

How to Hide a Mushroom Cloud: An Examination and Oral History of Nuclear Hagiography in
Richland, Washington.

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Abstract

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In the waning days of World War II, two Japanese cities were annihilated. Each bombing run contained only one plane and one bomb. The names of the two Silverplate-class B-29 Superfortress bombers, and their solitary payloads, have been immortalized in American history. On August 6th, 1945, the Enola Gay unleashed Little Boy over the Shima Surgical Clinic in Hiroshima. Three days later, Bockscar disgorged Fat Man over the Urakami Tenshudo Catholic Church in Nagasaki. Combined, the blasts killed over 200,000 Japanese, the majority civilians. In the decades since this event, the United States has never apologized or had a sustained moral reckoning concerning the near-total destruction of two civilian centers. Instead, the United States has celebrated the bombings and initiated the colossal nuclear industrial complex. This celebration may be most evident in the atomic town of Richland, WA. One of the three main cities that made up the Manhattan Project, Richland is permeated with the triumphant history of America's nuclear weapons projects. This town is also where my family hails from. The research presented here is an examination of Richland's nuclear history and an oral account of my family's role in it.

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Chapter 1 – Introduction: The Story of a Place, its People, and a Family

In 1948, a young farm boy from rural Minnesota named Richard J. Brouns completed his doctorate in chemistry from Iowa State University and moved to a dusty desert community in Eastern Washington. It was a few years after the end of World War II, and Dick, as he was known to friends and family, had been helping the American chemical corporation DuPont to develop weapon propellants as part of the United States' war effort. When the war ended, he returned to Iowa State to complete his doctorate. He was then hired by General Electric to work, and ultimately manage, a plutonium manufacturing laboratory. This laboratory was housed in the infamous Hanford facility, and the small Eastern Washington town was Richland.

Just a few years prior, Richland had been seized as part of the war effort by the U.S. military, and the construction of Hanford had begun. It would ultimately span over 560-square miles and have one purpose: mass production of a new radioactive element called plutonium-239.

Discovered somewhat by accident at the University of California, Berkeley, this element was theorized to be able to sustain a substantial chain reaction such as the one witnessed in uranium-235 and -238, but with the added benefit of being far more abundant. Plutonium-239, however, needed to be processed into something that could withstand transport and storage, and that process required chemists. The United States military believed if they could successfully harness the colossal amounts of energy observed in plutonium-239, then a new weapon could be made. A weapon so destructive that the Nazis and Imperial Japanese would have no choice but to unconditionally surrender to the Allied powers. This weapon, of course, was the Atomic Bomb. As we all now know, it worked.

The facility constructed in Eastern Washington would come to be known as Hanford Engineering Works—or simply Hanford—and would be responsible for manufacturing as much plutonium-239 as possible. The drawback was that nobody had ever mass-produced plutonium. More importantly, nobody had ever built the reactors necessary to even start the production process. That was Hanford's job: figure out how to do it, then do it. All sorts of men and women would be needed for this project. Engineers, chemists, physicists, doctors, construction workers, and soldiers would all have a place at Hanford. Dick Brouns was one of those men, and he was my grandfather.

The story contained within this master's thesis is the story of my family and the story of thousands of families like mine. The story of those who can trace their origins in the state of Washington to a top-secret project that was the most expensive endeavor the United States had ever embarked on. While some families find their heritage in a log cabin at the American frontier, my family plants our roots in military-assigned, utilitarian housing at the confluence of the Yakima, Snake, and Columbia Rivers. Some of Washington's settlers set up camp as farmers, loggers, and hunters. My family sought to produce a different crop, one that would lay waste to an entire city an ocean away. A crop that would end the worst war in human history; a crop that ushered in a new era of conflict, fear, and, in some ways, opportunity. A crop that was gluttonously consumed by the United States government, but that ultimately poisoned the land from which it was grown. These pages will tell the story of my family, the families that set up Richland—and its sister cities Kennewick and Pasco—and turned them from farming homesteads into strategic assets of the nuclear industrial complex. This will not be a story that praises pioneer spirit, but rather one that looks at what they made and how they sold it to

themselves. I seek to understand the way American society—using Richland as a microcosm—built a nuclear myth, celebrating the way atomic weaponry can be used.

To understand the American nuclear mythology we have to start with two facts. One, the United States of America is the only nation to have utilized any form of atomic weaponry in combat. Two, the U.S. has never apologized for dropping the bombs on Hiroshima and Nagasaki, even when considering the civilian casualties.¹ These are critical to understanding both why America has crafted a mythology and why it continues to promote it. Existing literature finds that the U.S., officially, maintains a generally positive view of the bombings, considering them necessary for ending World War II. Herein lies the mythos, that for all the suffering the bombs may have wrought, they had to be used.

Naturally this begs the question, “why has the U.S. never apologized or had a national *mea culpa* on its use of atomic weaponry?” One suggestion is that a U.S. apology would bring further attention to Japan’s behavior during the 1930s and 40s, something they do not want.² Others hint at a national pride, or a “well, they deserved it” attitude.³ The particular question of why the U.S. has not apologized is certainly interesting and one deserving of much thought. While this research does indeed give credence to that question, I ultimately look at what the United States has done instead of apologizing. As such, the research question investigated here is how has the United States crafted a national mythos concerning the nuclear industrial complex in order to obfuscate moral responsibility for the usage of nuclear weapons? To answer this, I hypothesize

¹ Jake Adelstein, “Japan Doesn’t Want the U.S. to Apologize for Bombing Hiroshima. Here’s Why,” *Los Angeles Times*, April 29, 2016, <https://www.latimes.com/world/asia/la-na-japan-hiroshima-apology-20160429-story.html>.

² Adelstein.

³ Steve Olson, *The Apocalypse Factory: Plutonium and the Making of the Atomic Age* (New York: W.W. Norton & Company, Inc., 2020).

the United States has euphemized and bureaucratized the nuclear industrial complex to create an uncritical image of atomic weapons, or what I refer to as the American Nuclear Hagiography.

To study the nuclear hagiography of the United States, I have selected the area commonly known as the Tri-Cities region of Washington State. The Tri-Cities ostensibly consists of three cities, Richland, Kennewick, and Pasco. Over time, however, the term has come to refer to the larger Kennewick-Richland Metro Area—as designated by the U.S. Census Bureau.⁴ I have chosen this area for two reasons. One, Richland was a small farming community that was overtaken by the U.S. military during World War II and converted into a military town. This town was to house the workers at the top-secret Hanford facility, the site of the first nuclear production reactor and where the plutonium-239 for the bomb used on Nagasaki—code-named Fat Man—was produced. Throughout the Cold War, Hanford would remain the preeminent plutonium manufacturing facility in the U.S.

The second reason I have selected the Tri-Cities—and more specifically Richland—is because my family comes from Richland. Rather, the most recent three generations do. My great-grandfather moved there in 1942, as part of the Manhattan Project, to work on the construction of the Hanford facility. My grandmother returned from Japan at the end of World War II to assist her mother—my great-grandmother—and siblings with their move across the United State by train to join him. My grandmother ended up staying to work as a nurse at the Hanford facility where she met my grandfather Dick Brouns, and they never left. Grandpa Dick retired from his work there almost 40 years later. My mother and all her siblings were born and raised in Richland, most of them worked at Hanford at some point in their lives. I still have aunts, uncles,

⁴ U.S. Census Bureau, “Kennewick-Richland, WA Metro Area,” American Community Survey 5-year estimates, 2020, <http://censusreporter.org/profiles/31000US28420-kennewick-richland-wa-metro-area/>.

cousins, and friends working and living there. While I have not lived there, I spent a substantial portion of my childhood visiting my grandparents, aunts, and uncles in Richland. Many family reunions took place there, and nearly every Christmas Day was spent in the Army-constructed home my grandparents lived out the remainder of their lives. Thus, this research is as much an oral history of my family as it is an examination of the processes by which the United States obscures its nuclear projects.

Furthermore, Richland is a unique town within the nuclear industrial complex. A place where, in some ways, the Cold War did not quite end. Where the ambitious spirit of the Manhattan Project lives on. The namesake high school, Richland High, uses the mascot “The Bombers” as both a reminder of the atomic weapon that has its origins just a few miles north of the city, as well as to commemorate Richland residents collectively spending a day’s wages to purchase a B-17 bomber for the U.S. Army Air Corps.⁵ More important is the fact Richland High School still has a mushroom cloud as part of its logo. Indeed, bumper stickers can be seen around town supporting the high school’s athletics with the slogan “Proud of the Cloud.”⁶ Richland, and the greater Tri-Cities, provides a unique biome by which to investigate nuclear hagiography. The region provides us with the opportunity to see the opposing cultures surrounding the nuclear industrial complex and how they sometimes expand into hypocrisy.

This thesis is composed of three primary parts. The first chapter will provide the contextual and temporal setting in which the research occurs. I will describe the region and the lives that were

⁵ Olson, *The Apocalypse Factory: Plutonium and the Making of the Atomic Age*; “Welcome to Richland High School,” Richland High School, 2021, <https://richland.rsd.edu>; John M. Findlay and Bruce Hevly, *Atomic Frontier Days: Hanford and the American West* (Seattle, WA: University of Washington Press, 2011).

⁶ Shannon Chelsea Cram, “Unmaking the Bomb: Waste, Health, and the Politics of Impossibility at the Hanford Nuclear Reservation” (Dissertation, University of California, Berkeley, 2015).

built there. I will examine how the Tri-Cities—as we now know them—were built around nuclear weapons, and how that shaped the identity of the region.

The second chapter investigates the iconography and verbiage used to further nuclear hagiography. While the obvious example is the almost cartoonish display of the mushroom cloud, many other images and euphemisms make their way into the Tri-Cities culture.

Deconstructing such modalities will be necessary to finding what is at the foundation of nuclear hagiography.

The third chapter pulls many of these threads together and dives into the question of how America utilizes iconography, social structures, euphemistic language, and bureaucratic shuffling to cast a veil over the moral legacy of atomic weapons. This chapter seeks to demonstrate the pathways of power within the nuclear industrial complex. In doing so, I hope to show how deliberately difficult it has been made to get answers to the questions we do not even know how to ask.

Placed throughout this work will be interludes from my family. Along with my research, I have conducted interviews with family members and a prominent anti-nuclear activist. These interludes illuminate the human consequences and ground the research in the real. Human beings with families, friends, and mundane daily lives sit on both sides of the nuclear divide—and even some straddle that chasm. Hearing their stories is just as important as the empirical evidence.

Ultimately, this is a living document. Both in the sense that humanity's nuclear journey is far from over and that my family still works in the nuclear industrial complex. Hanford's story does not end with the bombings of Hiroshima and Nagasaki, it will not end for tens of millennia.

Within that nearly unfathomable timescale exist people whose lives have been, and will be, changed by seemingly innocuous decisions made generations prior. This is Hanford's story; this is their story; this is my family's story.

Chapter 2 – The Building of the Atomic Frontier in the Tri-Cities

The American nuclear industrial complex is by no means a forgotten subject. Much has been written about the Manhattan Project and the use of nuclear weapons in World War II. As mentioned in the preceding chapter, the purpose of this research is to focus not on what was being produced at Hanford and communities like it, but rather to understand the effect such a virulent industrial apparatus had on the American zeitgeist. Before getting to that point, I want to establish the temporal space of this research, as well as the political context of Hanford. It is easy to look back on the work at the massive complex through the lens of the contemporary ecological disaster and see the facility as a stain on U.S. history. But, as this research will show, that sentiment does not necessarily hold true in towns like Richland, Kennewick, and Pasco.

Temporally, this chapter investigates the World War II and Cold War politics that shaped Hanford. I will look at how Hanford was constructed under the auspices of World War II, through the buildup of activity at the site during the Cold War, and finally provide an understanding as to how Hanford created a unique culture within the Tri-Cities. The purpose is to establish the context of the importance of Hanford, and by extension the Tri-Cities area, within the nuclear industrial environment. To do this, I start by providing a brief history of the Tri-Cities, followed by a history of Hanford's relationship with the surrounding communities during World War II. Next, I explain the role Hanford continued to play as the Tri-Cities moved from military town to self-governance. Finally, I discuss Hanford and the Tri-Cities during the Cold War.

A Brief History of the Tri-Cities

Like many towns in the American West, the Tri-Cities⁷ started as scattered homesteads focused on farming, logging, or the raising of farm animals. Naturally, the land had been occupied by numerous Native American Tribes such as the Wanapum People, the Yakama Nation, Confederated Tribes of the Colville, Confederated Tribes of the Umatilla Reservation, and the Nez Perce.⁸ Euro-Americans first visited the region when the Lewis and Clark Expedition arrived in 1805, and by the mid-eighteenth century farming communities arose in White Bluffs, Hanford, and Richland.⁹ The farming community of Hanford would go on to become the namesake of the now-infamous facility. The strategic position of these communities at the nexus of the Columbia, Yakima, and Snake Rivers would lead to a small boom as prospective miners made their way to goldfields in Idaho, Montana, and British Columbia. The influx of travelers brought a railroad line coming to the community of Pasco by the early 1900s, and the advent of hydroelectric power would lead to major infrastructure projects on the Columbia River—namely the Grand Coulee Dam.¹⁰

Jumping forward to World War II, the discovery by German scientists that the uranium atom could be split to release massive amounts of energy triggered an arms race between the Allies and Axis powers. Fearing the Nazis would obtain an atomic bomb first, the United States launched a crash program—the Manhattan Project—to beat Germany to it. Orders were given to find large swaths of lightly inhabited land to construct the necessary infrastructure. A 34-year-old colonel named Franklin T. Matthias in the U.S. Army Corps of Engineers was sent west with

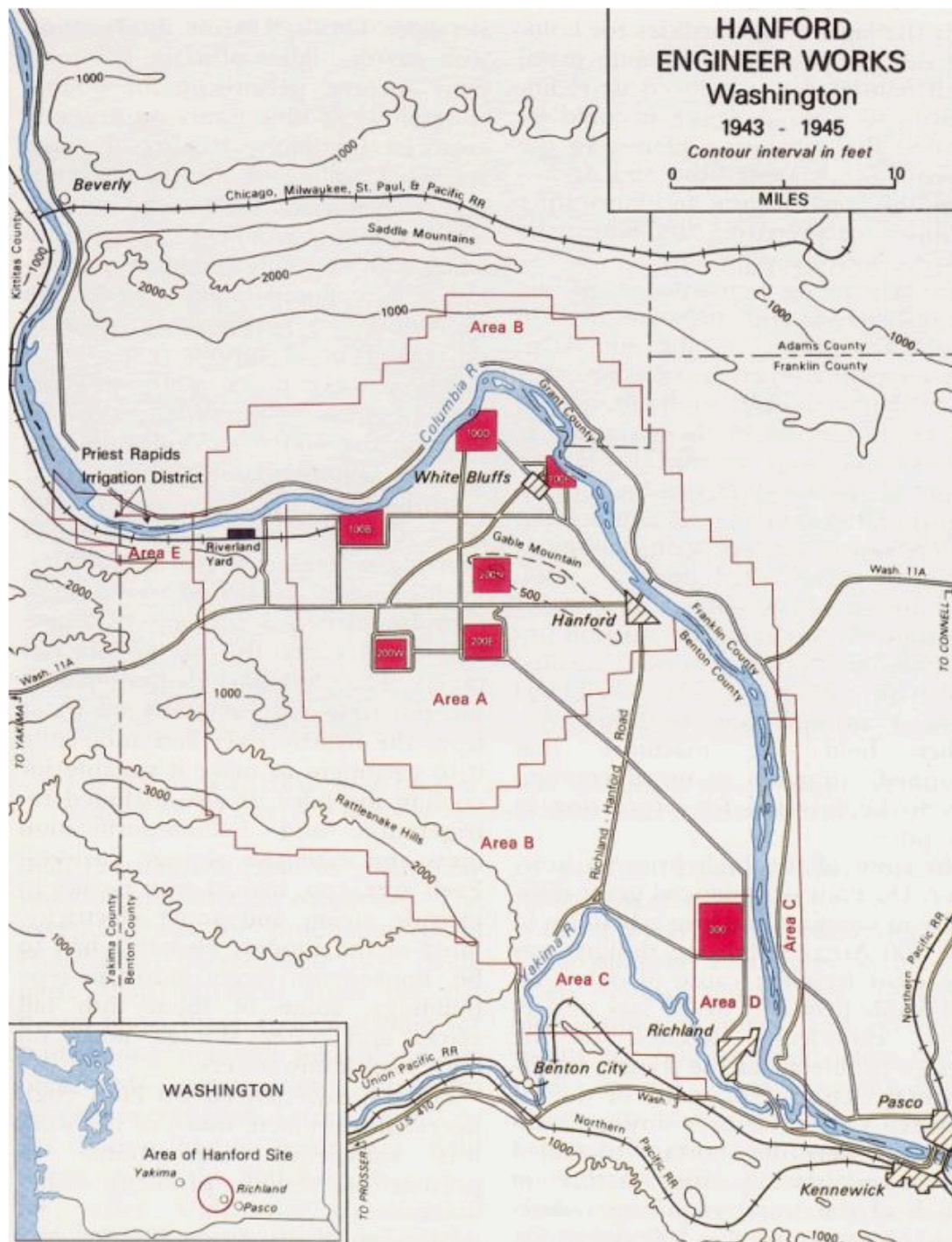
⁷ The Tri-Cities traditionally encompass Richland, Kennewick, and Pasco, Washington, but has come to refer to the larger Richland-Kennewick Metro Area. See U.S. Census Bureau 2020 report.

⁸ Cassandra Tate, “Hanford Reach National Monument,” History Link, August 17, 2005.

⁹ City of Richland, “History,” Richland, Washington, 2022, <https://www.ci.richland.wa.us>; Tate, “Hanford Reach National Monument.”

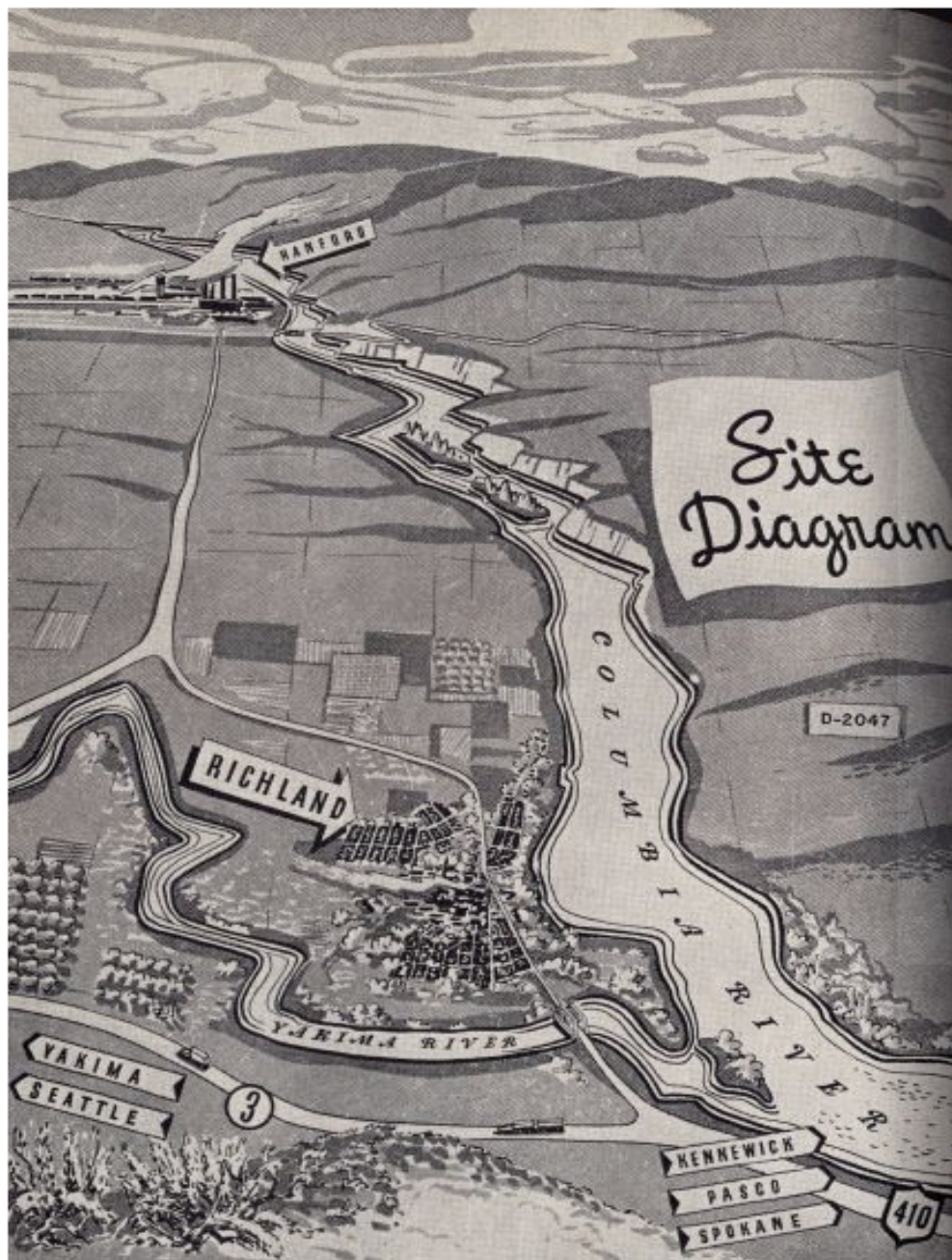
¹⁰ City of Richland, “History”; Findlay and Hevly, *Atomic Frontier Days: Hanford and the American West*; Tate, “Hanford Reach National Monument.”

the order to find a 12-mile by 16-mile plot, sparsely populated, close to water, and—ideally—able to be quickly industrialized.¹¹



1. From U.S. DOE

The plot of land that Richland, Hanford, and White Bluffs sat upon fit the bill perfectly. Nearly double the size of what was requested, the soon-to-be Hanford site was surrounded by an estimated two-thousand people—well within acceptable margins should one of the experimental reactors blow up.¹² High-voltage power lines ran through the area from the newly operational Grand Coulee Dam, and a spur line from the Milwaukee Road would allow DuPont—the selected government contractor—to haul workers, equipment, materials, and chemicals from the rail line to the site.¹³ Formally selected in December of 1942, the Hanford Site



2. From U.S. DOE

¹¹ Olson, *The Apocalypse Factory: Plutonium and the Making of the Atomic Age*.

¹² Olson.

¹³ Findlay and Hevly, *Atomic Frontier Days: Hanford and the American West*; Olson, *The Apocalypse Factory: Plutonium and the Making of the Atomic Age*.

would become one of the primary locations for the Manhattan Engineer District, under the U.S. Army Corps of Engineers, authorized by President Franklin D. Roosevelt.¹⁴ By March of 1943, the land had been acquired by the federal government, the approximately two thousand existing residents were ordered out, and construction began on the first buildings.¹⁵ Richland, Hanford, and White Bluff were wiped out and replaced with a massive company town seemingly overnight.¹⁶ A 560-square-mile sprawling complex would be established along the Columbia River where these three towns once stood. Ultimately, the site would encompass 1% of Washington State's landmass.¹⁷ In less than two years, Hanford would complete construction of the world's first nuclear production reactor—dubbed B Reactor—complete testing, and begin making plutonium.¹⁸ Three months later, in February of 1945, Hanford would send its first shipment of processed plutonium to the Manhattan Project's primary facility at Los Alamos, New Mexico. By July, Hanford had sent over one hundred shipments.¹⁹

Those living in what we would now call the Tri-Cities came to depend entirely on the Hanford facility.²⁰ The adjacent towns of Pasco and Kennewick would see their populations rise from 3,913 to 8,500 and 1,918 to 7,500²¹, respectively.²² Many of those living in Kennewick would reside in trailers and barracks, while Pasco became known for its bars and brothels—the

¹⁴ Findlay and Hevly, *Atomic Frontier Days: Hanford and the American West*.

¹⁵ Roy E. Gephart, "A Short History of Waste Management at the Hanford Site," *Physics and Chemistry of the Earth* 35 (2010): 1, <https://doi.org/10.1016/j.pce.2010.03.032>.

¹⁶ Findlay and Hevly, *Atomic Frontier Days: Hanford and the American West*, 74.

¹⁷ R.E. Gephart and R.E. Lundgren, "Hanford Tank Cleanup: A Guide to Understanding the Technical Issues" (Richland, September 1998).

¹⁸ Stanley Goldberg, "General Groves and the Atomic West: The Making and the Meaning of Hanford," in *The Atomic West*, ed. Bruce W. Hevly and John M. Findlay (Seattle: University of Washington Press, 1998), 39–89, <http://ebookcentral.proquest.com/lib/washington/detail.action?docID=3444402>.

¹⁹ Findlay and Hevly, *Atomic Frontier Days: Hanford and the American West*, XI.

²⁰ By this point the farming community of Hanford was abandoned and condemned by the U.S. government.

²¹ From the period of 1940 to March 1945.

²² Findlay and Hevly, 83.

“playground” for Hanford workers.²³ Pasco was also where minorities were assigned living quarters. Fearing that “racial unrest” would “undermine productivity,” Chicano and Black laborers were segregated into their own neighborhoods.²⁴ By the end of the war, approximately fifteen thousand Black workers had arrived at Hanford.²⁵

The massive influx of workers necessitated a full-fledged community to be constructed in the Columbia River basin. Towns that were once loose-knit farming communities rapidly generated the amenities of any mid-size town in America. Police departments, banks, movie theaters, dance halls, sports fields, and shops sprung up to facilitate the daily needs of tens of thousands of workers and their families. The influx was so large and rapid that, briefly, Richland was Washington’s fourth-largest town.²⁶ With the end of World War II, however, the necessity of Hanford naturally waned. The facility and the towns had to change to adapt to the burgeoning Cold War.

Post-War

After the capitulation of Japan in September of 1945, Hanford and the Tri-Cities’ futures went into limbo. However, when the nascent U.S. Atomic Energy Commission (AEC) took over the facility, plans were set in motion to “normalize” nuclear towns like Richland. As such, the Tri-Cities would move from secretive towns to full-fledged cities economically centered on Hanford; an economy that would thrive under the auspices of the Cold War. The site would expand to

²³ Findlay and Hevly, 83.

²⁴ Findlay and Hevly, 84.

²⁵ Olson, *The Apocalypse Factory: Plutonium and the Making of the Atomic Age*, 74.

²⁶ Olson, *The Apocalypse Factory: Plutonium and the Making of the Atomic Age*.

eight reactors, producing 60% of the Department of Energy's weapons- and fuel-grade plutonium.²⁷

However, just because the towns moved away from the closed, secrecy of the Manhattan Project did not mean Hanford's importance was lost on the federal government. Local decision-making was centered on how Hanford would be affected. The AEC understood that the most important aspect of Richland and Co. was the continued production of plutonium to fuel the U.S. weapons build-up. As such, the AEC's goal became keeping the workers content, believing it would provide a more efficient workforce. Richland—the Tri-City that became most closely associated with Hanford—had exceptionally more resources than most towns its size.²⁸ The bus system as well as many utilities were subsidized by the AEC. Housing rents were kept artificially low and local authority ran through a mélange of government and General Electric (GE)²⁹ managers. At the time, many of Richland's inhabitants accepted government/corporate contractor control, feeling a patriotic duty to prioritize plutonium production.³⁰ Over time, however, this sentiment changed and residents began calls to move Richland from a government town to a fully incorporated city within the State of Washington.

At first, these calls were made anonymously. As GE and the AEC controlled the local governing bodies as well as Hanford—the primary employer—going against the town structure meant going against one's employer. Townspeople who disagreed with GE and AEC insisted on anonymity when speaking with reporters from the local Tri-City Herald.³¹ Eventually, a critical

²⁷ Gephart and Lundgren, "Hanford Tank Cleanup: A Guide to Understanding the Technical Issues," 5.

²⁸ Findlay and Hevly, *Atomic Frontier Days: Hanford and the American West*.

²⁹ General Electric took over primary contracting duties from DuPont in Sept. 1946.

³⁰ Findlay and Hevly, 107.

³¹ Findlay and Hevly, 106.

mass of residents felt the “benevolent dictatorship” they lived under had to recede, thus prompting the AEC to begin the process of “disposal and incorporation.”³² Disposal meant selling the town real estate to residents/business owners, while incorporation referred to the process by which the U.S. government would encourage the state of Washington to reauthorize Richland as a city within the state. The village of Richland had been incorporated in 1910, but barely registered on local maps. The U.S. government had suspended local government when the army took control of the territory in 1943.³³ Significant political infighting occurred at the local, state, and federal levels, but Richland would achieve “independence” on December 12, 1958.

The brief independence fight for Richland is an interesting and important step in the town’s development. Up to this point, the town had been reliant on the U.S. military for its identity and culture. The entire Tri-Cities area had arisen out of what was the most expensive project in U.S. history to that point, but the independence movement would pave the way for Richland and its neighbors to forge their own path. With the towns of Richland, Pasco, and Kennewick now separated from the federal government, a unique culture would develop. Centered in historically Native American lands, the Tri-Cities changed to embrace a techno-nuclear hagiographic identity, idealizing and celebrating their atomic legacy.

Cold War

Throughout the Cold War era, the region maintained zealous support for Hanford, viewing itself as the Atomic City.³⁴ This was predominately true in Richland, which had always been more closely associated with the complex than the other two Tri-Cities. Due to the military planning of

³² Findlay and Hevly, 107–8.

³³ Findlay and Hevly, 109.

³⁴ Christopher J. Eaton, “Interview with Tom Brouns” (Pasco, WA, April 22, 2022).

the town, Richland's population grew noticeably slower than its sister cities.³⁵ The strategic restrictions placed on Richland, coupled with the majority of the population being directly



3 From Findlay and Hevly

involved with Hanford—many having stayed after the Manhattan Project—created a self-sustaining ecosystem that reinforced the work being done at Hanford.³⁶ As such, the almost Fordian factory-style manufacturing of plutonium-239 for the purposes of expanding nuclear weaponry went on without any significant complaint from the local population about what was being developed, and for what purposes.

³⁵ Olson, *The Apocalypse Factory: Plutonium and the Making of the Atomic Age*; Bryan C. Taylor and Brian Freer, “Containing the Nuclear Past: The Politics of History and Heritage at the Hanford Plutonium Works,” *Journal of Organizational Change Management* 15, no. 6 (2002): 563–88.

³⁶ Hugh Gusterson, *Nuclear Rites* (Berkeley, CA: University of California Press, 1996).

Indeed, the locals celebrated their atomic lineage with local events. In 1947, just two years before the Soviet Union would achieve the atomic bomb, Richland held a “Richland Day.” This holiday promoted the town as a western frontier town that had cracked the atomic mystery, going as far as to label Richland (Figure 1) “The atom bustin’ village of the West.”³⁷

Starting just one year later, Richland began a new tradition: the annual celebration named the Atomic Frontier Days. This celebration built on Richland Day by encouraging residents to dress as they imagined pioneers would have. Cowboy hats, bonnets, beards, and long dresses with aprons became the standard wear during the festival. While this festival invoked sentiments of the past, it was euphemistically speaking toward the future. The Tri-Cities were once western frontier towns that had harnessed the atom, and now were expanding production of plutonium and electricity.³⁸ It was the spirit of Richland, not the industrial might of the U.S. government, that had pushed humanity forward. What had yet to be realized was the environmental and health hazards Hanford posed.

Conclusion

The incredible environmental risk posed by the nuclear and chemical waste generated by Hanford cannot be understated. Indeed, volumes have been written—some cited here—discussing the dangers and steps being taken to mitigate them. The documented cases of disease and suffering discussed by Trisha Pritikin in her work concerning the Hanford Plaintiffs,³⁹ as

³⁷ Findlay and Hevly, *Atomic Frontier Days: Hanford and the American West*, 97; Olson, *The Apocalypse Factory: Plutonium and the Making of the Atomic Age*.

³⁸ Olson, *The Apocalypse Factory: Plutonium and the Making of the Atomic Age*.

³⁹ Trisha T. Pritikin, *The Hanford Plaintiffs: Voices from the Fight for Atomic Justice* (Lawrence, KS: University Press of Kansas, 2020).

well as those discussed by Jim Thomas in our conversation,⁴⁰ just scratch the surface of the consequences. However, as Richland, Kennewick, and Pasco evolved, with new industries popping up, local enthusiasm over the towns' atomic history has waned. Fears over what is released and/or leaked from Hanford sparked a reevaluation. This quieting of rhetoric has led to a euphemizing of the nuclear industrial complex in the Tri-Cities—indicative of a larger pattern across the United States. While this chapter has focused on providing the context for nuclear hagiography in the Tri-Cities, the next chapter dives into how that enthusiasm manifests and ultimately waned, while chapter three investigates the breadth and ramifications of euphemizing apocalyptic weapons.

⁴⁰ Christopher J. Eaton, "Interview with Jim Thomas" (Seattle, April 20, 2022).

Interlude – The Challenge of Peace with Jim Thomas⁴¹

Jim Thomas grew up in the Spokane area and has been an activist concerned with the activities at Hanford since the 1980s. His foray into anti-nuclear activism began in October of 1982 after watching a mime presentation titled “Four Minutes to Midnight” about the perils of the nuclear arms race.⁴² This moment would kick off a life’s journey of trying to bring awareness, change, and peace to the American national conscience.

Starting his research on Hanford in 1984, Jim helped found the Hanford Education Action League (HEAL), a citizen group based in Spokane, WA. Through 1993, he held a series of positions at HEAL before moving to Seattle to work for a consulting firm that was contracted by the state health departments of Washington, Oregon, and Idaho for the Hanford Health Information Network project. His experience eventually led him to work as a paralegal for the next 10 years on the downwinder’s litigation—a toxic tort lawsuit attempting to get compensation for those medically affected by toxic/radiological emissions from Hanford.

While Jim’s experience is storied—indeed he is writing a book on his life and work—we found ourselves talking extensively about the notion of the Catholic Church and its concept of the “challenge of peace.” The titular idea stems from a pastoral letter published in 1983 by the U.S. National Conference of Catholic Bishops, in which they discuss the need for the United States to find peace concerning the use of nuclear weapons in August of 1945.⁴³ They argue that in this context we should not define “peace” through the notions of war or peace, but rather in the way

⁴¹ Quotes edited for conciseness and clarity.

⁴² Christopher J. Eaton, “Interview with Jim Thomas” (Seattle, April 20, 2022).

⁴³ U.S. National Conference of Catholic Bishops, “The Challenge of Peace: God’s Promise and Our Response” (Washington, D.C., May 3, 1983), para. 302.

we find peace after the death of a loved one. The Conference of Catholic Bishops is instead urging us to find peace through profound sorrow.

The Catholic Church's role in American nuclear history goes back to the bombing of Nagasaki.

During World War II, Church chaplains were deployed throughout the U.S. military. In 1983,

Jim had the chance to spend time with one of them:

One of the people, that I walked with for these two years [walking to Bethlehem], our eldest member, was Father George Zabelka. George, a Catholic priest during World War II, had been the Catholic chaplain stationed on Tinian Island and was the chaplain to the men who dropped the bombs on Hiroshima and Nagasaki. It took years for him to become aware of it and to fully understand it, but he eventually felt quite a bit of guilt, and a deep sense of responsibility for having been the Church's representative, if you will, to these men, both before and after their horrendous missions. He knew the pilot of Bockscar, the plane that dropped the bomb on Nagasaki, was a good Catholic man from Boston. And in Nagasaki, the bomb exploded directly over the Catholic cathedral. Nagasaki, historically for hundreds of years had been the Catholic, and even the Christian hub, if you will, for Catholics in all of east Asia.

Shortly after, within a month or two of the bombing, George walked through the ruins of the cathedral. And he stooped down and picked up a censer, for incense, that was blackened. And he took it as a souvenir and he kept it. That just wore on him as his consciousness grew of the evil of nuclear weapons. About a year and a half after we had reached Bethlehem, I think this was August of '84 or '85, George went back to Japan and he returned the censer to the cathedral, which had been rebuilt.

In telling this story, Jim Thomas intersects the Catholic Church with the central dilemma of this research. The conflict of finding moral peace within national security is critical to the notion of a weapon of mass destruction. Creating something that is meant to raze civilian population centers and then claiming it aims to achieve peace creates a moral contradiction. Both the "Challenge of Peace" and this research aim to understand this juxtaposition. We both ask the question, "why has the United States never reckoned with its usage of atomic weaponry?" We seek to understand the ramifications of that lack of national sorrow; the Church scrutinizes from a moral

perspective, while I address the sociopolitical. How can the United States find peace without remorse? How can remorse be expressed without an apology? To whom does the U.S. apologize? Possibly more important, does an apology deny honor to those who fought and died? The challenge of peace is not a question of how to stop a war, but rather how to come to terms with a war you win.

Chapter 3 – Loving “The Bomb” as a means of violence: The iconography of the Atomic West

World War II ended with what could be considered the most significant event of the 20th century: the wartime use of atomic weaponry. The single most destructive weapon humanity had ever created had been deployed to end the most destructive war. With its conclusion, the global public began to take stock of the destruction it had wrought. Post-war trials in occupied Germany and Japan documented and brought to light the atrocities the regimes committed. From the Holocaust to Unit 731, the defeated came face-to-face with their crimes. But what about the victors? Undoubtedly, Americans have debated the use of the bomb, but no conclusive social agreement seems to have occurred. While Germany unilaterally denounces the atrocities of the Nazi regime—certainly more sadistic than the bombings of Hiroshima and Nagasaki—the U.S. celebrates the atomic bombings as the lesser of two evils and necessary to end the war. As such, American social iconography aims to reinforce American support for nuclear weaponry. This propaganda is especially intense in the communities that played an integral part in the bombings. This chapter will investigate the propaganda within the communities surrounding the Hanford Site in Eastern Washington. Specifically, here I focus on how the iconography and social imagery perpetuate the violence of the nuclear arms race within said communities. Through this, we will be able to gain an insight into the techno-nuclear hagiography of “The Bomb.”⁴⁴

Theoretical Framework

This chapter investigates what I have dubbed the “nuclear hagiography” of the United States. The definition of “hagiography” has evolved to have a far more pejorative definition. Typically

⁴⁴ Note: I use the term “The Bomb” as a catch-all term for the nuclear industrial complex. The Atomic Bomb is merely the product of a colossal apparatus operated by corporations and the U.S. government.

considered the “writings of the lives of saints,” the word has evolved to have derogatory connotations. Contemporaneously, “hagiography” is used to spurn an uncritical analysis of an object/person or denote an almost inappropriately glowing review. Thus, I use nuclear hagiography to illuminate both the uncritical analysis of the U.S. nuclear weapons policy as well as the celebratory attitude U.S. propaganda takes towards such weaponry.

Moreover, this chapter elicits a theoretical understanding that ultimately exposes the duality of celebration and fear surrounding the nuclear industrial complex. Contained within are examples of this duality in the appearance of a decommissioned bomb wheeled into chants and singing at a local high school spirit rally, juxtaposed against academic instruction on how to protect oneself in the event of an attack. So, what do these seemingly at-odds thought processes achieve? Why does the state’s education apparatus promote fear and excitement? An obvious comparison can be seen with worship and awe promoted by organized religion towards divine entities.⁴⁵ A “bomb-fearing” America lives in awe of the weaponry, fearing it as a weapon that could be used against the United States, while also praising the American arsenal as a means of self-defense. In pegging The Bomb to both fear and safety, U.S. nuclear policy merges with the U.S. psyche. It adds integral context to the primordial question asked of the state, “can it keep the people safe?” Thus, the nuclear industrial complex becomes intrinsic to the United States' power projection, both foreign and domestic.

Fetishizing The Bomb

⁴⁵ Joseph Masco, *The Nuclear Borderlands - The Manhattan Project in Post-Cold War New Mexico* (Princeton: Princeton University Press, 2006), 59.

The United States' fetishization of The Bomb started with the very first atomic detonation in Alamogordo, New Mexico. Codenamed "Trinity," the 1945 detonation was proof the U.S. had tamed the atom and harnessed its destructive power. In describing the successful detonation, Manhattan Project scientific director, J. Robert Oppenheimer said:

We waited until the blast had passed, walked out of the shelter and then it was extremely solemn. We knew the world would not be the same. A few people laughed, a few people cried. Most people were silent. I remembered the line from the Hindu scripture, the Bhagavad-Gita: Vishnu is trying to persuade the prince that he should do his duty and to impress him he takes on his multiarmed form and says, "Now I am become Death, the Destroyer of worlds." I suppose we all thought that, one way or another.⁴⁶

By invoking the Bhagavad-Gita, Oppenheimer furthers the link between the detonation/usage of atomic weaponry and the divine. The Bomb is not a creation of humanity, but rather an interjection by otherworldly powers. Thus, The Bomb's usage becomes merely humanity fulfilling the divine's will, removing intrinsic moral responsibility. Indeed, William Laurence, the only reporter allowed at the Trinity test, harnessed similar imagery in his description of the blast:

For a fleeting instant the color was unearthly green, such as one sees only in the corona of the sun during a total eclipse. It was as though the earth had opened and the skies had split. One felt as though one were present at the moment of creation when God said: "let there be light"... In that infinitesimal fraction of time, inconceivable and immeasurable, during which the first atomic bomb converted a small part of its matter into the greatest burst of energy released on earth up to that time, Prometheus had broken his bonds and brought a new fire down to earth, a fire three million times more powerful than the original fire he snatched from the gods for the benefit of man some five hundred thousand years ago.⁴⁷

Laurence's description may even go a step further than Oppenheimer's. Comparing the techno-aesthetics of the atomic explosion to divine imagery mystifies the destructive force, reinforcing the necessity of use by tying it to the notion of a "God-Given" right. The usage of atomic

⁴⁶ Qtd. in Masco, 58.

⁴⁷ Qtd. in Masco, 59.

weaponry becomes the innate right of the American state. The American weapons scientist, military advisor, policymaker, or citizen need not have any qualms about its use because it is their right to deploy it. Those caught in its path are defying divine will.

In mystifying the bomb, its power as a weapon also becomes abstract. By removing it as tangible, its destructive force is removed from the forefront of debate and can be easily included in foreign policy decisions without fully grasping the implications. Instead of seeing The Bomb as a weapon capable of global destruction and untold death, it can be recategorized as a “deterrent” or “strategic option.” In short, abstracting the bomb allows it to be euphemized into verbiage that no longer captures the importance of the object.

Furthermore, mystifying The Bomb adds a veneer of secrecy over the entire nuclear complex. Therefore, in towns like Los Alamos, NM, Richland, WA, or Livermore, CA—where Lawrence Livermore National Laboratory (LLNL) is located—any information about the projects conducted at the nuclear facilities becomes suspect.⁴⁸ Anthropologist Hugh Gusterson notes surveys conducted by the Livermore local newspaper found that barely anybody really knew what was occurring at LLNL.⁴⁹ The facility’s secrecy policies combined with the seemingly innate need for local gossip had caused rampant speculation—a community-wide game of telephone—leading to unproven theories of particle colliders, space-based lasers, and wind power experiments.⁵⁰ LLNL does not, however, conduct any research concerning particle colliders, the Reagan-era “Star Wars” program, or wind power technology.⁵¹

⁴⁸ Gusterson, *Nuclear Rites*, 19.

⁴⁹ Gusterson, 19.

⁵⁰ Gusterson, 19–20.

⁵¹ Gusterson, 19–20.

Indeed, the small towns across America that rely heavily on the nuclear industrial complex are unique ecosystems of fear, respect, and ambivalence. It is these small towns that provide a glaring example of nuclear hagiography and allow us to understand its role in society and the greater national nuclear conversation.

Living with The Bomb

The Tri-Cities participated in the creation of the deadliest weapon yet. Certainly, the region is not solely complicit in the production of nuclear weaponry, but it does hold a unique place in American society. From this microcosm, we get a glimpse of the celebratory attitude the United States has towards “the bomb.” As we will see, the localized, daily fostering of the American nuclear mythos imbues the community with a pall of perpetual violence.

Violence perpetrated by the state can take many forms but is almost always carried out to exert the state’s authority; to reinforce the state’s monopoly on violence.⁵² The dominating and omnipresent power reminds the populace that they are subservient to their state. Some forms of state violence are easy to see and understand such as overt repression or censorship of media sources. However, the state violence this paper examines occurs more subtly and—in many cases—engenders the cooperation of the Tri-Cities population. So, when saying “violence,” I do not entirely mean physical domination, but rather the influence conducted on the body and mind that ultimately forms the social identity of a community.

⁵² Christopher Pierson, *The Modern State*, 2nd ed. (London: Routledge, 2004).

What would become the Tri-Cities region was heavily securitized during the Manhattan Project, with secrecy and movement restrictions firmly enforced.⁵³ Workers and “spies” were employed by both the army and contractors—primarily DuPont—to monitor the Hanford workers on and off the job.⁵⁴ Being that the entirety of the Manhattan Project was deemed of the utmost importance to the U.S. war effort, the military held near-total control over day-to-day life. The military monitored not only conversations, but the information coming in and out of the area, the entertainment consumed, and the general morale of the workers.⁵⁵ Violence was even enacted on the bodies of the workers through the Doorstep Urine Collection Program, which required workers to regularly collect their own urine to monitor for radioactive isotopes.⁵⁶

In imposing such levels of control, the military created both physical and artificial borders in what was an expansive farming area. This creates a sense that the geographic and social “outsider” is dangerous, and the familiar community must be protected. Theorist Michel Foucault emphasizes that this “otherizing” creation of boundaries allows those living within to be subjugated.⁵⁷ From this point, the military at Hanford can act in the capacity of the “armed humanitarian,” protecting the community and thus protecting the project.⁵⁸

⁵³ Robert Bauman and Robert Franklin, *Echoes of Exclusion and Resistance: Voices from the Hanford Region* (Pullman, WA: Washington State University Press, 2021), 90, <https://doi.org/10.1093/nq/189.13.281-a>.

⁵⁴ Bauman and Franklin, 90.

⁵⁵ Findlay and Hevly, *Atomic Frontier Days: Hanford and the American West*, 34.

⁵⁶ Trisha T. Pritikin, *The Hanford Plaintiffs: Voices from the Fight for Atomic Justice* (Lawrence, KS: University Press of Kansas, 2020), 63, <https://doi.org/10.2307/j.ctv14rmpqs>.

⁵⁷ Michel Foucault, *Power/Knowledge: Selected Interviews & Other Writings, 1972-1977*, ed. Colin Gordon (New York: Pantheon Books, 1980), https://doi.org/10.1007/978-1-4614-5583-7_438.

⁵⁸ See more in: Didier Fassin and Mariella Pandolfi, eds., *Contemporary States of Emergency: The Politics of Military and Humanitarian Interventions* (Brooklyn, NY: Zone Books, 2010).

Indeed, otherization on the macro scale is prominent today when studying international migration,⁵⁹ but Hanford and the Tri-Cities offer a unique model where one can see the identity form and be passed into the contemporary. With the war over, and the Cold War ramping up, the nuclear military industrial complex embraced the role of the armed humanitarian by participating in the normalization of the Tri-Cities area into typical American towns.⁶⁰ Thus, the complex took actions to re-frame its war-time actions. A core element of the normalization process was making those living adjacent to the Hanford site comfortable with its dangers, its lingering effects, and its legacy. To do this, town officials embraced the military nuclear industrial complex's history within the region, fashioning an identity around the atomic bomb.

Celebrating Images of Destruction

From the beginning, the community surrounding the Hanford Site was planned to support the operations at Hanford. This meant creating an environment that balanced the need for strict observation of military protocol, while giving the largely civilian population a sense of freedom and security, with the intention of keeping morale high. Nonetheless, the community was constructed with military efficiency. Housing designs were given letters and alphabetized, structural components were manufactured en masse in on-site mills/factories and assembled into the necessary shape. Everything from blocks, to sewer tiles, to electrical conduits were built to be slotted into a preplanned space.⁶¹ The literal foundation of the community was a product of militaristic industrialism.

⁵⁹ See Darja Zaviršek, "The Humanitarian Crisis of Migration versus the Crisis of Humanitarianism: Current Dimensions and Challenges for Social Work Practice*," *Social Work Education* 36, no. 3 (2017): 231–44, <https://doi.org/10.1080/02615479.2017.1303043>.

⁶⁰ Findlay and Hevly, *Atomic Frontier Days: Hanford and the American West*.

⁶¹ Barb Carter, "Home Blown: The History of Homes of Richland" (Richland, WA, 1993), 11.

A key component of this industrialism is the uncaring aspect of the nuclear military complex. The methodical construction and the robotic collection of human samples signifies an ambivalent, insurmountable force. The parallel arrangement of the streets and the monotonous uniformity of the houses makes surveillance easier and, to those living there, less predictable by instilling a panopticon-like sense that the state is always present.⁶² There are few, if any, spaces for dissent because all corners were constructed by the government for government work. Uniqueness stands out and can be easily investigated. This reinforces the feeling that there is no opportunity for dissent. Everything from the bathroom sink to the road was a product of the militarized state. The individual movements of where people lived and traveled had been mapped out for easy control. Directly or indirectly, the militarized state was felt in all movement.



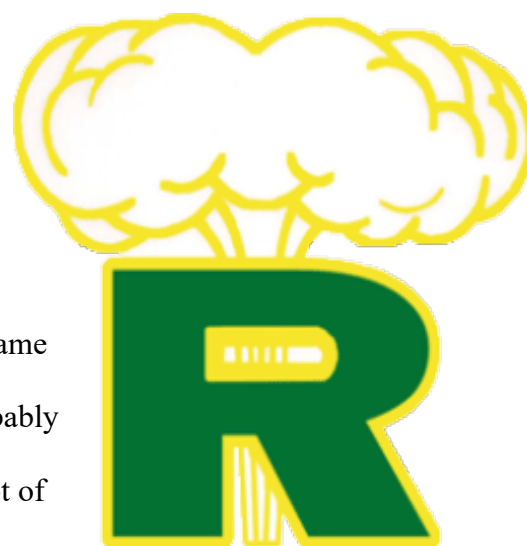
Military codification and standardization of the housing—followed by even more uniform prefabricated single-family houses—also established in the community that living conditions were a low priority. Emphasizing this sentiment was a comic

⁶² Timothy Pachirat, *Every Twelve Seconds: Industrialized Slaughter and the Politics of Sight* (New Haven: Yale University Press, 2011), 41.

strip character created in 1945 by Dick Donnell named Dupus Boomer.⁶³ Dupus gets his name by combining the DUP in DuPont and the US from United States, while using the last name of Boomer—a term for transient workers following boom towns across the American West.⁶⁴ Dupus Boomer provided comic relief for those living in the community by fostering shared suffering. People living in uniform housing made of unabashedly utilitarian components found comradery with their neighbors. Parallels could be drawn between the shared suffering of a military community and the shared suffering of beleaguered sports fans struggling through another disappointing season: “it may stink, but it is still ours.” Furthermore, knowing that the government already monitored the dissemination of information, we can assume the authorities approved of Dupus Boomer’s antics in that they wanted a tight-knit community. A close, uniform community is easier to control and monitor.

Presented here is a prime example of community engagement in social violence. The imposed living conditions of the nuclear military industrial complex are celebrated in an almost macabre fashion. Humor can be seen as an act of embracing subjugation by the state. In embracing state violence, the community embraces the ideology of Hanford: the creation of a weapon of mass destruction.

The imagery of the atomic bomb and its adjacent effects became part of daily life in the post-War, normalized Tri-Cities. Probably most prominent to Washingtonians is the emblem and mascot of Richland High School (RHS). The high school’s logo is a



⁶³ Carter, “Home Blown: The History of Homes of Richland,” 4.

⁶⁴ Carter, 14.

stylized, green “R” set against a white and yellow mushroom cloud.⁶⁵ The cloud, reminiscent of the ones that loomed over Hiroshima and Nagasaki, has become a polarizing issue in the state. To compound the controversy, the sports teams are the Richland Bombers. Margaret Brouns, who was born in Richland in 1953, remembers when the school mascot was an actual bomb.⁶⁶ She recalls spirit rallies, conducted in the main gymnasium, where a decommissioned bomb would be wheeled into a chorus of cheers.⁶⁷

Jim Thomas recalls meeting with Japanese *Hibakusha*—survivors of the U.S. atomic bombings in Japan—in Richland. There, he showed them the city of Richland and its blatant nuclear history. He recalled to me, that upon seeing the Richland High School logo, they were appalled.⁶⁸ While this should not be a surprise, it highlights the callousness of American nuclear hagiography. One people’s religion is another’s atrocity.

The linkage to state violence could hardly be more direct than a public education institution utilizing an actual weapon of mass destruction as its rallying cry. The image of a mushroom cloud, something that has invoked fear for decades, is proudly displayed on lettermen's jackets, helmets, and banners across town. But by associating this imagery with ostensibly fun activities—i.e., attending a high school spirit rally or sporting event—the image shifts to something less scary. The fear rightfully associated with the nuclear industrial complex becomes mundane. The entire process of incorporating nuclear imagery into a specific locale can be seen as akin to a public relations strategy. Nuclear sites cause a distinct uneasiness among the people

⁶⁵ “Welcome to Richland High School,” Richland High School, 2021, <https://richland.rsd.edu>.

⁶⁶ Christopher Eaton and Margaret Brouns, “Interview with Margaret Brouns” (Seattle, WA, 2021).

⁶⁷ Eaton and Brouns.

⁶⁸ Eaton, “Interview with Jim Thomas.”

in their surrounding areas.⁶⁹ So by imbuing the locale with imagery, making it mundane or routine, brings the nuclear industry into the familiar. And things we are familiar with, we are less afraid of.

More importantly, shifting life surrounding The Bomb to a mundane experience aid in the secrecy discussed earlier. The thing we experience and see every day is not something we think critically about. It is merely a part of the communal façade.

While the iconography of Dupus Boomer and Richland High School are blatant, community members see more mundane reminders daily. Ms. Brouns recalls the regular in-class videos instructing kids to duck and cover in case of a nuclear attack. It was believed that the Tri-Cities would be a likely target for a strike due to the weapons-grade plutonium production facilities. In fact, her own home was the neighborhood bomb shelter, and signs were posted in their area directing people to their home in the event of an attack.⁷⁰ The signage and daily reminders lead to an “anticipatory trauma,”⁷¹ a social Sword of Damocles hanging over a community. While the comparison is somewhat extreme, there is a sociological connection with slaughterhouses. Work conducted by Timothy Pachirat discusses how slaughterhouses are physically, linguistically, and socially isolated.⁷² Like a slaughterhouse, the uniqueness of the experience of an Atomic Town such as Richland naturally segregates the people living in the community. Only handful of communities in the United States can sympathize. Certainly, living in such a place is not the

⁶⁹ Dirk H.R. Spennemann, “QSL: Subliminal Messaging by the Nuclear Industry in Germany during the 1980s,” *Heritage* 4, no. 3 (September 1, 2021): 2054–80, <https://doi.org/10.3390/HERITAGE4030117>.

⁷⁰ Eaton and Brouns.

⁷¹ See Deborah A. Thomas, “Introduction: Humanness in the Wake of the Plantation,” in *Political Life in the Wake of the Plantation* (Durham, NC: Duke University Press, 2019), 1–21.

⁷² Pachirat, *Every Twelve Seconds: Industrialized Slaughter and the Politics of Sight*, 235.

same as living in a slaughterhouse, but the complex omnipresent iconography of mass destruction that surrounds the Tri-Cities creates an exclusive anxiety.

Conclusion

Kathleen Flenniken—a former engineer at Hanford—compiled a collection of her poems about the Hanford Site for her book *Plume*. In it, she translates the palpable anxiety and malaise the community feels surrounded by such a colossal history of mass death. Poems such as “Radiation!” and “Flow Chart” put into words the region's collective knowledge that they cannot outrun the radiation seeping from the facility, nor the disease that follows.⁷³ Iconography plays a major part in reminding people of this danger, consciously or not. The community surrounding the Hanford site has dealt with an ambivalent state since its inception. Shoddy, regimented housing, a militaristic lifestyle, and a community of secrecy bonded the town around the Manhattan Project. The hagiographic embrace of nuclear weaponry since allowed the town to continue to support the nuclear arms race of the Cold War. By supporting it, the nuclear military industrial complex did not have to fear dissent from its goals in the towns surrounding one of its most important facilities. The omnipresent, disembodied power of the state hovers over the region to this day. Despite the Hanford Site no longer being a production facility for WMDs, the town leans on its history as a means of preserving its identity. They cannot question it, because to do so is to question their role in an atrocity. To quote *Plume*:

What is that, I asked
the sky on screen filled with fire.
Who I was now
had something to do with

⁷³ Kathleen Flenniken, *Plume* (Seattle, WA: University of Washington Press, 2012), 41 & 51.

where I lived, in Atomic City. The atom,
the atomic age, had been a fond friend.
What remained black and white at home?
My cousins' color TV stained orange,
that mushroom cloud filling
afternoon's wide horizon.⁷⁴

⁷⁴ Flenniken, 20.

Interlude – A Conversation with Dr. Richard Brouns⁷⁵

My uncle, Dr. Richard Brouns (or Rick), is a retired nuclear physicist who spent the majority of his career working at Hanford. Starting at the facility in 1978, Rick began his career working with chemical processes surrounding geothermal steam vents.⁷⁶ Despite Hanford’s long history of weapons-grade material production, there was a secondary function at the facility—alternative energy research. As the U.S. was just coming out of the oil shock of the 1970s, there had been a major initiative by Department of Energy officials to determine backup methods for mass consumer energy. Hanford already had N Reactor active, which was functioning as both a plutonium production reactor for nuclear weapons as well as a power reactor serving the civilian electrical grid. Rick points out, however, that energy production was never the primary function of N Reactor. “[N Reactor] was producing electricity too, but it's not the most efficient way to produce electricity from a plutonium production reactor, ...you don't operate it as efficiently, you operate it to maximize plutonium production.”⁷⁷ Regardless of the civilian applications, Hanford’s goal remained first and foremost nuclear weapons.

What Rick was able to shine a light on was the primary shift within the facility from the Cold War to the post-Cold War era. When asked if he could recall any changes he witnessed, Rick discussed the bureaucratic consolidation of the research facilities, as well as attempts to remove as much nuclear material from the complex. Moreover, from a wholly scientific standpoint, the site radically shifted from a primary mission of defense—i.e., weapons production—to environmental cleanup.

⁷⁵ Excerpts herein have been edited for conciseness and clarity.

⁷⁶ Christopher J. Eaton, “Interview with Richard Brouns” (Seattle, April 12, 2022).

⁷⁷ Eaton.

For Rick, the move was not as drastic as it was for others. He had already been working in environmental research, having moved from his geothermal chemical work in the early 1980s. While the change for him was not jarring, he clearly remembers the shift at the facility as funds, people, and physical resources were moved from the defense operations. But as he describes it, it was not as if there was a loss of identity at Hanford. Work had been slowly shifting towards environmental and energy research as the nuclear treaties came into effect and on-site waste increased. Looking back on this time, he notices the shift away from weapons went unmarked internally, at least at the researcher level. At their level, they were continuing to work on the science they loved. Many of his contemporaries had arrived at the end of the nuclear weapons era at Hanford. Despite the N Reactor still being active, the weapons production was already being scaled down. So, without any fanfare, the facility shuffled its staff from weapons production to an ostensibly peace-oriented focus.

When asked how he felt having worked at a facility where nuclear weapons components were made, he said it never really bothered him or led him to feel much concern. Partly because he grew up in Richland and was surrounded by the daily monotony of Hanford, and partly because he never directly worked on the weapons. Furthermore, as he arrived towards the end of the nuclear weapons programs, it “never came up.” He goes on to clarify that it was not as if there was any celebration—though he does note that the older generations at the facility held some patriotic pride concerning the weapons production—but rather just something nobody really discussed or debated. It is known but never seen as “a topic of issue.”

Chapter 4 – How to Hide a Mushroom Cloud

When I initially approached this project, I struggled with how to encapsulate what I found so weird about Richland’s nuclear hagiography. Mostly because I had spent so much time there as a kid that it all felt so normal. Almost all of it went unnoticed to me until I began grad school. This was how my family felt as well. Indeed, my uncles Rick and Tom—interviewed for this research—cannot recall the history of Richland being discussed with any seriousness in school.⁷⁸ Even at Richland High School, an institution that states it is “Proud of the Cloud,” the moral tightrope of Richland is ignored altogether. Interestingly, it was that high school that was the starting point for this project.

Of course, I knew that Richland High School’s mascot was The Bombers. I had seen the lettermen’s jacket belonging to my mother hanging in the back of one of our closets my entire life. I had heard the stories of cartoonish mushroom clouds on logos. So, when I began this research project by casually navigating the high school’s webpage, I was taken aback by the fact the official logo still utilizes the mushroom cloud. In fact, I initially thought I had come across an archival image. One of the many social changes we have witnessed in the last half-decade has been the shift away from historically insensitive names/imagery for sports teams or public venues. Even my high school alma mater in Seattle, which utilized the name “the Braves” since its inception and employed strict rules governing Native American imagery so as not to offend, had finally changed its mascot to “the Bears.” So, in the 2020s when sports teams and schools are changing mascots to distance themselves from controversial images, there is no reason a school should celebrate a weapon of mass destruction, right?

⁷⁸ Eaton; Eaton, “Interview with Tom Brouns.”

Imagine if a high school had selected “the AR-15s” to be their teams’ name, and they had used a cartoonish gun as the mascot. A school board would never allow it. So, how does Richland High School get away with it? How do you hide a mushroom cloud? This chapter looks at some ways the U.S. has worked to hide the cloud: euphemistic language, bureaucratic shuffling, and normalizations of nuclear weapons.

The answer to the first question can be simplified down to, “because the United States, as a society, has not reckoned with the moral ramifications of August 1945.” That is to say, the U.S. has not apologized or solemnly commemorated the damage done by being the only country, so far, to have used nuclear weapons in combat. This is not to say the U.S. has not expressed some level of remorse on the diplomatic scene. Indeed, then-Secretary of State John Kerry referred to the bombings of Hiroshima and Nagasaki as “gut-wrenching” in 2016 while on a diplomatic mission to Japan.⁷⁹ However, acknowledging that a nuclear strike is upsetting is not the same as apologizing for civilian casualties, or confessing it was a mistake the bombs were used.

In not having a formal, state-sanctioned acknowledgment of what occurred in 1945, the U.S. has been able to sweep the usage of nuclear weaponry under the proverbial social carpet.

Furthermore, by never using language that grasps the magnitude of using such weapons, language that euphemizes and deemphasizes the importance of such destructive weaponry becomes the norm. When euphemistic language becomes commonplace, it is a logical step to say the importance is lost on the general public.

Manipulating Language

⁷⁹ Adelstein, “Japan Doesn’t Want the U.S. to Apologize for Bombing Hiroshima. Here’s Why.”

Euphemistic language is easier to spot. An obvious example is the usage of “defense” to refer to the American apparatus that conducts war. Throughout World War II, the position we now call Secretary of Defense was the Secretary of War. We also can see how nuclear weapons are often referred to as “strategic” weapons. This language can be more subtle, as well. Referring to by-products of nuclear weapons/energy production as “waste” gives the implication that it is something that can be cleaned or picked up and put away. Human waste can be flushed down a toilet, garbage is put out by the curb and picked up. Waste gives us the impression that it is normal and natural.

Euphemistic language also leads to obfuscation through bureaucracy. When using euphemisms to remove emotion-invoking language from dialogue, the language becomes categorical, broken into parts that we can then classify. Classifying and reclassifying spreads the responsibility of whatever is being euphemized, as such, no single entity has authority or visibility. Take waste, for instance. Hanford uses multiple classifications for waste.⁸⁰

- **High-level waste (HLW):** Waste from the reprocessing of uranium and plutonium from other non-desired radioactive elements
- **Low-level waste (LLW):** a catch-all category for any radioactive waste that is not spent fuel, high-level, or containing large amounts of transuranic waste.
- **Hazardous Waste:** Nonradioactive waste, such as metals and chemical compounds that are known/thought to pose a risk to the environment or people’s health.
- **Mixed waste:** radioactive material combined with hazardous waste.
- **Transuranic waste:** radioactive waste that contains more than 100 nanocuries per gram of alpha-emitting isotopes having atomic numbers greater than 92 and half-lives greater than 20 years.

On one hand, the classification system may help in the proper storage of different materials—especially considering the high cost of containing the waste at Hanford, approximately \$2.5

⁸⁰ List quoted from Gephart and Lundgren, “Hanford Tank Cleanup: A Guide to Understanding the Technical Issues,” 9.

billion annually.⁸¹ However, R.E. Gephart details who is responsible for each type of waste, “Depending on the source, radioactive wastes are regulated by either the DOE (military sources) or the U.S. Nuclear Regulatory Commission (commercial sources).”⁸² He goes on to say that substances classified as “hazardous wastes” are regulated by the U.S. Environmental Protection Agency (EPA). Mixed waste gets increasingly complicated as its regulation can be split between all three agencies depending on the source and percentage of waste.⁸³ Therefore, waste being stored at just one part of Hanford could potentially fall under the jurisdiction of three different agencies who must work together to break up the waste and compromise on storage. Each agency has its own regulatory standards, processes, and bureaucracies.

Furthering the issue, how the government agencies process the waste has changed over time, and some of those processes inhibited or prevented further treatment as technology evolved. In the 1970s, a series of absorbent substances were added to some of the tanks at Hanford. The tanks now appear to be dried out, and no longer pose a risk of leaking. However, due to the absorbents, the dried waste cannot be reprocessed into substances easier for transport or pumped to new, better tanks. Therefore, the waste must remain in its original, corroded tank and buried on-site effectively halting the clean-up project in certain areas.⁸⁴

As the example above demonstrates, diversifying and muddling the process by which Hanford is managed creates an impasse where work cannot be completed, or the problem must be passed off. Rick Brouns witnessed similar issues in the post-Cold War years where no cohesive decision could be made about how to manage waste. Each new administrator, especially ones that had not

⁸¹ Olson, *The Apocalypse Factory: Plutonium and the Making of the Atomic Age*.

⁸² Gephart and Lundgren, “Hanford Tank Cleanup: A Guide to Understanding the Technical Issues,” 9.

⁸³ Gephart and Lundgren, 9.

⁸⁴ Gephart and Lundgren, 23.

had direct experiences with the facility in the Cold War, had their own vision for management. Waste would simply be moved from one part of the complex to another.⁸⁵ Safety would be reexamined with each new manager, and any potential hazard halted all work. In Rick's opinion, scientific advancement/progress at Hanford halted due to constant bureaucratic shortsightedness. As such, Rick would go on to change departments, moving into the defense sector of U.S. nuclear research in the early 2000s.

Bureaucratic Obfuscation

Pointing out the frustration at bureaucracy is extremely important because it lays the groundwork as to why the scientists seem to have limited moral qualms about what was done at Hanford. By becoming frustrated with the larger picture, scientists tune out the bureaucracy and focus only on their work. Both of my uncles Rick and Tom noted this, in that the scientists working at Hanford certainly knew what was being done/built there, but to them, it was merely a job.⁸⁶ Author Paul Loeb notes this as well when observing both the lack of allegiance to any national ideology, as well as a sense of boredom that came over the facility as jobs were sectorized off. "The old hands resent the bureaucratic regulators who, in their view, have collaborated with environmentalists and other dissidents to bring a once-proud lumberjacking, iron slinging and empire-building nation to its knees... Hanford's younger workers...carry no such allegiance [to the work and facility]."⁸⁷ Those who had started there in the early days of the Cold War felt a sort of patriotic duty to the work, while those that came towards the end did not have the same fervor.

⁸⁵ Eaton, "Interview with Richard Brouns."

⁸⁶ Eaton; Eaton, "Interview with Tom Brouns."

⁸⁷ Paul Loeb, *Nuclear Culture: Living & Working in the World's Largest Atomic Complex* (Philadelphia: New Society Publishers, 1986), 191.

Additionally, the more the work was partitioned off into sub-sectors or groups the greater the sense of boredom filled the workers.⁸⁸ The more bored workers became, the less likely safety and security measures were followed. Bored workers also tend to not care about what they are working on, contributing to a lack of administrative critique, or moral wherewithal to question their directives.

For my family, this created a sort of moral contradiction. My grandparents were staunch civil rights activists who regularly protested nuclear proliferation. That said, they both worked at Hanford during the height of weapons production. Both of my uncles interviewed for this research are strong supporters of civil rights for all people and believe nuclear weapons are a danger to humankind. However, both worked at a facility that made atomic weapons. How does one reconcile those juxtaposed stances? I argue this stems from the U.S. government's steps to turn the work at Hanford into a factory-like job. Mechanizing and monotonizing the work until it becomes an everyday, hum-drum existence. By building a set of apparatuses that reinforces the labor rather than critical thought, the state can avoid tough, moral questions about what is being constructed and how it will be used. While many scientists during World War II and the Cold War objected to nuclear weapons being used on civilians, they continued working at Hanford.⁸⁹ By making the atomic lifestyle an everyday event, nobody looks beyond the surface level. By breaking the language down into complicated categories that take a scholar to understand, people lose interest in what is really happening. How do you hide a mushroom cloud? Right out in the open.

⁸⁸ Loeb, 192.

⁸⁹ Loeb, *Nuclear Culture: Living & Working in the World's Largest Atomic Complex*.

Interlude – A Daunting Task with Tom Brouns⁹⁰

Much like his brother Rick, my uncle Tom got his degree in chemical engineering from the University of Washington.⁹¹ Being the youngest of six kids, Tom got to see his siblings—my mother’s family—grow up and go on to work at Hanford. Following in his father’s, and five elder siblings’, footsteps seemed all but inevitable. In 1987, Tom would start his work with Pacific Northwest National Laboratory (PNNL) at Hanford. While we spent quite a while discussing family and our shared history with Hanford, what stood out from our conversation is Tom’s experience aligns more with the federal administrative side of Hanford, as opposed to scientific study. My uncle Rick and grandfather both drifted towards the science, but it is Tom that has worked closely with the Department of Energy who oversees the facility.

One of the themes of our conversation was just how daunting the task of cleaning up Hanford is.

Tom addressed this by saying:

I gave a talk recently about the challenges at Hanford and over time, how cleanup progressed. When you realized what was there, fifty-some million gallons of highly radioactive waste stored in tanks, some of which have leaked—and no place to treat that waste anytime soon—to more than a thousand facilities that were used. And a hundred square miles of contaminated soils and groundwater. And if you took the kind of classic Superfund site cleanup approach, every one of these little individual sites would be treated as its own cleanup. So how do you even begin to prioritize and tackle something the size of Hanford with more than 500 square miles?

You've got a thousand cleanup sites, not to mention these existing plants that are still operating at the time cleanup began—they haven't shut down yet. And they're managing waste. Some of the facilities are active RCRA units that are still storing and managing waste. Then you've got all these past-practice sites that are part of the Superfund cleanup. So, it's just, it was an overwhelming situation. And I remember being part of that whole process and group involving DOE, their site contractor, and the national lab—trying to figure out the best strategy. You had the site contractor just trying to think about it from a pick and shovel and a bulldozer

⁹⁰ Quotes edited for conciseness and clarity.

⁹¹ Christopher J. Eaton, “Interview with Tom Brouns” (Pasco, WA, April 22, 2022).

perspective. We were kind of at odds as to “wait a second, you know, don't be so brute force about it, there's probably better ways to do this.”

The sheer complexity of the problem of cleaning up Hanford creates an inability for an appropriate path to be discernable. That is to say, the problem is so massive there is no single, clear solution. Each site could require a unique set of steps. While one section of Hanford may be adequately managed by proper storage and deep burial, another area may require the entire waste site to be dug up, packaged, and prepared to be moved out of state.

As pointed out in this research, what complicates matters further is that different types of waste are regulated by different government agencies.⁹² So not only does each section of Hanford present a unique challenge, but that section may contain waste that must be sorted and administered under different rules and processes and overseen by different agencies. Tom alludes to this when he says scientists from PNNL and DOE contractors often butted heads in trying to find a solution. Furthermore, this harkens back to what Dr. Rick Brouns mentioned about the continued problem of “shuffling” at Hanford. Waste—or the advent of developing a solution for said waste—was shuffled from either one geographic or administrative sector of Hanford to another. Indeed, when a task is so daunting, it is hard to know where to start. Combine this challenge with bureaucratic complexities, and it is not hard to see why the cleanup at Hanford has left so many disillusioned.

⁹² R.E. Gephart and R.E. Lundgren, “Hanford Tank Cleanup: A Guide to Understanding the Technical Issues” (Richland, September 1998).

Chapter 5 – Conclusion

When starting this research, the core question I sought to answer is how has the United States never had a social reckoning concerning the bombings of Hiroshima and Nagasaki in August of 1945? Due to my family's unique history with the U.S. nuclear industrial complex, it became increasingly relevant as this project moved forward that my family had a story to tell. This research slowly but surely moved from being solely about the American nuclear industrial complex and Hanford, into a story about a family that has struggled—albeit not always openly—with the role we played in this colossus. On one hand, this was never the research I meant to conduct, while on the other, diving into what my family's role was may have answered the initial question.

The consistent theme that came from researching my family's history was the juxtaposition of working at/for Hanford and protesting against what it was making. My grandparents were vehement advocates for halting nuclear proliferation. However, my grandfather directly worked on the production of plutonium for weapons. They fought tooth and nail for equal rights for all peoples in the Tri-Cities, but it was Hanford that initially segregated the towns. My grandmother was a major pro-choice advocate in a typically conservative part of Washington. Despite this, she maintained a strong Catholic faith, attending church weekly and actively supporting her local parish. And it was Hanford that created a history of exploitation of women in the Tri-Cities. My grandparents, for better or worse, were an example of the hard line drawn between work at Hanford and life in the Tri-Cities. Your opinions about your workplace stayed at home.

This sentiment was something that appeared time and time again in my conversations with my uncles and mother. From what they remember from their childhoods, work was just work to my

grandfather. It did not come home, and their social activities in local civil rights groups did not play into their work lives. My uncles echoed similar opinions. They grew up attending protests with my grandparents and yet they both went to work at Hanford. Indeed, five of the six children—my mother included—worked at Hanford in some capacity. For the three that did not make it a career, Hanford was just a summer job in between school years, pushing paper and working as admins. However, to this day, they all contend that it was just a job. It was not until my research project started bringing up the question of how they could reconcile their activism and their work that the family started to really discuss our past. The line that was trumpeted was “yeah, I just don’t remember anyone talking about it. It was just a job to so many people.” Eventually, after combing through texts on power dynamics and reading dozens of other familial accounts, it became clear that this was how the U.S. government hid the entire apparatus. They left it out in the open and made it so mundane that eventually we all forgot to talk about it.

While the interludes contained herein detail my familial and personal connections to Hanford, the research consists of three main components: historical context, iconography, and an analysis of the apparatuses at play in hiding atomic industry. The historical context provided us with an understanding of what built the Tri-Cities. We dissected the powers at play in the early days, and how the town was governed by scientists and the military. The way these powers broke up and reformed the communities to fit national and commercial interests. Additionally, this research dug into the foundation of modern Hanford through the industrialization and mechanization of the facility during the Cold War. All of this was to set the context of the Tri-Cities to better understand why these towns operate in the way they do.

The second chapter examined the iconography and power dynamics at play in the Tri-Cities, specifically Richland. It is in this chapter that we get to see glimpses of the local nuclear hagiography, and how “The Bomb” can mean one thing to the United States and another to a farming community in southeastern Washington.

The third chapter dives into how the United States “hides a mushroom cloud.” This is to say we look at how the usage of euphemisms and bureaucracy create an environment that generates disinterest. By creating a lack of concern, effective critique and monitoring are lost in the mélange of government oversight agencies. Additionally, exploiting differences in both the community and workers further foments discontinuity in any opposition. Pitting old and young workers against each other, either intentionally or simply by not actively fostering unity, causes fractures within the community both inside and outside of Hanford. To hide a mushroom cloud, it ultimately just needs to become so mundane that people lose interest in it.

As the research project now comes to a close, the last question to answer is where do we go from here? Work at Hanford will not be done any time soon. Millennia will pass before the hazards contained within the ground are finally inert. In the meantime, the waste will continue to pose a colossal threat to the community and the greater Columbia River basin. That said, I believe this research can contribute to further avenues of discussion. How can we better mobilize personnel to raise awareness of the complacency within U.S. society toward nuclear weapons? How can the United States begin to reckon with and heal from our past? Should the United States apologize for the usage of atomic weaponry in August of 1945, or is that something that must settle into the annals of history? Possibly even more important, what can families like mine—those with

extensive institutional knowledge of Hanford—do to fully grasp their roles? Can we do anything to rectify our past? Should we do anything?

These last questions are the ones I find myself pondering the most. My family has many questions it must tackle. We played a role in building Hanford, expanding Hanford, and in sustaining Hanford. Moreover, we waded further into the quagmire by playing off our history as “just a job.” People all over have performed morally ambiguous work since time immemorial. People will continue to perform such work probably long after Hanford has faded from memory. Working the morally tough jobs is not something to be shamed. That said, I do believe there is a sort of duty one must perform. One should be aware of the magnitude of their work. The U.S. is grappling with this dilemma now as we reevaluate our relationship with policing. Jobs that toe the moral line, where lives can be forever changed in a moment, cannot be treated as just a job. Maybe the United States needed to develop the atomic bomb; in all likelihood, another country would have developed it and used it eventually. We will never really know if using the bomb shortened World War II, or saved lives on the whole. These are the historical “what if’s” that never will have an answer. The only answer I truly know as this research comes to an end is that my family—much like the United States—has not dealt with our failings when it comes to Hanford. That is the next story we must write.

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