Between 1958 and 1962, at the height of the Cold War between the United States and the Soviet Union, a Wisconsin physician collected government pamphlets on civil defense, articles from medical journals and news magazines, and other information on radioactive fallout and fallout shelters. He assembled the documents in a three-ring binder, which he stored in the fallout shelter that he designed and had constructed in the back yard of his home in July 1960.

The physician responded to a rhetoric of preparation from the federal and state governments and from his profession to prepare for nuclear war, a campaign of persuasive education that stood in for what would have been a tremendously expensive and less-than-guaranteed system of public shelters. Designed to induce American households to build private fallout shelters in their basements and yards, preparedness rhetoric combined fear of death in nuclear attack and assurance of survival through preparation. He was one of few who acted; most Americans throughout the 1950s ignored the government’s exhortations to do the same.

The historical contexts of the documents, the way the documents reached the physician, the arguments the documents made, and his response to the arguments are discussed in this thesis. Using historical accounts, archival documents from the Wisconsin Bureau of Civil Defense and the State Board of Health, and bound volumes of medical journals and magazines, I place the binder documents in the historical contexts and rhetorical situations in which they were created and circulated. Using Burke’s definition of rhetoric, I develop a definition of preparedness rhetoric and analyze the content of significant documents the physician saved in the binder. Further drawing on Burke, I consider the physician as an actor, a participant in a larger, national conversation about civil defense, rather than as a passive receiver of preparedness rhetoric. Drawing on actor-network theory developed by Latour, I trace the web of connections among the federal government, state government, the medical profession, and the physician to show how various documents in the binder may have reached him. I point out intertextual connections among the binder documents and provide information about bomb technology, radiation, shelters, fallout, patient care, and life after nuclear attack. In drawing together these threads, I consider why a doctor in the late 1950s might have felt especially compelled to prepare for nuclear war.
PERSUADED TO PREPARE:
RHETORIC AND A COLD WAR FALLOUT SHELTER

by

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To Ken, Addie, John, and Margaret
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Introduction

Between 1958 and 1962, at the height of the Cold War between the United States and the Soviet Union, a physician in Neenah, Wisconsin, a small city in the northeast part of the state, collected government pamphlets, articles from medical journals and news magazines, and other information on radioactive fallout and fallout shelters. A doctor with a busy practice, William (Bill) Mann\(^1\) was middle-aged, married, and the father of four children. He assembled the documents in a three-ring binder, which he stored in the fallout shelter that he designed and had constructed in the back yard of his home in July 1960. The story of how the documents reached the doctor, the arguments they made, the contexts in which they made these arguments, and how he acted on them is the subject of this thesis.

Mann responded to calls from the federal and state government and from his profession to prepare himself and his family for nuclear war. He was one of few who did; most Americans throughout the 1950s ignored the government’s exhortations to do the same. After all, a basement or backyard shelter assumed a homeownership and single-family home of a certain type, such as one with a basement or a fairly large yard. Building a shelter was very labor-intensive and expensive, and thus not realistic for many Americans. Even more, there were questions about whether shelters would provide adequate protection and about the quality of life in a post-attack world. Still, the government repeatedly asked Americans to take their protection for nuclear war into their own hands, disseminating a rhetoric of preparation through pamphlets, booklets,
television, radio, and film; through state and county government civil defense offices; and through civic, social, and professional organizations.

More than conventional wars, the Cold War was a war of language. It was, writes Martin Medhurst, “a rhetorical war, a war fought with words, speeches, pamphlets, public information (or disinformation) campaigns, slogans, gestures, symbolic actions, and the like” (xiv). Continuing, he writes that rhetoric did not substitute for the “real issues,” but instead was “the issue” (xiv; emphasis in original). Yet militarily, there were actual nuclear bombs that were manufactured and pointed at real targets, and real people lost their lives in actual battles fought to contain communism in Korea and Vietnam.

Civil defense, however, was in fact nearly entirely rhetorical. Kenneth Burke defines the basic function of rhetoric as “the use of words by human agents to form attitudes or induce actions in other human agents” (qtd. in Brock 349). Burke’s definition is especially apt for analyzing Cold War civil defense: Originating from the US government, the rhetoric of preparation aimed to form an attitude of fear, and to induce Americans to act on that fear by preparing themselves and their homes for nuclear attack. Even more, civil defense was a construction built of words, a campaign of persuasive education that stood in for what would have been a tremendously expensive and less-than-guaranteed system of public shelters. Indeed, had bombs actually fallen, there were no actual shelters for the vast majority of Americans throughout the 1950s and early 1960s.

The rhetoric of preparation was one part fear of death and two parts assurance of survival through preparation. The message of fear, which was usually framed in language
along the lines of “in an attack, millions of people could die in the heat and blast of a nuclear explosion,” aimed to incite just enough angst that people would act, but not so much that they would become panicked or apathetic. The message of assurance usually appeared in statements like “but many more millions of people could survive if they are prepared.” If Americans were moved to action, by building shelters, making plans to evacuate, stockpiling food, and so on, the pamphlets assured, nuclear war was a manageable event. Indeed, prepared Americans could not only survive; after a few weeks, they could resume their lives.

Preparedness rhetoric sought to instill in Americans the idea that readiness for nuclear war and its aftermath was their civic responsibility, not the job of the government. Embedded in the rhetoric of preparation was the “doctrine of self-help”—the notion that citizens would take primary responsibility for themselves, families, homes, and neighborhoods in the event of a nuclear war (McEnaney 23). The government would lead the way in educating citizens about how to prepare, and it would guide states’ efforts in organizing at the county level, but it would not take on the preparation for any able-bodied person. Also embedded in preparedness rhetoric was the idea of American families acting individually for the collective good of the nation. In civil defense publications, the family shelter became an idealized place of safety, a prepared space apart from everyday life that assured not only protection for a family during an attack, but also continuity of the American way of life in the future. As such, the family shelter and became part of the strategy of the strategy of deterrence: if Americans could survive and ultimately win a nuclear war, the Soviet Union would be, in theory, less likely to attack.
The rhetoric of preparation reached Bill Mann through three main sources: the government, the news media, and the American Medical Association (AMA), which by the early 1950s was closely allied with the government’s stance on nuclear issues and which embraced preparedness rhetoric. But rather than starting with these powerful rhetors that created, distributed, and (in some cases) critiqued the rhetoric of preparation that persuaded Mann, I have as my starting point Mann’s active collecting and saving of information related to nuclear war. I seek to learn what Mann learned about arguments for and against fallout shelters, and thus I am making the acts of choosing and saving central to the story. I seek to cast Mann not as a passive receiver of arguments made by the more powerful government, American Medical Association, and news media, but as an actor, an educated, wealthy, white professional, who learned about nuclear issues and took action based on that knowledge. Like the person who enters Kenneth Burke’s metaphorical parlor in which a lively conversation is in progress, listens to the conversation to understand what is being discussed, puts in his or her “oar” and contributes to the conversation, and then leaves while the discussion is still going on (110-11), the Mann documents are evidence of someone who, between 1958 and 1962, tuned in to the conversation about civil defense, considered the information about civil defense that circulated widely among Americans, and responded by building a shelter, a material artifact that shows his response, rather than verbally explains it. The textual record he created by saving pamphlets, clipped articles, correspondence, and other items in the binder, which ends in 1962, documents the various rhetors and the conversation up
to that point, is something of a scrapbook with an instructive purpose, rather than a commemorative one.

Using the Mann documents as a case study, I describe the ways in which the rhetoric of preparation made its way to American households and to the medical profession. I attempt to explain how Mann learned what he learned about nuclear bombs, radiation, fallout, and shelters before and after the construction of his shelter in 1960. I discuss the arguments made by the rhetors represented in the binder—the federal, state, and local governments, the medical profession, the media, and so on. Furthermore, drawing on historical studies and civil defense records in the Wisconsin Historical Society archives, I describe the rhetorical context in which the particular arguments Mann responded to occurred. In drawing together these threads, I consider why doctors in the late 1950s might have felt more pressure to prepare for nuclear war (though there is no evidence to suggest that they prepared in numbers greater than the general public), and I consider questions they may have had about their ability to function as physicians in a post-attack period.

**Review of Scholarship**

This thesis adds to and updates Cold War rhetorical and historical scholarship by framing the discussion in terms of an individual’s self-education and response to the public discussion about nuclear weapons, radioactive fallout, and sheltering. As a case study of a private collection of documents on an issue with national and international reach, this research situates itself at the intersection of public affairs and private life.
Rhetoric scholarship on the Cold War has traditionally focused on public rhetors—elected and appointed government officials, military leaders, intellectuals, scientists, the media, and others (most often white, educated men)—who spoke to or on behalf of America generally. For example, in the past five years, Brian Taylor and Judith Hendry have examined the US government’s language of post-Cold-War management of the nuclear arsenal (2008), and Nathan Atkinson has argued that Cold War newsreels produced by the US military were essential in shaping public opinion about the military’s control of nuclear technology (2011). Older, significant work in this period is similarly focused on public rhetoric: Shawn Parry-Giles’s “‘Camouflaged’ Propaganda: The Truman and Eisenhower Administrations’ Covert Manipulation of News” (1996), Martin Medhurst’s “Atoms for Peace and Nuclear Hegemony: The Rhetorical Structure of a Cold War Campaign” (1997), and Edward Schiappa’s “The Rhetoric of Nukespeak” (1989), and Medhurst et al.’s Cold War Rhetoric: Strategy, Metaphor, and Ideology (1990). The exception is Elizabeth Walker Mechling and Jay Mechling’s wide-ranging “The Campaign for Civil Defense and the Struggle to Naturalize the Bomb” (1991), which examines not only the language and strategies used by the government to promote sheltering but also the language used by early resistors to civil defense to persuade Americans to reject the assumption of nuclear war as inevitable, including those of grassroots resistors as well as public figures.

Social and cultural historians have done considerable work on Cold War civil defense. My research extends into the late 1950s and early 1960s the work of Paul Boyer, whose chapter in Fallout (1998) on civil defense and the American Medical Association
serves as a foundational text. My work also extends the work of historians who have studied civil defense. These scholars include Laura McEnaney, whose book *Civil Defense Begins at Home: Militarization Meets Everyday Life in the Fifties* (2000) focuses on the early 1950s and the Truman administration; Kenneth Rose, whose book *One Nation Underground: The Fallout Shelter in American Culture* (2001) examines the national program of private shelters in the fifties and emphasizes the shelter program during the Kennedy years; and Dee Garrison, whose book *Bracing for Armageddon: Why Civil Defense Never Worked* (2006), is a chronological survey of civil defense and resistance to it through the Reagan years.

This thesis brings together for the first time scholarship on government civil defense, the medical profession, and the news media in a case study of an individual who prepared for nuclear war. It updates and extends rhetorical scholarship on the Cold War by examining a private American rather than a public rhetor, an American who prepared rather than ignored or resisted civil defense, and who by saving the documents showed which arguments were persuasive to him. It extends historical scholarship by focusing on civil defense efforts in last years of the Eisenhower administration, years that have often been skipped over, and by contributing new research to what is known about civil defense efforts in Wisconsin. It is unique in blending political, medical, and personal history in a narrative that describes how an ordinary person responded to an extraordinary request by the US government.
Methods

In addition to thinking about preparedness rhetoric and Mann’s participation in it through Burke’s definition of rhetoric and his parlor metaphor of an ongoing conversation, I draw on feminist scholarship in the history of rhetoric and Latour’s actor-network theory.

Feminist Methodologies: The Binder as Scrapbook

To consider the binder documents as a scrapbook, I borrow from feminist scholarship on American scrapbooks. Feminist scholars of historical rhetoric have for the past twenty years sought and developed a more expansive definition of appropriate topics for rhetorical study. They have argued that the everyday writing of ordinary people, particularly women who have traditionally not held roles as public rhetors, is worthy of study, and they have examined diaries, letters, as well as scrapbooks.

At first glance, the binder documents don’t resemble what many people imagine scrapbooks to be—nostalgic albums of family photographs, postcards from vacations, tickets from favorite performances—assembled by women, often mothers acting in the traditional female role of preserving a family’s history. This “common misconception about scrapbook keeping,” writes Katherine Ott about the scrapbooks of nineteenth-century physicians, “leaves out countless boys and men who have kept multidimensional laboratory books, ship and travel logs, science notebooks, newspaper clippings books about businesses, and even conventional scrapbooks” (29). There is, it turns out, a rich
history of men creating histories through clipping and scraps, though Ott suggests that men’s books are more commonly associated with education and professional work.

Scrapbooks are something of their own genre. They aren’t diaries because they generally (but not always) lack reflective comments. They are sometimes private acts of compiling (Ott, Tucker, and Buckler 12), but often they are records of the activities and public accomplishments of organizations such as women’s groups (Mecklenburg-Faenger 141). The materials collected are often ephemera, intended for one use, such as ticket stubs, programs, and advertisements, making each one “unique, authentic, and not easily reproducible,” and bringing them closer to material artifacts than to books (Ott, Tucker, and Buckler 12). Yet they usually comprise texts, often clipped and combined with other texts into a separate and personal collection, and so are both textual and material artifacts. As products of culture, writes Buckler, quoting Thomas J. Schlereth, scrapbooks “reflect the belief patterns of individuals who made, commissioned, purchased, or used them, and by extension, the belief patterns of the larger society of which they are a part” (qtd. in Buckler 63). Thus scrapbooks are also historical artifacts that must be interpreted in the cultural and rhetorical context in which they were created (Buckler 64). Indeed, as non-narrative histories, scrapbooks often need interpretation, for they generally start at a certain point and stop abruptly with no conclusion. For the most part, they are not narrative or interpretive on their own.

Because scrapbooks are compilations of textual artifacts (in part, no doubt, because texts are flat and can be attached readily to the pages of books), scholars often point to their intertextual nature. Intertextuality, first articulated by Julia Kristeva and
further developed by Mikhail Bakhtin, Gerard Genette, Charles Bazerman, and others, states that no text stands alone; every text is informed by other texts. Generally, intertextuality has been applied to literary texts, though Bazerman has expanded the concept to rhetoric. He points out that intertextuality may use “recognizable phrasing, terminology associated with specific people or groups of people or particular documents” and may “draw explicit social dramas of prior texts engaged in discussion” (87, 88). A scrapbook is an ideal object for intertextual examination, writes Buckler, because the “connection with other texts is visible on its pages” (65). Indeed, the Mann documents have what Bazerman calls a long “intertextual reach,” showing the government policy of sheltering and the responses by the medical profession, the news media, and Bill Mann (89).

Narrowly focused on radioactive fallout and the policy of sheltering, the Mann documents are an ideal example of intertextuality: there are government pamphlets that speak directly to American citizens about preparing their homes and families for nuclear war, and there are articles that respond to the government policy of preparedness: medical publications about the effects of radioactive fallout on humans, advertising copy about products developed for shelter life, and magazine articles arguing whether building a shelter was a prudent precaution or a waste of money and time. Taken on their own, however, the binder documents are not narrative history, with a beginning, middle, and end. To tell a narrative through these documents requires a researcher to interpret the scraps, to layer them on a larger historical narrative and tell something about the larger conversation they come from and refer to.
Latour and Actor-Network Theory: The Doctor as Actor

To consider Mann as a significant actor in the larger conversation about civil defense, I draw on Latour’s actor-network theory (ANT), which has been interpreted for rhetoric studies by Sarah Hallenbeck. Like Hallenbeck, I have found in my research a tendency on the part of historians and rhetoricians to write stories of heroism and tragedy. Americans who resisted or ignored civil defense are often portrayed as heroic people who chose not to prepare shelters or as marginalized people who could not afford them (Garrison; Mechling and Mechling). Particularly in films, including the highly respected documentary *The Atomic Cafe* (1982), those who built shelters are portrayed, often darkly comically, as panicky in their fear, sheep-like in their obedience to the government, ridiculous in their preparation, and selfish in their decision to save themselves. The question of shelters was, indeed, a morally charged subject, one that raised (and still raises) fundamental questions of survival, responsibility, fairness, and justice. But I am not looking to cast Mann in a certain way. I am more interested in the explicit and implicit arguments for preparation made in the documents he found persuasive and chose to save, how these arguments reached him, and in how the documents tell the story of the shelter and of (some) Americans’ responses to Cold War civil defense.

Actor-network theory is a sociological approach developed by Latour, Stephen Woolgar, and John Law. Put simply, in ANT the researcher starts not with an overarching theory or framework but instead with local, individual actors who constantly form and reform groups of associations in response to a controversy. The researcher follows the “trails of associations” made by the actors and connects the trails to form a network, or
web, that shows those connections (Latour 5). The trails change over time and with more associations, and they are not necessarily always human. Indeed, they can be objects, places, or spaces; these, too, according to Latour, have agency in the social world. For Latour, a successful ANT account “traces a network . . .” and is a “narrative or description where all the actors do something and don’t just sit there” (128; emphasis in original). Generalizing ANT for the purposes of rhetoric, Hallenbeck writes, “Within ANT, agency is not the possession of any one individual, human or otherwise, but instead is located within a vast and varied network of humans, objects, and discourses that constantly evolves in response to changing linkages among disparate elements” (19).

Such an approach is appealing for this project because, like Burke’s parlor metaphor, it makes Mann active as a collector of information and as the builder of a shelter, and it connects him to the larger web of “rhetorical forces” that were active in civil defense such as the state and local governments, the medical profession, and the media (Hallenbeck 12). Furthermore, ANT includes objects as actors. The texts Mann chose to save can be considered material artifacts that reveal social, professional, and civic associations, and the shelter itself, an object, is a lasting part of that web.²

Approaching the documents from the perspective of actor-network theory also frees me—I, too, am an actor in this story (though removed by several decades)—from trying to read the minds of Mann and his wife, Evelyn, and from guessing about fears they may have had that compelled them to build a shelter in their quiet neighborhood. Bill Mann died in 1992, and following the death of Evelyn Mann in 1998, their children put the house up for sale. My spouse and I purchased the Mann home in 1999. As the
second owners of the home, we were the first to open the shelter in perhaps three
decades, and we were more than a little surprised to find that the shelter held not only
five feet of water (groundwater had seeped in over the years) but also the supplies the
Manns had packed in World War II-era munitions cases, which were watertight. After
pumping the water and retrieving the rusty cases (nineteen in all, plus several small
ammunition cases), I discovered the binder of documents. It was stored in the only case
that leaked, however, and many of the documents were damaged. Using photographs I
took of the wet documents, drying them out, and locating copies in bound library
volumes, in online archives, and in the Wisconsin Historical Society archives, I have
reconstructed a near-complete, digital version of the binder. But I do not claim to have
reconstructed the entire story. I have been asked many times to speculate about why
Mann built the shelter, and I can’t answer with any certainty. However, based on the
documents and on the research I present in the following chapters, I can say what sources
he looked to for information and the arguments they made. I can also say that as a
sheltered resident of Neenah, his chances for survival in a nuclear war were fairly good in
the 1950s. He would have been unlikely to die immediately from the blast and heat of a
nuclear explosion in Green Bay or Milwaukee, the two closest target cities, but he would
have been at risk for radiation sickness and possibly death if wind conditions sent
radioactive fallout in the direction of Neenah. I can say that being unprotected from
fallout was a risk he was apparently unwilling to take, and I can imagine that he may
have built the shelter out of a sense of responsibility to his family and also to his patients,
who would continue to need care whether or not a radiation cloud reached Neenah. Actor-
network theory has impelled me to avoid quick judgments about what kind of person Mann was and through research to build this discussion of how a productive member of the Neenah community, viewed by those who knew him as intelligent, well-educated, and rational, might have come to the decision to build a shelter.

The Shelter

Built in July 1960, the Mann fallout shelter, now my spouse’s and mine, sits about two feet from the foundation of the house. Except for the entrance, shown in fig. 1, it is underground and invisible, and it is always wet; water seeps in continuously. The entrance is a three-by-three-foot concrete platform, slightly raised, with rusty steel, bulkhead-style doors mounted horizontally. To keep rain out, a tent-like steel cover, weighing about fifty pounds, fits over the concrete platform like the lid of a gift box. To enter the shelter, the cover must first be lifted off the platform. Once the doors are unlocked and propped open, the square, concrete tunnel with ladder rungs mounted to one wall is visible. The ladder descends eleven feet, opening to a short, narrow corridor that connects to the main room, an eight-by-ten foot space. The ceilings are seven feet high, and the walls and ceiling are ten inches of reinforced concrete. Three feet of earth cover the top of the shelter, the recommended amount for maximum protection from radioactive fallout.
Fig. 1. Shelter entrance. Opened doors and ladder rungs are visible.

Air circulation was crucial to survival in a shelter, and unless a shelter had a separate supply, outside air needed to be brought in despite the risk of radioactive dust. Mann’s ventilation system circulates air through two metal pipes that run underground from the shelter walls to the foundation of the house, where they turn and are mounted to the exterior walls of the house. The air intake pipe enters the attic of the house through the soffit and was attached, until we removed it, to a filter made of plywood, window screen, and furnace filters. The electric pumped installed in the attic to draw air through the filter and into the shelter still works. Except for a bicycle pump, we found no evidence of a manual pump in the shelter, which many shelter designs recommended and would have been essential had the power gone out after a nuclear attack. The exhaust pipe is mounted to the adjacent wall.
For comfort and contact with the world outside, Mann had the shelter wired for electricity and phone, which we have since disconnected because of the water that flows into the space. For added security, he installed a vault door between the corridor and the main room.

After construction was completed, Bill and Evelyn Mann lined the walls of the shelter with folding metal bunk bed frames, a cot, and storage shelves. They placed larger supplies on the shelves—a new Coleman camp stove and lantern, a camping oven, a hot plate, tins of civil defense survival biscuits, a toolbox, piles of newspapers, and other large items. On the floor they placed a lamp, five-gallon cans of water, a folding toilet with attachable bags, and barrels and pails to hold additional water, garbage, and waste. We found these items, mostly destroyed, after we pumped out the water that had filled the shelter.

Most of the items the Manns packed in the cases we recovered were in surprisingly good condition. Several of these cases contained food—Skippy peanut butter and Premium saltine crackers, Hershey’s chocolate syrup and Nestle’s Quik, Hawaiian Punch and Campbell’s Tomato Juice, Butterscotch Bits and Choc-O-Mint Lifesavers, Maxwell House instant coffee and Carnation instant milk, as well as raisins, figs, prunes, dried apricots, and rice. Other cases held Chinet paper plates, napkins, plastic eating utensils, can openers, vitamins, clothes, Band-aids and other first-aid supplies, bedding, a radiation survey meter, two alarm clocks, three telephone books, bags of batteries, multiple flashlights, tools, toilet paper, and bags for the folding toilet. Two cases contained items medical supplies that a doctor might be expected to have:
latex gloves, tongue depressors, surgical masks and drapes, ether, and hand-mixed ointments, while another contained prescription medications, mostly pharmaceutical samples, that only a doctor could have: antibiotics, amphetamines, narcotics, barbiturates, and morphine. Still others contained items the family might have needed to survive in a world without electricity or running water: candles, matches, hunting supplies (but no gun), a hatchet, a shovel, a pickaxe, and camping gear (see fig. 2). As noted above, Mann stored the binder in one of these cases.

Fig. 2. Case of shelter supplies. Visible are candles, a funnel, and a garden hose.

The Binder

Mann’s binder was a standard three-inch, three-ring, fabric-covered binder. The documents were for the most part created by others. There are eleven government publications, nine of which were published by the federal government. The other two
government documents were published by the Wisconsin State Board of Health and the City of Milwaukee. There are nine medical publications, seven of which were published in medical journals, chiefly the *Journal of the American Medical Association (JAMA)*. Two of the medical articles were published by pharmaceutical companies: Ciba and Abbott Laboratories. There are five articles published by magazines: *Time, Newsweek, U.S. News & World Report* (2 articles), and *Consumer Reports*. There is one commercially published booklet on how to build a shelter and five instruction manuals for items in the shelter. In addition, there are four pages of correspondence between Mann and two manufacturers about shelter supplies and two pages of shelter-related information generated by Mann: a list of materials used to plan the shelter (multiple copies) and an unreadable mimeographed list of shelter supplies. (See the Appendix for a complete list of binder documents.)

Mann stamped most of the government documents with the date, making the task of establishing a chronology fairly straightforward (see fig. 3). The case that contained the binder included a hand-written inventory of the box, which listed the binder, a bicycle generator, battery clips, cord switches, kitchen matches, magnetic hooks, hotel soap, and halozone tablets for water purification.
Organization of Thesis Chapters

Because the Mann documents divide neatly into two groups—those collected before and after the shelter was built—I have chosen to organize the thesis chronologically. Chapter 1 gives an overview of civil defense during the administrations of Presidents Harry Truman and Dwight Eisenhower, and it discusses the American Medical Association’s close alliance with the federal government on the subject of civil defense. Chapter 2 provides a similar overview of civil defense in Wisconsin during the same period, and it discusses the documents Mann acquired during 1958 and 1959 as he planned the shelter. Chapter 3 picks up civil defense in 1961, during the first year President John F. Kennedy’s administration, discussing the Berlin Crisis and the
documents Mann clipped in response to it. The conclusion briefly discusses resistance to nuclear testing and preparation that grew up in the early 1960s, as well as groups that argued for the prevention of nuclear war.
Chapter 1

Sounding the Alarm, Calmly: US Civil Defense and the American Medical Association in the 1950s

In 1960, the year the Mann family’s backyard shelter was constructed, Bill Mann was an established OB-GYN in Neenah. Born in 1910 in Oshkosh, a city ten miles south of Neenah, Mann had earned his medical degree at the University of Wisconsin, Madison in the 1930s. He served in the Navy during World War II as an obstetrician in Washington, DC, and he was there in 1945 when the United States dropped the world’s first atomic bombs on Hiroshima and Nagasaki. After the war, he returned to Wisconsin with his wife, Evelyn, and their young children, and he began practicing general medicine and obstetrics in Neenah. He was a popular doctor, well-respected and well-liked by patients. One former patient and neighbor, Mary Ginke, remembering the birth of her first child in 1947, described how Mann waited with her for several hours for a delivery room to open up at Theda Clark Hospital. “The hospital was full,” said Ginke, “and he sat with me that entire time. He was a good doctor, a loving doctor.”

Civil Defense under Truman and Eisenhower

In the fifteen years between the end of the World War II and the building of the Mann shelter, the Cold War had gone into full swing. The sense of security that Americans felt as the only country with the atomic bomb evaporated in 1949, when the Soviet Union took the US by surprise and exploded its first atomic weapon. Overnight,
Americans became nervous that the powerful atomic bombs that had destroyed Hiroshima and Nagasaki could be dropped on them.

In response to public pressure for safety measures, President Harry Truman authorized the Federal Civil Defense Administration (FCDA) in December 1950. Based in Battle Creek, Michigan, the agency was charged with planning and giving direction to civil defense efforts that would be carried out by state and local governments. Yet from the start, the question of how to protect US citizens in a nuclear war was fraught. Ideologically, Congress had no stomach for a vast public shelter program that would give the military control over the civilian population and that, to many politicians, smacked of communism. More practically, Congress, Truman, and his successor Dwight D. Eisenhower had little enthusiasm for spending money on a public shelter program that would be extremely expensive, difficult to implement, and not necessarily effective in protecting the inhabitants from the blast, heat, fire, and fallout from a nuclear explosion. Despite the vigorous efforts of Chet Holifield, a Democratic Representative from California, who argued for more than ten years for a system of underground shelters, a large-scale shelter program was never funded by Congress or championed by an American president until John F. Kennedy, who in 1961 successfully pushed a bill to identify and stock public shelters in existing structures, as Britain had in World War II.

Yet doing nothing to assure Americans that steps could be taken to ensure their safety was also unacceptable. In lieu of a public shelter program, the FCDA mounted a massive public relations campaign on television, radio, and in print that promoted individual preparedness (Mechling and Mechling 109). Throughout the 1950s, the
program was one of education, drills, and above all, self-sufficiency: in the event of a nuclear attack, Americans would need to take responsibility for their own shelter, food, clean water, energy, and medical care. This rhetoric of preparation sought to raise the audience’s fear of nuclear annihilation, and it assured survival to those who prepared their homes and families. Americans were advised to stockpile supplies, plan for evacuation, build shelters, and train family members in skills ranging from first aid to firefighting. Most famously, starting in 1952 the cartoon character Bert the Turtle taught thousands of schoolchildren to “duck and cover”: to duck under tables, desks, or against walls when they saw the bright flash of an atomic explosion, hide their faces, and cover their necks with their hands. Yet most adult Americans were unmoved by the government’s exhortations, and very few took steps to prepare themselves in the early fifties.

As schoolchildren ducked under their desks, Truman had authorized scientists to develop the more powerful, fusion hydrogen bomb. The first H-bomb was tested in 1952, exploding with a force of ten megatons of TNT—more than eight hundred times the power of the fission atomic bombs that had been dropped on Japan. Two years later, during Dwight D. Eisenhower’s first presidential term, an even larger bomb destroyed an island near Bikini Atoll in the Marshall Islands, sending up a huge mushroom cloud. Bravo, the bomb’s code name, exceeded even the experts’ expectations in terms of blast, heat, and radiation, spreading fallout over seven thousand square miles of the ocean. The fallout reached American observers and Marshallese Islanders who had been evacuated, causing sickness and burns, as well as the sailors on a Japanese fishing boat, The Lucky
Dragon, who were unaware of the instruction to avoid the area. They, too, became sick from radiation poisoning, and one of the men died. The Soviet Union responded in kind, exploding its first hydrogen bomb in 1955. The potential of these bombs made the devastation of Hiroshima look mild by comparison. These bombs had the potential to kill everyone on the planet through blast, firestorm, and radioactive fallout. The wishfulness of duck and cover became laughably obvious, and in 1956 the film was deemed “obsolete” and pulled from circulation (Olson, Memo).

Indeed, the hydrogen bomb and the buildup of nuclear warheads that followed rendered existing bomb shelters useless and made meaningful civil defense an impossible task. While some nuclear scientists and members of Congress, led by Chet Holifield, continued to push unsuccessfully for a national system of public shelters, the FCDA turned to evacuation as the plan to save American lives before and after a nuclear attack. As described in the Region 4 Medical Planner, a guide published for civil defense officials in Michigan, Indiana, Illinois, Missouri, and Wisconsin, evacuation called on urban residents in “target areas”—cities such as Chicago, Milwaukee, and St. Louis—to use private cars and school busses to travel to designated “reception areas”—small cities such as Neenah and rural areas, ideally before the bombs landed, but afterward if possible. The local governments, hospitals, and residents in the reception areas would care for evacuees until it was safe for them to return home (US, Medical).

From the start, the feasibility of evacuation was questioned by those who were charged with implementation. If an attack came during the day, how would children be reunited with their parents? How would urban residents who didn’t drive or who didn’t
own cars evacuate? Who was preparing suburban and rural communities to receive urban
refugees? Would people behave calmly? The answers to such questions made a lot of
assumptions: Schools would have enough vehicles to transport children to designated
reception areas. Adults would drive themselves, or, if they didn’t drive or own a car,
would arrange rides with friends or family. Families would be reunited in the reception
areas by citizen volunteers who would organize the evacuees and the hosts. And yet few
(if any) states were organized enough to imagine a smooth mass relocation of people
under such extreme conditions, and clear-eyed skepticism ultimately killed evacuation as
the primary civil defense strategy. “Any thought that you can evacuate a large population
in a short time, even if you have a place to move them,” said New York City urban
planner Robert Moses, “is so much moonshine” (qtd. in Rose 28). Although evacuation
remained on the books as a civil defense strategy until the mid-1960s (and was promoted
again by President Ronald Reagan in the 1980s), the FCDA then turned its attention to
fallout shelters.

In 1958, the FCDA rolled out the National Shelter Program, a program that
encouraged Americans to build private, family shelters. Much bigger in name than in
reality, the campaign provided the public with information about how to construct
backyard and basement shelters to protect against fallout, but it came with no funds to
help them do so. To kick off the program, on January 4 FCDA director Leo A. Hoegh
invited journalists to the basement of his Washington DC home, where he showed how to
build an improvised fallout shelter out of twelve sandbags. Announcing that he had spent
$75 on the sandbags and a two-week supply of food, he assured reporters that his family could live there for two weeks, and he urged Americans “to do likewise” (“Shelter”).

The National Shelter Policy campaign conceded—surprisingly openly—that millions of people at ground zero would be killed in the blast and firestorm of a nuclear attack, but it argued that those far from the blast could survive if they were protected from radioactive fallout in shelters they built in their homes and yards. Some group and public shelters would be identified and stocked, but overall the campaign was one of preparedness rhetoric and self-help: Americans were responsible for protecting themselves. For the most part, however, the public ignored the campaign, and the vast majority of American households did not build shelters or take steps toward preparation; in 1961, approximately 60,000 shelters had been built (Rose 202).

In terms of international relations, the National Shelter Policy made American households part of the deterrence strategy that defined Cold War policy. Throughout his presidency, Eisenhower presided over the build-up of the nuclear arsenal and at the same time quietly and only privately acknowledged that thermonuclear war was not an option. In a conversation in 1954 with South Korean Syngman Rhee, for example, Eisenhower said, “Atomic war will destroy our civilization. It will destroy our cities. There will be millions of people dead. War is unthinkable today with the weapons which we have at our command” (qtd. in Garrison 57). Yet despite these sentiments, never expressed in public venues, Eisenhower adopted the pretense that he would respond to any hint of Soviet aggression with an all-out nuclear attack. If everyone believed that he would launch missiles at the Soviet Union if provoked, Eisenhower reasoned that the Soviets
would be careful not to do so (Garrison 57-58). As director of the FCDA, Hoegh echoed Eisenhower, arguing that “an effective civil defense is a deterrent to war” (qtd. in Vanderbilt 101). If Soviet leaders believed that Americans could survive a nuclear strike in shelters and afterward resume their lives, the thinking went, the Soviet Union would be less likely to attack because it wouldn’t necessarily win the war. Attack or no attack, the American way of life would triumph over communism.

Like evacuation, the policy of basement and backyard shelters had problems that were ignored or downplayed. One problem was home ownership and type of dwelling. Although homeownership rose considerably in the 1950s, 38% of Americans (62 million) in 1960, the majority of whom were poor, did not own their own homes and would need to prepare shelter in apartment buildings or in dwellings they did not own. Of those Americans who did own homes, half did not have basements or space within the house for a shelter, and some of the homeowners lived on shared lots that forbade additional construction (McEnaney 147). Another problem was cost. Even for homeowners who had basements or back yards, shelters were expensive, though estimates given by officials tended to be low. For example, Rose writes that “[m]ost experts acknowledged that even a bare-bones shelter would cost in the vicinity of $2500” (190), a figure that is considerably higher than the government’s estimated $1500 for the Mann underground shelter, the most expensive model promoted to the public. Considering that median family income was $5660 in 1959, a shelter required a significant financial sacrifice (US, “Median”). Another problem was efficacy: would shelters actually work? The type of shelters that the FCDA suggested would—at best—protect only those people miles from
the blast and only from radioactive fallout. Depending on the size of the bomb and the type of explosion—on the ground or in the atmosphere—the heat and fire from a hydrogen bomb could incinerate or suffocate people in shelters within a fifty-mile radius, and if chemical weapons followed the nuclear bombs, the air drawn in through pumps would poison and likely kill the shelter inhabitants (Garrison 40). Yet potential failures were glossed over in FCDA pamphlets and booklets, which were available at post offices, civil defense offices, and other locations. These publications argued that those Americans who lived outside of target areas, and included images of white, youngish, middle-class families with one or two children living in single-family homes—could and should survive. For someone like Mann, who lived relatively far from a target city, had a good income, and whose profession conferred responsibility for the health of people in the community, building a shelter likely seemed the right thing to do.

**Civil Defense and the American Medical Association**

Part of the impetus for Mann to build his shelter may have been his profession. Historian Paul Boyer has observed that doctors became involved in the nuclear issue as early as the Manhattan Project in 1942, and they continued to be involved throughout the 1950s and 1960s as radiation specialists, civil defense advisers, and finally as anti-nuclear activists (61). But in the post-WWII period and through the mid-1960s, the American Medical Association (AMA) was a staunch supporter and promoter of government civil defense preparedness, even as occasional individual physicians resisted (62).
Immediately after World War II, the medical profession showed considerable interest in the effects of radiation disease on human health. Within days of Japan’s surrender in 1945, doctors went with military teams to Hiroshima and Nagasaki to observe and record the effects of radiation on the bombing victims, and in 1946, the first of a number of studies on Japanese victims of radiation was published in the *Journal of the American Medical Association* (*JAMA*) (Boyer 63). In the late 1940s, doctors and many scientists were captivated by the promises of the atom. They touted the benefits of the “peaceful atom” and took an “either-or-approach” writes Boyer: “Either the atomic bomb would destroy civilization, or atomic energy would be harnessed to produce a utopia of unimaginable wonder,” giving doctors the means to diagnose and cure cancer and other diseases (68).

Recognizing that the support of the AMA was critical to civil defense policy, the Truman administration in 1950 quickly drew doctors into the work of the FCDA (Boyer 71). At all levels of the medical profession—national, state, and county—civil defense committees consisting of doctors were created to advise civil defense offices and promote civil defense among practicing physicians. There was little resistance to the profession lending its authority to promote civil defense, writes Boyer: “With rare exceptions, all levels of organized medicine actively supported and lent credibility to the government effort to persuade the American people of the urgency and efficacy of civil-defense preparation for atomic war” (74). Indeed, even as the destructive power of the hydrogen bomb and dangers of fallout became known after the 1954 Bravo test in the Marshall
Islands, until the 1960s the medical profession at the national and state levels enthusiastically supported the government’s civil defense policy of preparation.

The message of preparation and self-sufficiency was also in keeping with the AMA’s overriding goal to prevent the socialization of medicine, which had taken hold in Europe following World War II, from making inroads in the United States (Boyer 64). Indeed, Boyer suggests, the AMA may have gone along with the government in part to remain on friendly terms with members of Congress who would oppose similar legislation in the US (64). Despite its efforts, however, the AMA ultimately lost the battle against government-sponsored healthcare for the poor and elderly in 1965 with the passage of legislation that became the Medicaid and Medicare programs.

Whether the AMA’s support of civil defense was a calculated political decision or not, it is true that with few exceptions, the medical profession willingly joined the cause of civil defense. Throughout the 1950s and into the 1960s, the AMA’s Council on National Defense held an annual conference for state and county civil defense officials and set up advisory committees within state and county medical societies. The council also published a newsletter, *Civil Defense Review*, whose masthead, it must be noted, featured a mushroom cloud rather than, say, a doctor tending to injured patients. In addition to reporting on federal civil defense developments and praising state committees for their accomplishments, the newsletter adopted and adapted the government’s rhetoric of preparation. The August 1958 issue of *Civil Defense Review*, for instance, concludes with the familiar refrain “Prepare—to Survive” (AMA 8). To goad readers to action, the same issue also reports on Soviet civil defense, writing that every Soviet citizen would
soon be trained in civil defense. “Within the next two years civil defense units will be established in every factory, collective farm, school, university and in other institutions throughout Russia” (AMA 3). The article concludes by urging individuals to become involved: “Federal and state civil defense planning in the United States is well advanced, but motivation followed by active participation is urgently needed” (AMA 3). The April 1959 issue steps up the pressure to participate in civil defense. In a regular feature of the newsletter called “Quotes to Note,” the president of the US Civil Defense Council, Walter P. Halstead, is quoted: “We have two major antagonists threatening the security of our country as far as Civil Defense is concerned,” he said. “One, of course, is the enemy who would destroy us, and the other is our fellow citizen who, through ignorance, refuses to accept his responsibility in Civil Defense” (AMA, “Quote” 3).

As the AMA promoted preparedness throughout the 1950s, the organization ignored what an actual nuclear bomb attack would mean for hospitals, doctors, nurses, and the thousands if not millions of injured people (Boyer 64). Indeed, the AMA did not publicly address the inescapable reality that the medical community would be unable to cope with the huge numbers of dead and wounded people following such an event, nor did it publicly discuss what a post-attack scenario would mean for local physicians. These doctors would be in the impossible position of caring for injured people in an environment—if radioactive fallout were present—that would be dangerous to their own health and lives. Such concerns did not appear alongside the preparedness rhetoric adopted by the AMA, which reached local doctors like Mann through its journal, JAMA.
Mann likely ran across (but did not clip) many of the approximately 120 articles on civil defense and preparedness published in JAMA between 1951 and 1962, averaging roughly ten per year. Nearly all of the January 24, 1959 issue, for example, was devoted to civil defense, with parallel articles by Carroll P. Hungate, of the AMA’s Council on National Emergency Medical Services, and OCDM director Leo Hoegh that showed the close relationship between the federal government’s civil defense officials and the AMA. The issue also included articles on the profession’s civil defense responsibilities, chemical and biological warfare, the roles of dentists and nurses in civil defense, and the physician’s role in caring for people in shelters. Writing about the National Shelter Policy, Dr. Paul S. Parrino, who worked for the OCDM, reveals the daunting challenges the medical profession would face in caring for survivors in shelters:

> We need to know the effects of group living in close space for long periods of time. We need to know how vital air components in the shelter may affect the health and life of persons confined there. . . . We need to plan for medical care for shelter inhabitants. We must determine the medical requirements for sick and injured in shelters. And we need to determine requirements to prevent and control the spread of communicable diseases in shelters. (155)

And, recognizing that medical professionals would be unable to get to every shelter, Parrino also recommends that more people be trained in medical procedures. Giving a dizzying list of skills ranging from enemas, wet dressings, and irrigations of the eyes and ears to wound care, fractures, concussion, childbirth, and unnamed surgical
complications, he concludes, “If everyone knows these things, it certainly will make easier his survival both in shelters and afterward when he comes out” (156).

In 1958, Mann began paying attention to the rhetoric of preparation that came from the government and his profession. The next chapter takes up the publications that reached him, how they may have reached him, and the arguments they made. Although the vast majority of Americans—and doctors, too—ignored calls to prepare, he did not.
Chapter 2
Tuning in to Preparation: 1958-1960

While the FCDA made direct appeals to individuals like Mann to prepare their homes and families, the grunt work of civil defense preparation fell to state governments. In Wisconsin, civil defense in the 1950s was led by Major General Ralph J. Olson, whose efforts between 1957 and 1959 focused on developing the Wisconsin Operational Survival Plan. With guidance from the FCDA, states made plans for dealing with circumstances before and after a nuclear attack: evacuation, destruction, casualties, death, and a general breakdown of services and infrastructure, including interruptions in electricity and clean water. Thus as the federal government focused on building weapons, juggling politics, and motivating and calming the public, state governments were left with on-the-ground organizing and preparing. The long list of tasks included improving radio communication in order to broadcast emergency messages; installing public warning sirens; recruiting and training civil defense directors and workers for each county, a large number of whom were volunteers; planning evacuation routes in target cities like Milwaukee, Madison, Superior, and Green Bay; designating reception areas in smaller cities and rural areas to receive evacuees; providing for continuity of government in a post-attack period; protecting vital records; and participating in annual Operation Alert drills that were organized each year between 1955 and 1961 by federal civil defense officials. Olson no doubt felt a sense of accomplishment when he wrote, in a letter dated
November 2, 1959, “The Wisconsin Operational Survival has been completed and distributed to civil defense officials and defense workers throughout the state.”

**Civil Defense and Wisconsin Households**

Most of the print publications aimed at American households—pamphlets, booklets, and brochures—were produced by the federal government. Although these materials were available in government offices (such as post offices and local civil defense offices), states still needed to do more to get the preparedness message to their residents.

One way the Wisconsin Office of Civil defense communicated preparedness to households was through local newspapers. Olson’s office issued frequent press releases, and newspapers around the state often ran them, including the *Appleton Post-Crescent*, a paper to which Mann subscribed. On December 7, 1959, for example, the paper ran a short piece entitled “Need to Prepare Stressed by Head of Civil Defense,” in which Olson called for more participation in civil defense. “A nominal effort is not enough—” he said. “[W]e must make an all out effort to prepare ourselves for survival” (“Need”). Another way the civil defense reached Wisconsin residents was through displays at the Wisconsin State Fair. In 1960, the display featured a model basement fallout shelter stocked with a two-week supply of all necessary items. According to a press release from Olson’s office, the shelter on display was “[d]esigned as a do-it-yourself project . . . [that would] in the event of a nuclear attack . . . provide the greatest single non-military protection for the largest number of people” (WI, Press). Also in 1960, Olson’s office began distributing a
newsletter to county civil defense offices around the state, pushing preparedness, praising progress made by counties around the state, and reporting on stockpiling, first-aid programs, community meetings, participation by schools, and so on.

Yet another way states attempted to reach households was through civic, social, and professional organizations such as PTAs, bowling leagues, veterans’ groups, and unions. Women’s groups, in particular, were targeted. As traditional keepers of the home and all things domestic, women were seen as natural protectors of the family in peace and in war, and their participation in civil defense was essential. Indeed, writes McEnaney, home protection “made preparedness immediately a ‘woman’s concern, for the skills and services required to prepare for and survive an attack were virtually the same as a housewife’s domestic chores and community service” (89). Indeed, a civil defense strategy based on sheltering the family in the home could not ignore women. From the start of the FCDA, women were recruited to work there as instructors of women on how to prepare their homes.6

The most famous woman to work at the FCDA was Katherine Graham Howard, a Republican activist appointed by Truman in 1952. An enthusiastic supporter of civil defense, Howard promoted civil defense to hundreds of women’s groups around the US as a new responsibility for the American homemaker, who, Howard said, needed to “assume a further and more serious awareness of her public duties as a citizen” (qtd. in McEnaney 88). That Evelyn Mann heard those words, which Howard used in a speech, is unlikely, but the message—that women were responsible for preparing their homes and families to survive nuclear war—reached Wisconsin women in the fall of 1958.
Coinciding with the rollout of the National Shelter Program, the FCDA had earlier that year introduced the “Home Preparedness Workshop” program, an initiative that quickly gained popularity among women’s homemaking clubs around the country. To participate, the leader of a club completed an application and submitted it to her county civil defense director. Once approved, the application was forwarded first to the state office of civil defense and then to the FCDA regional office, which in return sent the requested number of “Home Preparedness Workshop Kits” to the county civil defense office for distribution to the club leader. The kits contained pamphlets and booklets on family shelters, fallout, food, water, first-aid, emergency drills, and more, and they provided a checklist to track completed tasks. The kits also promised a “Home Preparedness Award” and a window sticker to women who finished the program (US, How). According to Leo Hoegh, during one nine-month period sixty thousand women around the US had participated in workshops (Rose 141).

The workshops were popular in Wisconsin. The state office of civil defense received applications from around the state, with three from Neenah alone (from the Spring Road Homemakers, the Clayton Center Homemakers, and the Beaver Valley Homemakers) and additional applications from the surrounding towns of Omro, Oshkosh, and Tomah (WI, Home). In fact, requests from Wisconsin for kits were for such large quantities that Ada Mucklestone, the Region 4 Director of Women’s Activities, praised civil defense director Olson on a job well done. “... I wish to say that I am very much interested in what you are doing in Wisconsin,” she wrote on November 6, 1958, “and commend you on reaching the Homemakers Clubs in Wisconsin.” She had questioned
Olson about a request for 2550 kits for Columbia and Baraboo counties, suggesting that the county Home Agents were ordering more than they could use. In reply, Olson wrote that the program had “mushroomed” and that the amounts they requested would relieve his office of filling each request separately.

Although it’s impossible to know definitively whether Evelyn Mann attended a “Home Preparedness Workshop” in the fall of 1958, the binder documents suggest that she did and brought a kit home. Several of the booklets and pamphlets in a sample “Home Preparedness Workshop Kit” in the Wisconsin Historical Society Archives are the same as those stored in the Mann binder, which were date-stamped in November and December of 1958—the same period that women across Wisconsin were attending workshops. With the exception of an undated government pamphlet, these documents and the medical articles Mann collected in the fall of 1958 mark the start of the binder collection.

Five of the eleven US government publications Mann saved for the binder were stamped with dates in 1958. Three were stamped November 22: *Home Protection Exercises: A Family Action Program*, *Civil Defense Technical Bulletin*, and *Defense against Radioactive Fallout on the Farm*. Two more pamphlets, *First Aid Emergency Kit*, *Emergency Action* and *What to Do Now about Emergency Sanitation at Home*, were date-stamped December 2. (Because the latter two expand only slightly on the information in *Home Protection Exercises*, discussed below, I do not discuss them separately.) Four of these documents, and three more documents Mann collected in 1959, are included on the
list Mann created as he planned the shelter (see fig. 4). He placed the list in the binder as well.

![Critical Information]

Fig. 4. Mann’s list of publications, equipment, manufacturers, and supplies.

The 30-page *Home Protection Exercises: A Family Action Program* aspired to be a one-stop source for households in preparing their homes and families for nuclear war. First published in 1953 and revised annually until 1960, the booklet was, according to McEnaney, the FCDA’s (and later, the OCDM’s) “most ambitious effort” to instill the notion of preparedness in American families, and “to transform families into well-trained
units that required little or no government assistance” (76). Cobbled together from a variety of sources, *Home Protection Exercises* is indeed a catch-all publication, a single source for civil defense information published by the FCDA during the 1950s.

The booklet opens with an appeal for preparedness from President Eisenhower that combines the threat of death with the assurance of survival through preparation. “To survive, to be alive after an H-Bomb attack,” he writes, “will require that each individual, man, woman, and child, employ to the full every mental and physical resource at his disposal—and these must be trained and equipped resources.” Following this introduction are step-by-step exercises on evacuation, sheltering, fire prevention, firefighting, first aid, nursing, and food safety that make survival seem not only possible but also orderly and easy. For example, Exercise 1, “What to do When the Signals Sound,” gives numbered steps for practicing getting to a safe place, either by evacuating when the “alert” signal sounds, or by going to a shelter when the “take cover” signal sounds (US, *Home* 4-6). Like a workbook, the booklet provides blank lines for assigning jobs to family members with additional lines for helpers and alternates: one family member is responsible for giving orders, another for turning on the radio, another for collecting the emergency evacuation kit, and so on. At the end of the rehearsal, the leader is instructed to evaluate the family’s performance and to “drill any lagging members of the family again” (US, *Home* 6). Other exercises are structured in the same way, with responsibility assigned to different members of the household.

Likely because the domestic space of the home was considered women’s territory, and because a private shelter was, after all, a fully-equipped home-away-from-home that
needed supplies typically supplied by mothers—food, water, clothing, bedding, sanitation, and basic medical care—*Home Protection Exercises* has women as its primary audience. Several of the exercises address women directly, such as Exercise 8, “Home Nursing,” which opens with the following: “You should know how to care for your loved ones at home. Home nursing instruction prepares you for emergencies and increases your abilities as a homemaker” (US, *Home* 26). Accompanying visuals show a traditional, white family of four and a grandmother participating actively in the exercises, though the father is generally taking on tasks associated with masculinity, such as hammering, packing the car, and standing on a ladder, and the mother is depicted doing tasks associated with femininity, such as carrying groceries, caring for others, and cleaning. Yet compared to later civil defense publications, which show men in all of the roles of responsibility, *Home Protection Exercises* is remarkably egalitarian in its distribution of duties. Women are shown protecting not only the family but also the physical house, for example, by turning off the gas to the hot water heater and firefighting, albeit with a garden hose.

Despite annual updates and its can-do tone, by 1958 *Home Protection Exercises* fell far short as a realistic guide for surviving an H-bomb attack and the post-attack period. Exercise 3, for instance, “Home Fire Prevention,” suggests that good housekeeping will prevent fires from starting, even those ignited by a hydrogen bomb. Exercise 4, “Home Fire Fighting,” posits that if fires do start, homemakers will be able to put them out. While acknowledging that “An enemy attack on your city will start many more fires than your local fire department can handle” (US, *Home* 14), the exercise
ignores the fact that the raging firestorm caused by the blast and heat would likely engulf most if not all of the city, depending on its size. Even more alarmingly and irresponsibly, the booklet blithely compares the fires ignited by a hydrogen bomb to those started by bombers in World War II, brushing aside reality and encouraging its primarily female readers in thinking that the fire-fighting tips will enable them to fight these fires effectively: “Householders in England, many of them women, successfully fought fires in World War II,” the booklet claims. “Sometimes bombs started fires in every house on a street, yet every house was saved” (US, Home 14). Similarly unrealistic in the post-attack world is Exercise 7, “Provision of Safe Food and Water,” which, despite three years of information gathered about the dangers of radioactive fallout, gives the following breezy instructions for cleaning food and utensils following a nuclear explosion: “After a nuclear attack, wash or wipe clean any food or water container before opening it. Radioactive contamination on cooking or eating utensils is another problem. Such substances cannot be made harmless by boiling—they can only be washed away” (US, Home 24).

*Home Protection Exercises* concludes with a hint of an acknowledgment of its inadequacy. Homeowners must not only train themselves to act as firefighters, sanitarians, and paramedics, they must also continue to educate themselves in preparedness: “Modern science is continually developing both new weapons of destruction and new means of personal and family protection against them. The situation you may be called upon to face keeps changing. How best to defend yourself and your home may have to change with it” (US, Home 30). And, in a nod to the reality that the exercises won’t apply to everyone—apartment dwellers, for instance—it offers the
following: “Home protection problems are not the same throughout the Nation. It is important that you know the plans of your particular city or community” (US, Home 30).

In contrast to the preparedness rhetoric of Home Protection Exercises, the Civil Defense Technical Bulletin, stamped by Mann on the same day, assumes readers have made the decision to build a shelter. As the title suggests, the Bulletin provides information about types of shelters, dimensions, ventilation, sanitation, and necessary radio equipment, and it gives tips for building specifications and working with a contractor. It supplies drawings and blueprints of various types of shelters, leading off with the “Basic Underground Family Fallout Shelter,” which is the type the Mann family built (US, Civil 4-6). Probably because of the cost, this type of shelter was downplayed in the OCDM’s major publication of the National Shelter Policy campaign, The Family Fallout Shelter, which appeared the following year and is discussed on pages 50-54.

Civil Defense and Wisconsin Doctors

At roughly the same time the Manns began collecting government publications on preparedness in the fall of 1958, Bill Mann looked to his profession for information.

Following the lead of the AMA, the Wisconsin Medical Society established a Committee on Civil Defense. Headed by Dr. M. J. Musser, the committee began its work on February 28, 1952, in a meeting with Dr. Carl N. Neupert, Co-Director of Health Services in the Wisconsin Office of Civil Defense. Charged with the medical aspects of civil defense, Neupert was responsible for ensuring that Wisconsin could care for its residents following an attack. His tasks included identifying doctors and hospitals in both
target cities and reception areas, stockpiling blood and plasma, and teaching medical personnel to use radiation monitors. He was the official who coordinated the placement of emergency mobile hospitals around the state. These 200-bed hospitals, modeled on MASH hospitals used in the Korean War, were stored on trailers near target cities around the country. And with the Red Cross, he coordinated training programs in first aid.

Neupert was also responsible for educating medical personnel about civil defense and for recruiting medical professionals to serve on approximately one hundred mobile medical teams. Following an attack, these teams of twenty-nine people each—physicians, nurses, and other first responders—would be on the scene to stabilize and transport injured people to functioning hospitals. For these duties, he turned to Musser. As a first step during the meeting in 1952, Musser agreed to devote the June issue of the *Wisconsin Medical Journal* to civil defense (State, Minutes 4). The special issue contained editorials that argued for doctors’ involvement in civil defense, as well as informative articles on the medical aspects of atomic war, the physician’s role, the formation of mobile medical teams, and emergency care. Throughout the 1950s, Neupert’s office and Musser’s committee urged preparedness, lending copies of training films such as “Medical Effects of Atomic Bomb” and “Texas City Disaster” to local medical societies (WI, Wisconsin Civil). Yet just as the government struggled with apathy on the part of the public, civil defense leaders had trouble getting doctors to participate. “Almost nothing short of bombing will stimulate the public; and without the public interest the interest of the doctor cannot be sustained,” wrote Musser in a report in 1954.
As a member of the state Medical Society, Mann would likely have seen the June 1952 *Wisconsin Medical Journal* special issue devoted to civil defense, and, depending on his involvement in the Winnebago County Medical Society, he may have received training on treating casualties following nuclear attack (State, *Wisconsin Register*). The records show, however, that he was not actively involved in civil defense at the county or state level, including as they do the names of doctors who led mobile medical teams in Neenah and the nearby city of Menasha (Neupert, Letter; WI, Mobile). The binder documents indicate that he read *JAMA* and other medical publications, though he confined his clipping to articles on radiation and caring for casualties. He did not clip anything on civil defense per se from medical sources.

As discussed briefly in Chapter 1, expectations for doctors following an attack were both extremely high and unrealistic. As people who had (and have) public responsibility in emergencies, doctors were expected to perform in any situation, no matter how dire, and would be blamed if they failed. Civil defense officials recognized this no-win situation. In the typescript of a speech delivered to the Winnebago County Medical Society on May 14, 1959, one such official, very likely Neupert, cites John Hersey’s widely-read *Hiroshima*, first published in the *New Yorker* in 1946 and as a book shortly thereafter. “There was public resentment against the medical profession [in Japan],” he writes, quoting Hersey, “because there were not enough supplies or medical personnel to care for the thousands of injured.” Referring to a more recent incident, a tornado in Massachusetts that had caused many injuries, he describes public anger at hospitals that had sent wounded people to other hospitals because they were full.
“Physicians will be blamed for any failures to provide care for persons injured in an
enemy attack,” he writes. “This fact must be acknowledged and accepted by the medical
profession.” Yet even as he acknowledges that physicians would be quickly overwhelmed
by the numbers of injured—“In fact, the physician’s medical knowledge will not be
nearly enough in a time of nuclear attack, when chaos exists and there are thousands of
injured in need of medical care”—he urges doctors to prepare. “Members of the medical
profession must also realize that the attitude, ‘I will be ready when the time comes,’ is not
enough” he writes. The key, he argues, is planning and preparedness (WI, Speech 1).

Indeed, the numbers of dead and wounded would be horrifyingly high. In 1953,
when hydrogen bombs were considerably smaller than they would become in the 1960s,
Dr. Thad P. Sears, in The Physician in Atomic Defense, estimated that a nuclear attack on
a city with a population of 500,000 would result in 120,000 people injured. Of these,
40,000 would die within the first twenty-four hours, leaving 80,000 in need of medical
care (Boyer 80). Despite these numbers, and the seemingly obvious conclusion that there
simply would not be enough medical personnel, supplies, or hospital space to care for
everyone, Sears, like Neupert, called on his fellow doctors to prepare: “Such a prospect
calls for a well-organized plan with careful attention to every detail, including adequate
rehearsal” (qtd. in Boyer 80).

The four medical documents Mann clipped for the binder in the 1950s indicate his
interest in functioning as a doctor in a post-attack period. One of them, “Suggestions for
First-Aid Treatment of Casualties from Atomic Bombing,” by Richard Warren and James
H. Jackson, indicates that Mann was considering his role as a physician for as long as a decade before he built the shelter. The article was first published in the *New England Journal of Medicine* in 1950 and later distributed widely as a pamphlet (Boyer 76). And although the document in the binder appears to be the pamphlet, Mann did not stamp it, and so I cannot determine when it reached him. What I can say, however, is that at the end of World War II, he was thirty-five and serving in the Navy in Washington DC. He would have been well aware of the death and injuries inflicted by the atomic bombs dropped on Japan.

Other documents demonstrate that Mann was thinking about radiation and fallout in the fall of 1958. The medical documents start with two articles clipped from the September 27 issue of *JAMA*, published a few months before the government documents were stamped. One article, “Acute Clinical Effects of Penetrating Nuclear Radiation” by radiation expert Dr. Herbert B. Gerstner, explains the medical conditions physicians would encounter following a nuclear attack. Gerstner bases his discussion on radiation injuries documented by physicians who visited Hiroshima and Nagasaki shortly after Japan surrendered and who treated Americans and Marshallese Islanders exposed to radiation during the 1954 Bravo test in the Pacific. The article describes effects of radiation poisoning on different parts of the body, symptoms patients would likely present, and treatments. The other article from *JAMA*, entitled “Progress Notes” includes photographs of victims of the 1945 Japan bombings.

A third article, “Effects of X-rays on the Human Fetus,” by Dr. R. Rugh, is a digest-style summary of a longer article published in the May 1958 issue of the *Journal*
of Pediatrics. (With no publication information and no stamped date, it is not possible to pinpoint exactly when Mann clipped it.) The summary describes Rugh’s experiments and data, and it ends with his recommendation that pregnant women not be x-rayed at any point unless an x-ray is deemed necessary to save the woman’s life. At a time when x-rays were used extensively, this recommendation may have been new information for obstetricians like Mann. Rugh’s article and Gerstner’s show Mann’s interest in understanding the effects of radiation, whether exposure was intended or unintended. The choice of these articles suggests that Mann, too, was trying to sort out what constituted a safe dose, and how he would respond as a doctor to patients who received larger-than-safe doses. Taken together the four articles suggest that he anticipated caring for people with radiation sickness, including his pregnant patients.

Persuaded to Build

To physicians like Mann who considered their role as doctors in a post-attack period, but who were not inclined to protest the overall policy of nuclear armament, as a group of physicians would later do, building a shelter might have seemed a professional responsibility. As a doctor living about forty miles from Green Bay (a target city) and one hundred miles from Milwaukee (also a target city) Mann could easily have imagined a cloud of radioactive fallout reaching Neenah, and he faced the question of whether to protect himself and his family or to risk radiation sickness and possibly death from radiation. If he got sick, he may have reasoned, he would be of no use to anyone. Sometime between July 1959 and July 1960, he drew the plans for the shelter, and he
hired a contractor to build it in the backyard of the home. (The plans he drew were left by his children in the front closet of the house when it was sold to my spouse and me, not stored in the shelter.)

The documents discussed below, a commercially published booklet and a government booklet, appear to have been Mann’s main sources of information about how to build a shelter. Two other documents saved during the same period indicate his ongoing interest in learning about radiation and fallout.

Although most of the information on civil defense and shelter-building in the 1950s came from the government, some material in the 1950s was published commercially. One such booklet, *How to Build and Equip Your Own Atomic Shelter*, by Paul H. Pazery, a Pennsylvania resident who later published a novel, was published in 1959 and stamped by Mann on May 3.

The first several pages of Pazery’s 28-page guide make a strong case for building a shelter. War is inevitable, he argues, claiming, “. . . there has never been, to our knowledge, an armaments race that did not end in war” (2). And in an adaptation of preparedness rhetoric that makes the government’s look restrained in comparison, he calls the US a “sitting duck” in the face of the Soviet Union’s “avowed goal of world domination” (2). The two ways to deter the Soviet Union, “an opponent who knows only the law of force, an opponent who boasts that he will win the world in a victorious stroke of violence,” are through a buildup of weapons and the promise of survival. “Today,” he writes, “survival of the American people depends on one key measure: SHELTER” (3).
Following the argument for preparation, Pazery gives detailed descriptions of each step in the shelter-building process, from excavating for the foundation, walls, and ceiling to planning for clean air, water, and food. Considerably bolder than the government documents of the time, he claims that one of his designs would provide protection from blast, a promise the government did not make in 1959 because such a shelter had to be very deep.

The Manns’ copy of the booklet shows interest starting on page 14, where Bill Mann (or perhaps Evelyn Mann— the marking is not as neat as writing that is known to be that of Bill Mann) underlined a sentence about connecting the shelter to the house with an underground corridor (which ultimately was not done). More underlining on the following pages highlights advice about ventilation and air filtering systems, sufficient water, food that did not require cooking, candles and flashlights for light and heat, radiation detection devices such as Geiger counters and dosimeters, and supplies such as sleeping bags, plates, cups, utensils, can openers, paper products, and small tools (14–25). Since these items appeared on women’s to-do lists, it is reasonable to assert that the underlining in the Pazery booklet belongs to Evelyn Mann.

Also added to the Mann binder in 1959 was *The Family Fallout Shelter*, a major new publication put out by the OCDM to promote the National Shelter Policy. Published in June 1959, the 30-page booklet brought together the preparedness rhetoric of *Home Protection Exercises* and the construction details about fallout shelters from the
Technical Bulletin described above into a more professional-looking publication. Mann stamped a copy on July 19 of that year (see fig. 5).

![The Family Fallout Shelter, 1959](image)

Fig. 5. Mann’s copy of *The Family Fallout Shelter*, 1959.

*The Family Fallout Shelter* may have reached Mann through one of his children. An acquaintance of mine who was raised in Wisconsin remembers receiving a copy at school to take home to her parents (Micke). Mann’s shelter plans, drawn in his hand, are near duplicates of the “Underground Concrete Shelter” on page 26 of the booklet.

The first five pages of the *Family Fallout Shelter* are preparedness rhetoric, again combining fear of death and assurance of survival. Yet the tone and language are more
direct and less reassuring than the language in the 1958 *Home Protection Exercises*, particularly for those who lived in the nation’s big cities. The introductory letter inside the front cover, by OCDM director Hoegh, rather than President Eisenhower, starts off as follows:

Let us take a hard look at the facts.

In an atomic war, blast, heat, and initial radiation could kill millions close to ground zero of nuclear bursts.

Many *more* millions—everybody else—could be threatened by radioactive fallout. But most of these could be saved.

The purpose of this booklet is to show how to escape death from fallout. Everyone, even those far from a likely target, would need shelter from fallout. (US, *Family 2*; emphasis in original)

Although it’s far from certain that millions could actually have escaped death from fallout, the admission that “. . . blast, heat, and initial radiation could kill millions close to ground zero” is notably darker than the breezy assurance made a year earlier that homeowners could successfully fight the fires ignited by the heat of a thermonuclear blast. Still, to a contemporary reader it is shocking that the government would openly write off the millions of people who would be killed in the initial explosion (whether in shelters or not). And yet the booklet does so in words and in illustrations. Readers who looked closely at the map on page 4 of the booklet would realize fairly quickly that the government had conceded that most of the residents of big cities would die. The map of the United States, titled “Fallout areas at 1 hour after detonation,” shows small clouds of
fallout over every major city and significant military installation. The map on the next page, titled “Fallout areas at 24 hours after detonation,” is again a map of the US, but it shows clouds of fallout covering nearly every area of the country twenty-four hours after an attack, with nearly solid clouds over states east of the Mississippi River. The people in these newly-covered areas represent the “Many more millions—everybody else—[that] could be threatened by radioactive fallout,” and potentially “saved” (US, Family 2). They are the audience, and if they read and act on the advice, the booklet argues, they will learn how to “escape death from fallout” (US, Family 2). Indeed, the map is visual evidence to support the concluding statement: “The lesson is: fallout shelter is needed everywhere” (US, Family 5; emphasis in original).

Following this introduction, The Family Fallout Shelter turns practical. It gives detailed instructions for how to build a basement concrete block shelter as a do-it-yourself project (an ambitious one, to be sure) as well as building plans for the other types of shelters it describes (aboveground, basement, and underground). It also provides advice about ventilation, radio reception, and lighting; cost estimates; and a surprisingly short list of supplies necessary for two weeks in a shelter. There is advice for people who do not have basements or who live in apartment buildings, as well suggestions for what to discuss with a contractor (US, Family 14, 19, 30-31).

If Home Protection Exercises, discussed above, was aimed primarily at women, the Family Fallout Shelter was addressed to men. On the cover is a lone man (white, youngish) stacking concrete blocks to make a basement shelter for his family. In illustrations throughout the booklet, individual men are depicted, always white and
building alone, except when the shelter is finished; then families are shown. Women, who
in *Home Protection Exercises* are shown turning off gas lines and fighting fires, tasks
associated with masculinity, disappear from responsible jobs even in their own homes in
*The Family Fallout Shelter*. For example, in section 3 on living in a shelter, even the
“housekeeping rules” that need to be “spelled out by the adult in charge” are shown being
given by the father as the mother and two children listen attentively (US, *Family* 18). The
message is simpler: men, take charge of protecting your families.

Using the 1959 *Family Fallout Shelter* as a guide, Mann based his family’s shelter
closely on the “Underground Concrete Shelter,” the gold standard of shelters described in
the booklet. The booklet claims that shelter would provide “almost absolute fallout
protection” and cost between $1000 and $1500 though some estimates at the time placed
the cost closer to $2500. (Today, a local builder estimated that the shelter would cost
about $15,000, a price tag that would put such a shelter out of reach for many families.)
Mann drew the plans in pencil on graph paper, neatly labeling each page and printing and
using a small-print typewriter for building specifications (see fig. 6). He hired Wiegand’s
Lumber & Supply, of Menasha, to pour the concrete, install entrance doors, and mount
the ladder rungs and a manual crane to the wall. The crane fit behind the ladder and
swung out into the square entrance tunnel to assist in lowering heavy items into the
shelter (Kroiss). When the shelter was finished, he and Evelyn stocked it with supplies.
Fig. 6. Mann’s building plans for the shelter, east elevation. Ventilation pipes are sketched in and indicate where they connect to the house. The entrance and ladder are on the right.

Probably in 1959, Mann also added a copy of *Facts about Fallout Protection* to the binder, a short US government booklet aimed at calming public fears about radiation and fallout. (The publication date is 1959 but Mann did not stamp his copy.) Like some other civil defense publications, this booklet was first published in the mid-1950s and revised as bomb technology developed and new information became public. For example, what started in 1955 with “Fallout is nothing more than particles of matter in the air, made radioactive by nuclear or thermonuclear explosions” and instructions such as
“Don’t get discouraged” and “Don’t get panicky” had by 1959 turned more practical. While still assuring readers that “Radioactivity is nothing new,” Facts jumps more quickly to the two-prong message of preparation that describes the dangers of radioactive fallout and the assurance that the home shelter they should build will ensure survival (US, Facts).

Around the time the shelter was completed, Mann added a fourth medical publication to the binder, the July/August/September 1960 issue of Health, a bulletin published quarterly by the Wisconsin State Board of Health. This issue was devoted to radiation, and Mann placed the complete volume in the binder. It includes thirteen short articles on radiation and its uses—in medicine, in weapons, in power plants, and industry. The articles discuss what were at that time unknown and known questions about radiation, such as how to dispose of radioactive waste. Opening with an explanatory article about radiation, it assumes readers aren’t experts, as Mann no doubt was by that point. Indeed, at that point, Health probably didn’t give Mann information he didn’t already know.

At that point, there is a break in the documents. It’s easy to imagine that the Manns felt a sense of calm: they had heeded the calls from their government and from the medical profession. They had built a shelter they believed would protect them. International politics were tense but stable. Then, in the summer of 1961, the Cold War turned hot, and Americans felt much more vulnerable. Mann resumed clipping in the fall of 1961.
Within the first year of John F. Kennedy’s short term as president, the Cold War heated up. In June 1961, nearly a year after the Mann shelter was constructed, Soviet Premier Nikita Khrushchev demanded that the US and its allies withdraw from West Berlin within six months, and he threatened to negotiate an agreement with East Germany that would close the corridors from West Germany to the city, which lay inside communist-controlled East Germany. Large numbers of East Germans were escaping to West Berlin, which embarrassed the communist leaders, and they wanted these departures stopped. Kennedy countered with a threat of his own: the US would do whatever was necessary to keep West Berlin out of East German control. In a televised speech on July 25, 1961, he promised to protect the city and, for the first time, a sitting president called on Americans to prepare for nuclear attack. “In the coming months,” Kennedy said, “I hope to let every citizen know what steps he can take without delay to protect his family in case of attack. I know you will want to do no less” (qtd. in Garrison 112). He then requested that Congress allocate $207.6 million to identify public shelter space in existing structures—office buildings, factories, schools, apartment buildings, union halls, community buildings—and to stock them with food, water, medical supplies, and other necessary items. Just nine days after, and for the first time, the Senate approved the full amount (Garrison 112). After five tense months, Khrushchev backed down.
The American public was shaken. Requests for government pamphlets went from three thousand in May of 1961 to over one hundred thousand in October (“Survival”). Private shelter-building took off, though not to the extent that many people assume. Swimming pool contractors offered shelter-building services, and dealers of pre-fabricated shelters dug holes in yards and dropped in their products, which resembled large metal soup cans equipped with ventilation pipes. Between 1961 and 1965, the number of private shelters grew from approximately 60,000 to as many as 200,000, or one for every 266 households. But even at the peak of shelter-building, fewer than .004% complied with the government’s stated wishes (Rose 202).

The Manns seem to have been shaken, too. In September and October 1961, they placed stacks of newspaper on the shelves in the shelter, perhaps as reading material, but more likely for wrapping garbage. They also ordered cans of “Multipurpose Food,” a canned food that promised to provide balanced nutrition when other supplies were low (Mann). Mann also resumed clipping for the binder, including articles from news magazines as well as from government and medical publications.

**Civil Defense under Kennedy**

Kennedy’s July promise to “let every citizen know what steps to take” took the form of *Fallout Protection: What to Know and Do about Nuclear Attack*, a 48-page, text-heavy booklet published in December 1961 by the Department of Defense, which was at that point in charge of civil defense. The administration originally planned to print sixty million copies and mail one to every household, but it scaled back to twenty-five million
and made them available through civil defense offices and post offices (Garrison 125). Mann may have gotten the copy he placed in the binder in one of those ways.

*Fallout Protection* opens with an acknowledgment of deterrent strategy and a promise about its effectiveness: “The foreign and defense policies of your Government make [nuclear] attack highly unlikely, and to keep it unlikely is their most important aim. It is for this reason that we have devoted so large an effort to creating and maintaining our deterrent forces” (US, *Fallout* 5). The next fourteen pages define terms (such as “megaton” and “fallout”) and describe in detail the blast, heat, shock wave, firestorm, and fallout that would occur with a five-megaton bomb explosion. Picking up familiar preparedness rhetoric of fear and assurance, the booklet acknowledges that many people would die in an attack: “There appears to be no practical program that would avoid large-scale loss of life,” and it assures survival to people away from ground zero who can shelter for two weeks: “. . . an effective program of civil defense could save millions who would not otherwise survive” (US, *Fallout* 6). Presenting nuclear war again as a manageable event, these lucky survivors would be the people who, later in the booklet, would be organized into massive cleanup crews once the danger of radiation had passed.

Unlike earlier civil defense pieces, which emphasized single-family shelters, *Fallout Protection* promotes community shelters alongside private shelters. It touts the National Shelter Survey, the program Kennedy had introduced a few months earlier to identify and stock public shelters in existing structures, and it promotes neighborhood shelters over private shelters because larger groups “. . . probably would be better prepared to face a nuclear attack than a single family, particularly if some members
should be away from home at the time of an attack” (US, Fallout 15). For individual families seeking to prepare shelters, Fallout Protection dispenses with plans for heavy-duty family shelters, showing instead small families—white, middle-class parents (mother always in a dress and heels, and often an apron) and one child—sheltering in cramped spaces that the adults would be unable to stand in. (Time indicates that the ceilings in some of these shelters are four feet high, but Fallout Protection does not) (“Cold”). And although the booklet discusses stocking food and water for two weeks and disposing of human wastes, the shelters shown, one of which is made of boards leaned up against a wall and resembles a fort made of sofa cushions, are barely big enough to accommodate the people, let alone the supplies they would need for two weeks (see fig. 7). Indeed, these shelters make the Mann eight-by-ten space seem luxurious by comparison. But they are much less expensive: $150 dollars of materials compared to $1500-$2500 for an underground shelter like the Manns’ (US, Fallout 20-23).
For the first time, a government publication discussed the role of the government in nuclear war. The booklet describes in some detail the administration’s policy proposals: the National Survey Program to identify and stock shelters in existing structures, which was funded by Congress, and a proposed incentive program designed to encourage the building of fallout shelters in schools, hospitals, and other public buildings, which was not funded by Congress (Garrison 126). The booklet concludes with a clear explanation of the division of civil defense duties. As it had in the past, the federal government would provide educational materials and training, but responsibility for
actual civil defense lay with state and local governments: “The job of educating every
citizen on the results of thermonuclear attack, and what he can do about it, is necessarily
the responsibility of State and local civil defense organizations” (US, Fallout 45). State
and local governments are also charged with the daunting task of organizing and readying
massive numbers of volunteers for nuclear war. Indeed, they are responsible for “giving
specific training to the literally hundreds of thousands of volunteer workers who must be
prepared to undertake decontamination, rescue work, firefighting, first aid, and
restoration of necessary services” (US, Fallout 46).

Under the weight of such responsibility, civil defense at the state and local levels
soldiered on. Milwaukee’s civil defense office issued a flyer on radiation and fallout in
April 1961, and Mann added a copy to the binder (Milwaukee). Medical self-help
training programs, developed by the federal government on the recommendation of the
AMA’s Council on National Security got underway in Wisconsin in 1962, administered
by the State Board of Health under the direction of Carl Neupert (WI, “Pilot”). By
February 1962, forty-two of Wisconsin’s seventy-two counties had survival plans (WI,
“42 Counties”). The 200-bed mobile emergency hospitals continued to be shipped around
the country, and by 1964 there were 1900 units stored in schools, county highway stops,
and public buildings. By the mid-1960s Wisconsin and other states had identified,
stocked, and placed the familiar yellow-and-black fallout shelter signs on structures that
provided shelter for fifty or more people.
The Berlin Crisis and the News Media

Major news magazines that for most of the 1950s had been fairly quiet about civil defense—*Time*, *Newsweek*, and *U.S. News & World Report*—all ran cover stories on fallout shelters and radiation in October and November of 1961 in response to Kennedy’s July speech. Mann clipped and saved four of these stories in the binder. In January 1962, *Consumer Reports* ran paired articles on fallout shelters, which Mann also clipped. The conversation on the pages of magazines at turns parroted and critiqued the government’s preparedness rhetoric, and they raised questions about the morality of private shelters that neither the government nor the AMA had done. In addition, two of the stories raised questions about the effectiveness of shelters and about what a post-attack period would really be like. These stories and others contributed to a resistance rhetoric that gained steam in the early 1960s.

*Time* and *U.S. News & World Report* aligned themselves closely with the Kennedy administration, supporting the President’s call to prepare and creating their own versions of preparedness rhetoric. On deterrence, for example, *Time* writes that with adequate warning and prepared shelters, enough lives would be saved to ensure that American society would “rise from the rubble, fight back, survive, put together a society again, and ultimately, prosper once more. That ability in itself might well serve as a deterrent second only to the nation’s retaliatory might in preventing an aggressor from launching his attack” (22). *U.S. News & World Report* quotes Edward Teller, the physicist known as the “father of the hydrogen bomb”: “I believe the Russians will be
more likely to attack if we are not prepared. With a system of defense, and organization, we could win a war. By showing we are prepared, we could avoid it” (54).

Both magazines expressed confidence in government planning before and after an attack. In anticipation of the Fallout Protection booklet (which had been promised but wasn’t yet published), Time reports that available shelters “are beyond the means of many US families” and prepares readers for less expensive shelter designs: “The Government next month will introduce blue prints for a simple backyard or basement shelter, constructed of steel, concrete, wood or earth, which can be built for $150 or less” (22). U.S. News & World Report calmly states that the post-attack period will be manageable. Referring to a list of services that would be destroyed or disrupted by an attack, such as electrical and water service, the magazine writes, “Detailed plans are being made to handle all these problems. Washington is planning. So is every State and many a city and town” (54).

Both magazines also stressed individual preparedness. For example, U.S. News & World Report writes that after an attack “. . . it would take time for Washington to establish command over the entire country. In the meantime, it would be up to you, the people, and to your local officials to organize things as best you could” (55). Time glosses over the negative aspects of nuclear war—millions dead, cities destroyed—and paints a utopian picture of plucky survivors starting life anew. “Death and destruction would be still be beyond rational belief,” writes Time. “But upon emerging from their shelters, most Americans would not find scorched earth; more than 95% of the nation’s land would still be green” (25). Indeed, after several days, shelter-dwellers would be able
to spend short periods of time outside, *Time* continues, and begin to clean up. “With information gleaned from radio reports and radiation-detection devices, with trousers tucked into sock tops and sleeves tied around wrists, with hats, mufflers, gloves and boots, the shelter dweller could venture forth to start ensuring his today and building for his tomorrow” (25).

The news magazines all raised moral questions about shelters as well. In August 1961, *Time* had published an article entitled “Gun Thy Neighbor” that quoted an Illinois shelter builder saying that he planned to mount a machine gun to his shelter to keep neighbors from entering (58). This article, and responses to it, ignited a heated national conversation about the morality of saving one’s own skin in the knowledge that others would die. One of the articles Mann saved from *U.S. News & World Report* picks up that conversation, quoting a Dallas man who said, “I’d probably have to fight off my neighbors to get into my own shelter, because nobody else in my neighborhood is building one” (53). *Newsweek*, however, is more critical, writing, “There is evidence that the Administration policies, which seem to emphasize an every-man-for-himself approach, have succeeded in bringing out the worst side of human nature” (19).

Indeed, the *Newsweek* story Mann clipped is considerably more critical of the administration’s assurances of safety through sheltering than its competitors, *Time* and *U.S. News & World Report*. Calling the government’s promises into question, *Newsweek* is the first example of a rhetoric of resistance in the Mann binder. Questioning the government’s plans, *Newsweek* writes, “The shelter steps so far initiated by the Administration are based on certain shaky premises which could be wrong—fatally
A realistic program of civil defense is something far more serious than what has been done, or even publicly discussed, so far” (20). Scoffing at the September 15, 1961 issue of *Life* magazine, which claimed that ninety-seven out of one hundred people could be saved through shelters and included a letter to readers from President Kennedy, *Newsweek* writes that *Life* cites “no authority whatsoever in its story” and “appears to be vaguely based on the most favorable assumptions about how Russia, the US, the weather, and other variables might or might not behave” (19, 20). After giving different scenarios of how a war might play out, *Newsweek* concludes with a much darker vision of Cold War tensions and civil defense. Shelters are dangerous, *Newsweek* argues, not so much because they might not save lives, but because they make people think they can survive and thus accept nuclear war as inevitable. “The most dangerous illusion [about nuclear war and its aftermath] is that shelters make nuclear war thinkable—that after the bombs have fallen the nation will climb out of its hole and go on with life as it has always been lived,” *Newsweek* concludes (23). This refusal to accept nuclear war as an option would soon be taken up by many more people.

*Consumer Reports* was similarly resistant to shelters but for more practical reasons: most would not provide adequate protection, and those that would were prohibitively expensive. *Consumer Reports* published paired, pro-con articles: the first by Dexter Masters, the director of Consumer’s Union who had written on nuclear issues previously, who argues that most shelters would not work; and the second by Ralph
Lapp, one of the best-known atomic scientists of the day, who describes a very expensive shelter he was building with his neighbors.

Masters helps readers understand the difference between the two types of nuclear explosions likely to happen in an attack: those on the ground and those in the atmosphere, but his example—a 100-megaton bomb—is hypothetical. (The largest bomb ever built was a fifty-megaton bomb, exploded by the Soviet Union in October 1961. But the thinking at the time was that the bombs would continue to get bigger.7) A nuclear bomb exploded on the ground (like the 1954 Bravo test in the Marshall Islands) makes the soil it hits highly radioactive and sends it into the air. These radioactive bits of dust and debris fall quickly back to earth as fallout. This type of fallout made people in Marshall Islands sick and caused the death of the Japanese fisherman on the *Lucky Dragon*, and it is the type of fallout the Mann shelter protected against. The radioactivity of such fallout decays fairly quickly, but immediately after the blast it is very dangerous. Everything it lands on—crops, livestock, water—becomes contaminated. The effect of the blast and fire are significant, too, but the fallout can travel much farther (Masters 12-13). If a 100-megaton bomb had been exploded on the ground in Green Bay in 1961, to use Masters’ example, the Mann shelter, about forty miles away, would surely have protected the family from the blast, probably protected them from the firestorm, and very likely would have protected them from any fallout.

A nuclear bomb exploded in the atmosphere, as many of the nuclear test explosions were during the 1950s, has a different effect on the ground. It produces a huge blast wave and immediate radiation that would kill thousands of people right away. It
also produces an enormous firestorm and intense heat that affects a very large area. But an atmospheric explosion does not produce deadly fallout. Such an explosion creates fallout high in the atmosphere that returns to earth slowly, decaying as it comes down. This type of fallout might cause genetic mutations and cancer, but the effects are long-term; it would not make people immediately sick. (Masters 12-13). If the same hypothetical 100-megaton bomb described in the previous paragraph had exploded at 40,000 feet above Green Bay, the firestorm would have extended sixty miles from ground zero, suffocating anyone inside the Mann shelter. To cover that situation, the shelter would have needed its own oxygen supply.

Masters is frankly dismissive of shelters because there is no guarantee that they would work. Blast shelters, he writes, would provide great protection, but they “really [do] not exist,” and fallout shelters that are easy and cheap to build “really do not work.” He continues: “The difficulty is [that] a shelter designed to fit one set of conditions could easily prove not only useless but worse than useless in an equally likely different set of conditions” (8). Indeed, Masters writes, there are too many “uncertainties and unknowns” that could cause a shelter to fail, which include the size of the bombs, the type and height of the explosion, the accuracy of the hit, the targets themselves, as well as “the winds, the weather, the terrain, the time of year, the character of the soil, and so on” (10). The important point, though, is that every survival scenario described by anyone was based on certain assumptions, rarely stated, that involved those variables (10). Contesting the argument that a family shelter is like insurance, he argues that a shelter is “purely and simply a bet, exactly like a bet on a horse race. The shelter owner gambles . . . that a
complex set of variables will so arrange themselves that *his* shelter (or his horse) will come through” (11; emphasis in original). Furthermore, Masters rejects the calm acceptance of the deaths of people in target cities, the “built-in notice to millions of city dwellers that they are expendable,” and he argues that only the government has the money to create a shelter program that can begin to account for the variables of fire and blast, which would be the primary effects in the nation’s major cities (8, 14).

The second article in *Consumer Reports*, by Ralph Lapp, is primarily a description of the blast-and fire-proof shelter he was building with two of his neighbors on the outskirts of an unnamed target city. At the start, Lapp echoes Masters’ pessimism about sheltering people in cities, calling Kennedy’s urging of all Americans to prepare fallout shelters a “political expedient” (15). “I have the gravest doubts,” he writes, “as to the wisdom of providing partial protection—that is, against fallout only—when so many millions of lives in the central cities are exposed to the immense blast-burn effects. The sad fact is that there isn’t much that can be done for the vulnerable central cores of our cities” (15). He argues that survival from the blast, heat, fire, and fallout is possible—provided the shelter is adequate and far enough from the blast. Yet Lapp makes assumptions that Masters says in a note to Lapp’s piece only reinforce his conclusion that shelters are not worth the gamble: Lapp assumes a 20-megaton bomb, a ground explosion, and no follow-up attack. More important, Masters points out, is that Lapp’s shelter is far too expensive for the masses or the middle class: it has walls thick enough to absorb a blast wave, its own oxygen supply to use during the fire, a built-in well for a continuous supply of clean water, and a six-month supply of food (15). Indeed, Lapp’s
shelter provided considerably more protection than the Mann shelter, which was already beyond the means of many Americans.

**The Medical Profession’s Commitment to Preparedness**

As the news magazines debated the efficacy and morality of shelters in the fall of 1961, the American Medical Association remained committed to preparedness. Much of what *JAMA* reported on that autumn was radioactive fallout from atmospheric nuclear tests, namely the highly radioactive isotope strontium 90 that made its way to earth and into the milk supply. Nearly every week, *JAMA*’s “Washington News” feature covered some aspect of fallout, but danger and caution were typically downplayed. For example, in September 1961, shortly after the Soviet Union broke the moratorium on nuclear testing as part of the Berlin crisis, *JAMA* reported that levels of radiation in the environment, including strontium 90, had peaked in 1959. And although *JAMA* voiced concern that the resumption of testing would cause levels to rise again, the journal was uncritical of the Public Health Service Surgeon General Luther Terry, who said that the increased fallout posed “no immediate health danger” (“Radiation” 25). On October 7, a short piece entitled “Fallout Roundup,” which Mann clipped for the binder, reported that Little Rock, Arkansas had recorded the nation’s highest fallout levels since the USSR resumed test explosions several weeks before. The article concludes that radiation is basically safe: “People should be more alarmed over hazards of chemical sprays and auto crashes than nuclear fallout,” Dr. John E. Rose, director of radiological physics at Argonne National Laboratory is quoted as saying. “Lead in food, from sprays, has a far
greater effect.” The article also quotes Willard F. Libby, winner of the 1960 Nobel Prize in chemistry, former member of the Atomic Energy Commission, and a tremendous booster of fallout shelters. Using familiar preparedness rhetoric, Libby said, “There is no reason why there should be any deaths from radioactive fallout if proper steps are taken for protection” (28). And a month later, as Kennedy considered resuming nuclear testing, *JAMA* reported that the President was balancing the risks of radiation against the benefits of a strong defense. If the US resumed nuclear testing (which it did in the spring of 1962), levels of strontium 90 would be two-and-a-half times greater in 1962 than they were in 1959, the heaviest fallout year on record. Even so, the public “should not be unduly alarmed,” *JAMA* concluded, “because the levels of strontium 90 will still be well below the limit considered harmful for individuals” (28).

The Wisconsin Medical Society renewed the call for preparedness among its members in August 1961. Adopting a fatalistic tone in an editorial in the *Wisconsin Medical Journal*, the president of the society, Leif H. Lokvam, both condemns the bomb and argues for preparedness. “If mankind should foolishly permit the bomb to fall on friend and foe alike,” he writes, “the medical profession must be prepared to assume leadership in the manner of protection offered and in repairing the ravages of the destructive effect.” Harping on doctors who had until then ignored calls to prepare, he urges his colleagues to act. “We have been advised time and again to build a shelter from fallout in our homes,” he writes. “Let us do it, and encourage others in the same action” (459).
Of the nine medical articles and documents Mann saved in the binder, five were published in 1961 or 1962. These documents show his ongoing concern with the effect of radiation on human health, raise questions about the efficacy of shelters, and, assuming a nuclear war would indeed happen, discuss how to decide when it would be safe for a doctor to leave a shelter. Two of the documents were published by pharmaceutical companies, Ciba and Abbott Laboratories. Copies of both articles were also saved by the Wisconsin State Board of Health, suggesting that they circulated to doctors around the state through the county medical societies. Three of the documents were articles published in *JAMA*, one of which is discussed above.

Ciba devoted the January 1962 issue of its quarterly journal, *Clinical Symposia*, to “Survival in Nuclear Warfare,” a 30-page article by Dr. E. Richard King, a Navy captain. The article covers bomb technology, types of blasts, shelters, fallout, radiation and sickness, patient care, and the question of when a doctor could leave a shelter.

The arresting image on the cover of the issue, by the well-known medical illustrator Dr. Frank H. Netter, shows a white-coated, male physician, stethoscope around his neck, looking at a distant mushroom cloud exploding over a city that looks somewhat like San Francisco (see fig. 8). His stricken (white) face, seen in profile, is illuminated by the bomb’s flash and fire, and his right arm is raised in shock and perhaps also in defense. It is a vision of the apocalypse, and it captures effectively the situation of doctors like Mann: thousands (or more) have died and are injured, including (presumably) many of the doctors who would treat them. But he, at a safe distance, is alive. What should he do? Should he rush to the scene and risk radiation sickness and
possibly death to help the survivors? Or should he go to a shelter and avoid the fallout that will soon cover the area, leaving the wounded to fend for themselves?

Fig. 8. Cover of *Clinical Symposia*, 1962.

The answer, implicit in the title “Survival in Nuclear Warfare,” is that the doctor has heeded calls to prepare and will go to his shelter, staying there until it is safe to emerge and care for the injured and sick. Indeed, twenty-one pages of the article are devoted to bomb technology and shelter preparation, and only eleven pages to radiation sickness and patient care. King does not discuss the hours, days, or possibly weeks between a nuclear attack and the arrival of medical care. If doctors like the one depicted
on the cover were to stay in shelters for two days or two weeks, thousands of injured and sick people would go untreated and likely die; however, if doctors rushed to the scene, they, too, would surely become sick and risk death.

That said, King does address when a doctor should leave a shelter. In a section titled “Estimation of Safe Interval for Leaving Shelter,” he concedes that leaving a shelter is “both a scientific and philosophic problem.” He refers to tables that show approximate lengths of time a person could safely stay outside a shelter “in order to receive the amount of radiation to which you feel justified in exposing yourself on a given day,” and concludes, “So much for the science.” The more difficult question, he acknowledges, involves the value of the doctor’s life. “From a philosophic standpoint,” King writes, “the doctor must weigh his present and future value to his community against the urgency of the mission. In general, the fewer the doctors available and the younger the man . . . the more his potential value” (25). What would he say about a man like Mann, who was fifty-one in 1961? He was no longer young, but did he feel old enough to consider sacrificing himself?

Like other writing in the medical articles Mann clipped for the binder, the tone of King’s piece is for the most part straightforward and dispassionate. He addresses an audience of male colleagues, whom he assumes will take the lead in preparing themselves for nuclear war. So it comes as something of a surprise when, at the end of the piece, he lapses into sexism that seems almost an aside. Advising his fellow doctors to sedate people who have radiation sickness, he criticized young mothers harshly:
Speaking of sedation, it is quite possible that most adults who remain in a shelter for two weeks should be tranquilized if at all possible. *The modern mother apparently cannot stand to have all the young children around her for a very long time, even under normal circumstances.* Therefore, adequate sedation and tranquilization may change two weeks’ restriction in a shelter from an impossible situation into one that is at least tolerable.

(33; emphasis added)

It is ironic to note that just three years earlier, the federal government in *Home Protection Exercises* called on women to fight nuclear firestorms with garden hoses.

The second article published by a pharmaceutical company, “Management of Mass Casualties,” is a short piece in the April-May 1961 issue of *What’s New*, a newsletter published by Abbott Laboratories. The article describes a five-day course for medical professionals taught at Brooke Army Medical Center at Fort Sam Houston, in Texas, mainly for army reservists but also for a few civilians.

Like government and other medical civil defense publications, the article preaches preparedness, giving some daunting numbers to spur doctors to action: “Second only in importance to the military . . . are the medical profession and the paramedically trained people who will be left among the living to care for casualties which may number as many as 80 million. And there may be less than 100,000 medically trained survivors to care for the casualties,” or one medical professional for every eight hundred patients (Abbott 2). Despite this daunting ratio, the article praises the AMA, which through its civil defense organization “is doing its utmost to educate every physician in the disaster
procedures which will be required,” though without success: much of the AMA’s effort “is going unnoticed by many physicians” (Abbott 2). Abbott takes it upon itself, then, to let doctors know what they can do to prepare: “It is our purpose, by reporting some of the material being taught at the Medical Field Service School at Fort Sam Houston, to try to enable physicians to utilize their training and experience most effectively under conditions of catastrophe” (2).

The last articles Mann clipped for the binder came from two April 1962 issues of *JAMA*. Both assume that the reader is going to or has prepared a shelter, and they address two of the questions raised in the King article: Will a shelter provide protection? When is it safe to emerge?

The first article, dated April 7, carries the straightforward if chilling title “Estimates of the Kill Probability in Target Area Fallout Family Shelters.” The article calculates the probability of death to people who are unprotected, in basement block shelters, and in underground shelters (like the Mann shelter) for both ground and atmospheric explosions, using realistic bomb sizes (a 20-megaton bomb is the largest). The authors are blunt, which may have comforted Mann or caused him angst: his shelter would, according to their numbers, protect him from the “thermal effects” (i.e. heat and fire) provided the “entrance and ventilation equipment were properly constructed,” meaning, presumably, that the shelter had its own supply of oxygen (which as far as I can tell, it did not) (Russell and Kimbrel 27). The authors present their results without editorializing; the results do not serve as support for an argument for or against preparation, and they could be used either way. Like Gerstner’s 1958 report on radiation,
also published in *JAMA*, this article serves an informative purpose, though its results—showing lower kill probability for sheltered people far enough from a blast, as Neenah would likely have been—implicitly make a case for sheltering, which coincided with the AMA’s position.

The last article Mann put in the binder takes up the question of when it is safe to leave a shelter. In a special contribution to the April 14, 1962 issue of *JAMA*, Marshall Brucer, who wrote on fallout for *JAMA* on more than one occasion, attempts to answer the question any physician who gave any thought to nuclear war and sheltering surely had: When is it safe to leave a shelter, or more complexly, at what point can I care for patients without getting sick myself?

Brucer’s piece stands out among the medical documents. Imagining a frustrated physician (a man, no doubt), in front of him, Brucer takes an aggressive stance. The first heading, for example, is “Are You Helpless?” Clearly readers are not, he answers, and proceeds to explain how to make a crude radiation detector—an electroscope—by rubbing a comb covered with a piece of paper on someone’s hair. This device “isn’t a good measurement,” Brucer concedes, but if real radiation-detecting equipment is unavailable, “it is good enough for an estimate of radiation,” meaning that it will indicate whether radiation is present or absent (144). He then goes through the different kinds of radiation, patterns of radioactive decay, and safe exposures to radiation. He imagines his reader getting frustrated with these details, and in a switch of voice he becomes the questioner, becoming more insistently in his demand for an answer to the question of when it would be safe to leave. In three headings—“When can I get out of a fallout shelter?”
and “So—when can I leave?” and finally “When Dammit—When?”—Brucer gives more information, and finally concedes, indirectly, that he doesn’t know more than the government has already told them, that is, to plan to shelter for two weeks. And yet his conclusion is rather contemptuous of his fellow physicians, as if he believes that going into a shelter indicates weakness: “You will probably leave when you are told it’s ‘safe,’” he writes. Brucer then goads readers into making decisions for themselves, appealing to them as fellow professional, rational men: “If the government remains hysterical, you’ll never leave. Sensible men will make their own estimates and leave in a few days to a few weeks. You’ve got to take some risks” (146).

With those words, the binder ends, and Mann left undocumented whatever else he read about nuclear war. At the national and international level, however, the conversation continued. Cold War tensions continued through 1962, coming to another crisis point in October when Soviet leader Khrushchev began preparations to place nuclear missiles in Cuba. Kennedy responded with a military blockade and the demand that the missiles be returned to the Soviet Union. After thirteen days of tense negotiations during which several Soviet ships tried to break the blockade and a US Navy plane was shot down, the two sides negotiated a settlement. Khrushchev agreed to return the missiles to the USSR, and in return, the US agreed to dismantle nuclear warheads it had placed in Turkey and Italy. At the same time, the anti-war movement gained steam, and it succeeded in changing the conversation from preparation to prevention.
Conclusion

I began this thesis with the hypothesis that Kenneth Burke’s definition of rhetoric and his related parlor metaphor of an ongoing conversation would allow me to probe the question of why a doctor such as Mann might have felt compelled to build a fallout shelter. Burke’s definition of rhetoric, that language is used “by human agents to form attitudes or induce actions in other human agents,” allowed me to look at the binder documents in terms of their persuasive qualities, and to define US civil defense as a rhetorical construction designed to create fear, to induce individual action through assurance of survival, and to promote responsibility and patriotism. Burke’s parlor metaphor of an ongoing conversation among multiple speakers facilitated my examination of the many rhetors who participated in the national conversation about civil defense, including Mann, who by collecting documents for the binder and building the shelter became an active rhetorical agent. In pushing me to see civil defense as a conversation involving multiple rhetors, Latour’s actor-network theory served a similar purpose to Burke’s parlor metaphor. However, actor-network theory made my point of departure Mann and the binder rather than the more powerful and corporate public rhetors, sending me to the archives to trace the web of associations of which Mann was a part, and to try to determine how the arguments that persuaded Mann reached him. After all, to induce action, any message aimed at persuading an audience must find it.

Within the binder documents, I have shown intertextual connections among the various texts, including Mann’s. Those published by federal civil defense agencies (the
FCDA, OCDM, and OCD) are notable for their consistent rhetoric of preparation during the years in which they were published. The medical documents from 1958 relate to the government publications on the subject of radiation, and those from 1961 and 1962 demonstrate close adherence to the promise of survival through preparation. Similarly, the articles from the news magazines and other documents, with notable exceptions, are accommodating to the government’s push for preparation and often use the same or very similar language. And Mann’s own to contributions to the binder show his engagement with these documents as he planned and stocked the shelter.

The binder documents also show connections to texts Mann did not choose to save and to an even larger conversation about civil defense. As I have considered the binder documents in the context of historical accounts and primary documents in the Wisconsin Historical Society archives, I have determined that the binder documents are reflective of the national conversation about civil defense between 1958 and 1962, a conversation that began before Mann started collecting information for the binder and that continued after he stopped. I have discovered evidence in support of the claim that he may have felt pressure from the medical profession to build and stock a shelter, and I have discussed articles that suggest he questioned whether the shelter he built would, if tested, provide adequate protection for him and his family. In the absence of additional documents, however, I have been unable to determine to extent to which Mann followed the new conversation about preventing nuclear war that gained steam in 1962.
Rejecting Preparation: A New Rhetoric of Prevention

The Berlin and Cuban crises of 1961 and 1962 helped the fledgling peace movement spread to the wider public. Public resistance to the buildup of nuclear weapons had started with small pacifist groups’ refusal to participate in annual Operation Alert civil defense drills, which were scheduled in target cities around the country between 1954 and 1961. Residents of these cities were required to take cover for fifteen minutes when the sirens sounded. Civil defense officials tested their preparedness and communications systems and government officials evacuated. With the second Operation Alert drill in 1955, however, resistance started. In New York City, twenty-eight pacifists refused to take shelter and were arrested. In Illinois, the entire city of Peoria refused to participate (Garrison 71). Resistance gained steam in the years that followed, and by 1959 people outside the small peace movement had joined in refusing to take cover. A large crowd of mothers with children gathered in New York City in 1960, a number that grew to over 2500 in 1961. Anticipating even more resistance the following year, the drill was quietly cancelled in 1962 (Garrison 113-14).

Opinions in the medical profession were shifting as well, though the AMA and the doctors involved in civil defense in Wisconsin gave little hint of such a change. Starting with a few influential doctors who in the 1950s began dissenting with the official government stance on nuclear issues, the profession as a whole paid more attention to the dangers of fallout, particularly from the atmospheric test explosions, and it became more vocal in opposing the buildup of nuclear weapons.
Between 1946 and 1963, the United States exploded 124 atmospheric nuclear bombs in the Pacific and the American West (Garrison 55). Atmospheric tests produced distant fallout, the type that could cause cancer and birth defects many years after exposure. Of particular concern was the isotope strontium 90, a highly radioactive byproduct of nuclear bombs with a half-life of twenty-eight years. Released into the atmosphere, strontium 90 came back to earth in rain, contaminating food, water, and milk. (The Public Health Service began monitoring the nation’s milk supply in the 1950s.) Once ingested, its calcium-like properties caused it to be stored in bones and teeth, particularly in children. The public became alarmed when a study of strontium 90 in the bones of young children published in a 1959 issue of Science showed that the level had doubled in 1957 (Boyer 82-83). In 1962, the “Baby Tooth Survey,” published by the Committee on Nuclear Information (CNI), a group founded in 1958 to publicize the dangers of nuclear test explosions to human health, showed increased levels of strontium 90 in the baby teeth of children. Children born in 1957 had strontium 90 levels that were fourteen times higher than children born in 1949 (Boyer 83-84).

Just as the government had done in the late 1940s, in the 1960s the anti-testing movement recruited doctors to its cause. One of the best-known test ban organizations, SANE (the National Committee for a Sane Nuclear Policy), brought Dr. Benjamin Spock on board in 1962. A full-page advertisement in the New York Times featured the famous pediatrician looking concerned as he gazed at a child standing in front of him. The caption, “Dr. Spock Is Worried,” explained his concern about nuclear testing. Spock became co-chair of SANE in 1963 (Boyer 84).
Physicians formed their own group as well to protest the government’s policy of preparedness. Promoting prevention instead, the Physicians for Social Responsibility (PSR) published a series of articles in the *New England Journal of Medicine* in 1962 on how the medical profession would cope in the aftermath of a nuclear war. Boyer observes the change in stance:

> In sharp contrast to the earlier exhortations to physicians to prepare for atomic war, these articles insisted that a thermonuclear attack would be a medical catastrophe so enormous and so devastating in its effects on the structure of medical service that physicians should focus their energies on preventing such an event, not preparing for it. (84)

The articles were published as the book *The Fallen Sky* a year later. In the introduction, the authors state flatly, “No modern society can survive a full-scale thermonuclear attack,” and they dismiss the notion of an effective civil defense as a “vast and scientifically unsupportable gamble with human life” (Aronow, Ervin, and Sidel xiv). PSR took as its policy position that the prevention of thermonuclear war be the only acceptable policy of the US government, writing “. . . there are situations in which prevention is the only effective therapy. The physician charged with responsibility for the lives of his patients and the health of his community must begin to explore a new area of preventive medicine, the prevention of nuclear war” (Aronow, Ervin, and Sidel xiv). The group counted as one of its major successes the 1963 Comprehensive Test Ban Treaty, which banned atmospheric testing and continues today.
But these messages of resistance and prevention were not published in *JAMA*, which continued to report regularly and uncritically on radioactive fallout. And although the American Medical Association’s position never officially changed, in 1964 the AMA’s Council on National Security became the Committee on Disaster Medical Care, and in 1965, the former civil defense newsletter, *Civil Defense Review*, quietly became the *Quarterly Report on Disaster Medical Care*. According to the first issue published in January 1965, the newly renamed committee was working toward “the development of a ‘disaster conscience’ for each physician in order that roles in terms of disaster medical care can be identified” (AMA, “Report” 1). Preparedness was still stressed, but the committee’s concern was expanded to natural and industrial disasters as well.

As the Cold War cooled after 1962, Americans recognized that neither the United States nor the Soviet Union was eager to embark on nuclear war, and the national conversation about shelters and preparedness that Mann had followed for four years via the binder died down. At some point, Mann, too, turned his attention away from nuclear war and the shelter, leaving the food, medicine, and other supplies he and Evelyn had carefully packed to be discovered much later. There is no indication of why he stopped clipping, though perhaps he didn’t, and he stored what he clipped in the house rather than in the shelter. In the absence of more evidence, I am left wondering about the discussions Bill and Evelyn Mann had as they made the decision to build their shelter, about any regrets they may have had when shelters no longer seemed imperative, and about the disappointment they surely felt when they realized that the shelter they had gone to considerable expense and effort to prepare had flooded and was unusable. I wonder
whether being prepared gave them a measure of comfort and any guilt, and I wonder
whether Mann really knew how he would have responded had a radiation cloud covered
Neenah. Although no one can ever know, I like to think that in the event of the
unthinkable, one of his neighbors, Harold Ginke, Jr., who was thirteen in 1960, had it
right. “He’d come out,” said Harold in 2010, “and he’d have his black bag. He’d take
care of the neighborhood, whoever was left.”
Notes

1. Bill Mann is not the doctor’s real name. The heirs have asked me not to print their parents’ names, so I have changed the names of the doctor and his spouse to protect their privacy. Readers who wish to know the identity of the couple can search the public records for 730 Congress Place, Neenah, Wisconsin.

2. Bill Mann’s wife, Evelyn, was also an actor in the web of civil defense preparedness, though her actions are more difficult to trace. In two conversations with the Mann children about the shelter, Bill Mann figured prominently; they rarely mentioned their mother. Yet some evidence suggests that Evelyn Mann was involved in the shelter to some extent. Neighbors reported observing both Manns putting supplies in the shelter. As I discuss in Chapter 2, archival evidence suggests that some of the documents Mann saved for the binder may have reached the couple through Evelyn. But because many of the binder documents were drawn from medical journals, I am assuming that Bill Mann compiled the binder.

3. The items recovered from the shelter are now property of the Neenah Historical Society.

4. According to the Civil Defense Bulletin, a newsletter Neupert wrote for the mobile medical team captains, target areas in 1953 were Milwaukee and Milwaukee County, Madison and Dane County, Kenosha and Kenosha County, Racine and Racine County, Green Bay and Brown County, and the City of Superior (2). Neenah was one of the reception areas for Milwaukee.
5. The FCDA underwent reorganization and renaming in the 1950s and 1960s. In 1958 it was renamed the Office of Civil and Defense Mobilization (OCDM), and in 1961 renamed the Office of Civil Defense (OCD).

6. Garrison’s view is that women’s prominence in the civil defense literature signaled that the government did not civilian protection seriously. She writes: “. . . the central role assigned to women in civil defense ensured the low status of the effort, thus increasing public skepticism and derision of the program” (35).

7. The Soviet Union built the largest nuclear bomb, nicknamed the Tsar Bomba, which exploded with a force of fifty to fifty-eight megatons of TNT in October 1961. The largest bomb built by the United States was fifteen megatons and was exploded in the Marshall Islands in 1954. The largest US bombs in the 1960s were the B53s, at nine megatons. In 1961, people thought that there was no limit to the size of nuclear weapons. Masters was not the only writer to imagine a 100-megaton bomb.

8. Netter created many of the illustrations for the Clinical Symposia, including one on the effects of radiation on the human body. Netter drew a sick-looking man, clad only in a jock strap, with thinning hair and blistered feet. His tongue is visible in his half-open mouth. Cutaways show his sternum, intestines, and lymph nodes. Annotations describe his symptoms—“oral cavity ulceration,” “vomiting,” “diarrhea” and so on. Annotations also give the radiation doses that cause the various ailments, treatments, and prognoses (18-19).
APPENDIX

Binder Documents Organized by Type and Date
**Government**

*United States Government*


*State of Wisconsin*


Magazines


Medical Publications


**Non-government Pamphlets, Brochures, and Instruction Manuals**


---. Product brochure for a shirt pocket radiation alarm. Chelsea, MI: No date.


“Polypore Membrane Filters.” Fragment of product brochure. No date.
Correspondence

Hamilton, R. M., of General Mills Specialty Products Division. Sales letter to Bill Mann.


Mann, Bill. Letter to General Mills. Date unreadable.


Mann’s Lists


“General Information” (3 copies). Undated.

“S-21.” Handwritten list of items in the case in which the binder was packed. Undated.
# Abbreviations Used in the Text and in Citations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>AMA</td>
<td>American Medical Association</td>
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<tr>
<td>FCDA</td>
<td>Federal Civil Defense Administration</td>
</tr>
<tr>
<td>OCD</td>
<td>Office of Civil Defense</td>
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<td>OCDM</td>
<td>Office of Civil and Defense Mobilization</td>
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<td>United States</td>
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<td>WI</td>
<td>Wisconsin</td>
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Works Cited


Mechling, Elizabeth Walker and Jay Mechling. “The Campaign for Civil Defense and the Struggle to Naturalize the Bomb.” *Western Journal of Speech Communication*


Neupert, Carl N. Letter to Area Medical Team Captains, Division B, Area 3. 2 May 1952.
(Medical: Battalion 3B, Dr. Wier). Wisconsin Historical Society, Madison.


