs. The federal government did not anticipate that Kennedy’s civil defense speeches would “[shock] Americans like the sight of a ghost.”¹²⁹ Kennedy had promised Americans that every civilian would soon “know what steps he can take without delay to protect his family in case of attack,” but it took over a half a year for the federal government to

¹²⁷ George, *Awaiting Armageddon*, 1.

¹²⁸ Tom W. Smith notes that “fear of war probably peaked during the last week of October 1962, but there are no national data to confirm that idea,” but that small regional studies suggest “a large rise in thinking about nuclear matters” around this time. Tom W. Smith, “Trends: The Cuban Missile Crisis and U.S. Public Opinion,” *The Public Opinion Quarterly* 67, no. 2 (2003): 267.

¹²⁹ Weart, *Nuclear Fear*, 22.

provide an instructional booklet on shelters.¹³⁰ By that time, the tensions in Berlin had diminished, much of the public debate about the morality of shelters had died down, and interest in the program had waned. Unsurprisingly, by the time Kennedy announced the Cuban quarantine, only a tiny percentage of Americans had built a shelter.¹³¹ For those who had not, it seemed too late to do so. Moreover, as Alice George notes, the crisis led “the public [to realize] that the emperor wore no clothes: the U.S. civil defense program was meaningless.”¹³²

Cognitive dissonance can also help explain why so many Americans supported the idea of civil defense in multiple public opinion polls, but did not act on these feelings.¹³³ Indeed, the history of the Cuban Missile Crisis is rife for psychological analysis.¹³⁴ Weart says: “except for brief periods of immediate crisis, the public will continue to be dominated by the normal human tendency to avoid facing terrible

¹³⁰ John F. Kennedy, *Life*, September 15, 1961; and as Weart notes, the content of the “long-awaited booklet... had [been] beaten... into a featureless mush.” Weart, *Nuclear Fear*, 23.

¹³¹ Weart says “only about one in eight Americans took any practical war precautions during the crisis. Only about one in fifty had built even the crudest kind of fallout shelter,” although he does not provide citations, Weart, *Nuclear Fear*, 25; Rose uses a 1962 study to say “about .4%” see Rose, *One Nation Underground*, 187.

¹³² George, *Awaiting Armageddon*, 1. Additionally, for civil defense discussions during the Crisis, see Rose, *One Nation Underground*, chapter 6.

¹³³ Weart, *Nuclear Fear*, 25. Laura McEnaney also notes the disconnect between being aware of civil defense policies and acting on them: “it was one thing, after all, to endorse anticommunism and military readiness, and quite another to build household monuments to such ideologies.” McEnaney, *Civil Defense Starts at Home*, 63.

¹³⁴ Thomas Hine put it in pithy terms: the shelter debate “prompted far more introspection than excavation.” Thomas Hine, *Populuxe* (New York, NY: MFJ Books, 1999), 138.

possibilities, accompanied by scarcely acknowledged fantasies that are still less in touch with reality.”¹³⁵ While anecdotal accounts of the Cuban episode “emphasize a sense of dread and doom,” the public opinion polling data that is available suggests that most Americans took the crisis in stride, and “presented no evidence that people were traumatized or debilitated by worries over the crisis.”¹³⁶

For many Americans, the choice to support or disengage from civil defense was made long before the Cuban crisis.¹³⁷ By 1962, civil defense had undergone several moments of renewed public interest, but the mounting criticism against it had all but discredited it as a program worth salvaging. Faced with a staggeringly complex and bleak prospect of war and its potential aftermath, many Americans simply checked out. That is not to say that the Cuban Missile Crisis did not incite real fear and worry. But the Americans that had chosen, for one reason or another, to opt out of civil defense prior to the Crisis were unlikely to take up its banner in the final hours.

The Cuban Missile Crisis undermined the reputation of civil defense. The few Americans who still supported the idea of a civil defense program were horrified that the public and leadership remained apathetic and uninterested. One 1962 Thanksgiving radio editorial in Fort Knox, Kentucky derided “empty slogans or emotional chaos,” and “pseudo-intellectual banter between coffee drinkers or bar flies” that stood in place of “a central body... with sufficient authority and resources” that could address the problem of

¹³⁵ Weart, *Nuclear Fear*, 29.

¹³⁶ Smith, “Trends,” 272-74.

¹³⁷ George, *Awaiting Armageddon*, 2. Rose, *One Nation Underground*, 192.

national public safety.¹³⁸ These were the same calls that proponents of public safety had been using for years, and the Cuban crisis did little to alter them.

The official presence of civil defense programming waned after 1962 as well. While not in direct attribution to the Cuban crisis itself, the national Operation Alert program was canceled in 1962. Local civil defense offices also faced instability in the wake of the crisis. Portland, Oregon, a city that throughout the 1950s was a leader in metropolitan civil defense planning, canceled its entire civil defense program in 1963. Having never needed to execute its plans in wartime, the city's civil defense planners celebrated the end of the program with a sheet cake bearing the words "a good job well done."¹³⁹

¹³⁸ Byron Cowan, Radio Broadcast Editorial, "National Civil Defense Corps Now - Peace Corps Later," November 21, 1962, Reel 13, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

¹³⁹ City of Portland Archives, "Civil Defense Programs in Portland, 1936-1963: A Documentary History from the Collections at the City of Portland Archives," *n.d.*, <https://www.portlandoregon.gov/archives/article/324746> (accessed February 16, 2017).

EPILOGUE

“MILLIONS TO MEND NOT TO MAIME [SIC]”¹:

RENOUNCING THE NUCLEAR IN NUCLEAR CITIZENSHIP

A domestic calm rarely existed during the postwar era; Americans fought an ongoing battle over the meaning of the Cold War in their personal lives. Between evolving concerns about the scientific nature of nuclear weapons, the repeated waxing and waning of international tensions, and heated domestic debates about public safety, civilians had much to worry about throughout the early Cold War—and they did worry. And as Americans worked through these anxieties, they constructed and reconstructed what it meant to be a citizen in the Atomic Age. The experiences of the Berlin and Cuban Crises only served to compound ongoing public ambivalence about nuclear weapons in American life.

But, as this exploration has shown, nuclearization also raised uncomfortable questions about American democracy and national community. In its capacity as an individualist enterprise, based on self-help and privatization, civil defense seemed to repudiate traditions of community and the common good. As Americans negotiated “morality at the shelter door,” they discovered an uncomfortable choice: survival for oneself and one’s family or for one’s neighbors and countrymen. The ugly public debates that raged over this issue highlighted a major fracture in American political culture in the

¹ M. Gilbertsen to Governor Nelson A. Rockefeller, May 1, 1960, Reel 14, Subseries 1: First Administration, 1959-62, Series 37.1: Office Subject Files, 1959-1973 (FA439), NARGR-RAC.

early Cold War: is the United States a nation of individuals, united by their individualism? Or is the United States a community of actors who promote the collective good? As these questions rose to the surface of public debate, they were intensified by accusations that civil defense could not save individuals *or* the nation, and perhaps that preserving the nation was not worth the many costs of survival.

Because nuclear weapons lay at the root of these heated and painful conversations, many Americans began to renounce *the nuclear* in their demands for peace, safety, and survival. By the early 1960s, after over a decade of working to find a place for nuclear weapons in the rubric of cultural citizenship, many Americans came to the simple conclusion that nuclear weapons were an intolerable threat to the very survival of the national community. They called for peace via nuclear abolition and disarmament.

But such calls for peace begged the question of how to achieve it. Americans had expressed interest in a test ban since the mid-1950s because it would prevent new radioactive fallout from entering the global ecosystem. For these individuals, fallout alone was a compelling reason to push back against nuclearization. The temporary test moratorium that began in 1958 gave civilians cause to think that a permanent solution was possible and many looked to a ban on nuclear testing as the first step to eventual total disarmament. Indeed, weapons control had been the long-term objective of activist organizations such as the Committee for a Sane Nuclear Policy and Committee for Non-Violent Action *and* leaders such as President Eisenhower.² However, it was not until the early 1960s that public demands for a weapons test ban and disarmament became

² Robert R. Bowie and Richard H. Immerman, *Waging Peace: How Eisenhower Shaped an Enduring Cold War Strategy* (New York, NY: Oxford University Press, 1998), 255.

inseparable from the idea and language of peace.³

By the early 1960s, *peace* had become virtually synonymous with *disarmament*. To highlight an example, in response to the Soviet resumption of nuclear testing in September 1961 and the superpowers' inability to come to a test ban proposal, in March 1962, President Kennedy announced that the United States would resume testing. The move incited powerful protest across the nation, most notably in a number of demonstrations across the nation on Easter Sunday. For several years, SANE and the American Friends Service Committee had been staging marches for peace on Easter, modeled on similar "Ban the Bomb" events in Britain, Japan, and Denmark.⁴ That Easter, in April 1962, thousands more Americans walked, drove, and rallied for peace in several areas of New York City, Long Island, Philadelphia, Chicago, Boston, Connecticut, and likely elsewhere.⁵ But as historian Lawrence Wittner argues, the popular focus on banning the bomb was a tradeoff: so thoroughly had antinuclearism become a mass movement that earlier organizational objectives, such as world government or international control of nuclear weapons, had been cast aside.⁶

In August 1963, after over eight years of difficult negotiation in the United

³ Lawrence S. Wittner, *The Struggle against the Bomb*, vol. 2, *Resisting the Bomb: A History of the World Nuclear Disarmament Movement 1954-1970* (Stanford, CA: Stanford University Press, 1997), 247.

⁴ "Brochure for Easter March for Peace," 1961, Printed Ephemera Collection on Organizations, PE 036, Box 73, Tamiment Library/Robert F. Wagner Labor Archive. Available at *Nuclear New York* (blog), <https://sites.google.com/a/nyu.edu/nuclearnyc/antinuclear-movement-1950s-1960s/protest/easter-marches> (accessed February 16, 2017).

⁵ "Peace Marchers Rally in Midtown," *New York Times*, April 22, 1962.

⁶ Wittner, *Resisting the Bomb*, 59-60.

Nations, Geneva, and Moscow, the United States, Great Britain, and the Soviet Union signed the Limited Test Ban Treaty (LTBT) of 1963. It banned testing in the atmosphere, outer space, and under water with its “principle aim the speediest possible achievement of an agreement on general and complete disarmament... which would put an end to the armaments race and eliminate the incentive to the production and testing of all kinds of weapons, including nuclear weapons.”⁷ Notably, the agreement did not prohibit ongoing weapons testing underground. However, it did make a significant step toward “[putting] an end to the contamination of mans [sic] environment by radioactive substances.”⁸

The public reaction to the LTBT was mostly positive in the United States. An editorial in the *New York Times* noted of the treaty, “there must be more steps on the long journey to world peace, but the next may be a little easier because of this one.”⁹ Others saw the LTBT as a vindication of Adlai Stevenson’s failed 1956 presidential bid, which was derailed in part by his support for a nuclear test ban. Stevenson was appointed ambassador to the United Nations in 1961 and he was instrumental in continuing to press for a ban in his years in that post. As his supporters wrote in the fall of 1963 as the LTBT gained endorsement, “the United States has caught up to your thinking.”¹⁰ Women Strike for Peace sent flowers to Stevenson’s office and the *New York Post* proclaimed it was

⁷ “Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water,” Moscow, August 5 1963.

⁸ Ibid.

⁹ “The Treaty Is Born,” *New York Times*, October 8, 1963.

¹⁰ Howell Baum to Adlai Stevenson, U.S. Ambassador to the United Nations, September 24, 1963; Nuclear Test Ban Treaty; 1962-1963; Adlai E. Stevenson Papers, Box 350, Folder 12; Public Policy Papers, Department of Rare Books and Special Collections, Princeton University Library (hereafter AES-PUL).

“Adlai’s hour.”¹¹ When the US Senate finally ratified the LTBT in September, Stevenson was relieved:

I have been working for an agreement to stop nuclear testing since the 1956 Presidential campaign. So this is a happy day for me. And I think this first step on the long, rocky road to safety and sanity is an historic day for the world.¹²

The notion was that the LTBT was a watershed moment in the journey toward peace, whatever that may be.

If civilians and antinuclear organizations considered the LTBT to be a stepping-stone to the eventual goal of peace, how can we explain why, after 1963, the public turned its attention away from the threat of nuclear weapons? Over the years, scholars have pieced together a variety of explanations. Some, like historian Dee Garrison, point to fizzled activist energy. After the LTBT, she notes that “many weary activists momentarily retreated, burned-out and exhausted after their long years of struggle.”¹³ But this explanation alone does not account for the decline of the urgent, powerful, and widespread arguments that connected peace and antinuclearism that had emerged just years earlier.

Instead, for some Americans, the most egregious aspect of nuclearization was the hazard of peacetime nuclear fallout. For them, the LTBT resolved the most immediate

¹¹ Adlai E. Stevenson to Women Strike for Peace, September 25, 1963; Nuclear Test Ban Treaty; 1962-1963; Box 350, Folder 12; AES-PUL; James A. Wechsler, “Adlai’s Hour,” *New York Post*, September 24, 1963.

¹² Adlai E. Stevenson, “Note to Correspondents of the Us Delegation to the General Assembly,” September 24, 1963; Nuclear Test Ban Treaty; 1962-1963; Box 350, Folder 12; AES-PUL.

¹³ Dee Garrison, *Bracing for Armageddon: Why Civil Defense Never Worked* (New York, NY: Oxford University Press, 2006), 133.

threat to personal safety: the ongoing radioactive contamination of the atmosphere. As long as leaders were able to prevent a hot war, as they had proven capable of doing a year earlier during the Cuban Crisis, global levels of radiation would slowly dissipate.

But what, then, of Americans who had come to equate disarmament with peace? Historian Paul Boyer suggests that by the mid-1960s, the United States faced more pressing questions of peace.¹⁴ The American civil rights struggle took on new and urgent tones in these years, and given the frequent and overlapping constituencies of disarmament, human rights, peace, and civil rights groups, many of the same actors directed their activist energy there. Moreover, protests against American engagement in Vietnam in the late 1960s subsumed earlier antinuclear protest. For an American public once again facing a draft of its young men, the concept of “peace” became tied to the ongoing hot war, rather than the hypothetical problems of a cold one.

For some observers in the 1960s and 1970s, diplomatic solutions to assure peace seemed to be making progress. In 1972, the Soviet Union and the United States signed the Strategic Arms Limitation Talks Agreement (SALT I) and the Anti-Ballistic Missile Treaty (AMBT), which placed limits on offensive and defensive nuclear weapons technologies. Pundits noted with interest that, despite the fervor of public engagement with nuclear weapons policies in the 1950s and early 1960s, the public was no longer galvanized by such things. As Norman Cousins wrote in 1976:

Hardly anyone talks anymore about nuclear stockpiles as the world’s No. 1 problem. An entire generation has come of age with only a theoretical idea of the nature of atomic destructive force. The anti-testing clamor of

¹⁴ Paul Boyer, “From Activism to Apathy: The American People and Nuclear Weapons, 1963-1980,” *The Journal of American History* 70, no. 4 (1984).

the Sixties now seems far-off and almost unreal.¹⁵

But Cousins and others observed with trepidation that very little had changed in terms of the machinery of war: enormous stockpiles remained in commission, and both the Soviet Union and the United States continued to develop arms technologies in the form of missiles and smaller, more sophisticated weapons.

In the years following 1963, policymaking discussions about civil defense waned as well. By the time the LTBT was ratified, civil defense had well passed its zenith in American domestic politics. Americans had been warned for over a decade that a nuclear attack was imminent, and yet none came. For those who saw the LTBT as a the harbinger of disarmament, civil defense seemed like an outmoded and unnecessary program. For those Americans who did not want, nor could foresee, eventual disarmament, civil defense programs became a liability. In other words, civil defense was an impediment to stable international relations because it eroded the credibility of treaty-making. As Representative Edward R. Roybal of California told Congress, by intensifying the civil defense program:

...we are unmistakably demonstrating our lack of faith... and putting a real damper on the spirit of relaxed tension that has recently given us some measure of hope that a way can be found out of the spiraling and costly nuclear arms race.¹⁶

Civil defense never again found mainstream credibility in American politics.

Although the Office of Civil Defense would continue to operate—the OCD of the

¹⁵ Norman Cousins, epigraph to Peter J. Ognibene, “The Nightmare That Won’t Go Away: Nuclear Game Plans at the Pentagon,” *Saturday Review*, April 17, 1976, 14.

¹⁶ Edward R. Roybal (D-CA), “Speech of Representative Roybal, September 17, 1963,” *Congressional Record* (September 23, 1963).

early 1960s was responsible for posting the ubiquitous yellow and black fallout shelter signs adorning public buildings to this day—but on a much smaller scale. Without the support of civilians, civic groups, or advocates in Congress, nuclear civil defense “[fell] slowly off the public radar.”¹⁷ Over the next decades, civil defense efforts would be rechanneled into “all-hazards” emergency planning. Although the Department of Defense maintained a civil defense office until the late 1970s, its few remaining nuclear preparation functions were absorbed by the fledgling Federal Emergency Management Agency in 1979.

The public pressure to renounce *the nuclear* through the 1950s and early 1960s did not result in wholesale abolition or disarmament. It did, however, cast serious doubts as to whether nuclear weapons fit into the practices and standards of American democracy. Moreover, never again would nuclear civil defense be seriously considered as a solution to Cold War crises. In fact, the “second Cold War” of the 1980s spawned a new wave of nuclear critics, ranging from scientists who debated the possibility of nuclear winter and complete human annihilation, to those who looked back on the civil defense debates of the 1950s and 60s with disparaging critique. But although antinuclear activists in the early years of the Cold War failed to attain disarmament in the short term, they carved out significant cultural space for waves of increased antinuclear activism in decades to come.

Finally, Americans’ initial engagement with, and pushback against, nuclear

¹⁷ National Preparedness Task Force, “Civil Defense and Homeland Security: A Short History of National Preparedness Efforts,” (Department of Homeland Security: September 2006).

weapons technology cast a lasting shadow over public attitudes toward nuclear weapons in society. In 1954, in a State of the Nation address, President Eisenhower said this of thermonuclear weapons:

...this increase of power from a mere musket and a little cannon, all the way to the hydrogen bomb in a single lifetime... indicate[s] how far the advances of science have outraced our social consciousness, how much more we have developed scientifically than we are capable of handling emotionally and intellectually.¹⁸

The dualisms between head and heart, between science and morality, and between machine and human have come to define American ambivalence about nuclear weapons. By extension, these dichotomies have also colored public debates—in the United States and elsewhere—about the peaceful applications of nuclear science, such as energy production and medical treatments. The fact that Americans today judge presidential candidates, in part, on their perceived ability to responsibly manage the nation’s nuclear arsenal indicates that that their ambivalence about nuclearization still shapes their expectations of democracy. Even as the Cold War fades into public memory, the structures of nuclear citizenship remain.

¹⁸ Dwight D. Eisenhower, "Radio and Television Address to the American People on the State of the Nation," April 5, 1954 in Gerhard Peters and John T. Woolley, eds., *The American Presidency Project*, <http://www.presidency.ucsb.edu/ws/?pid=10201> (accessed February 17, 2017).

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