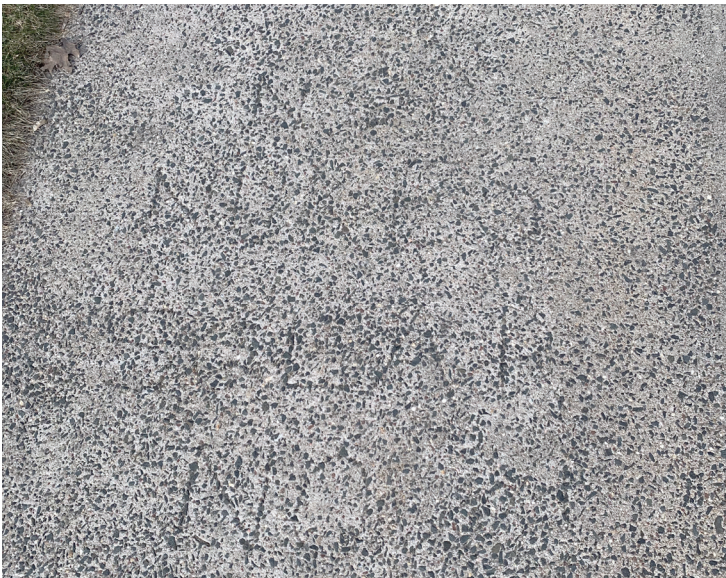


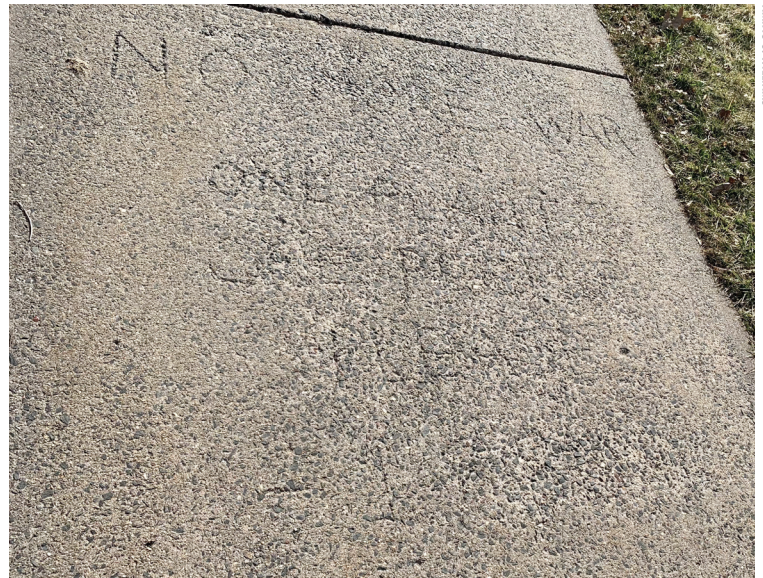
Tracing the Radioactivist Landscape

 Amrys O. Williams

Not far from my house in Middletown, Connecticut, there is a stretch of sidewalk that draws my attention every time I pass over it. When two of the sections were laid, someone left a message in the wet concrete. Today it is worn from decades of footsteps and weather, but you can still make out most of it:



NO
NUKES
SOLAR
NOW



NO MORE WAR
ONE PLANET
ONE PEOPLE
PLEASE

These words are followed by what appears to be the year “1980.” Though the writing is so faded it is difficult to be sure, that date squares with the history of nuclear power, nuclear weapons, and nuclear protest made manifest in the message.

This stretch of sidewalk is not a park or a designated historical marker. If you weren’t paying attention, you would probably walk right over it. But it demonstrates the ways in which the history of nuclear energy is literally inscribed into the landscapes we move through

every day. It also highlights the kinds of alternatives and counternarratives that are so necessary to the energy histories we need to tell in an era of both nuclear renaissance and climate change. It points us toward a set of stories that grapple not only with

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the two signature technologies of nuclear energy—the bomb and the reactor—but also the individuals and groups that critiqued and opposed them, with important success.

Most of the public interpretation of nuclear technologies occurs in the places where large-scale facilities involved in, first, the Manhattan project and, later, the growth of both nuclear weapons and nuclear power have been located. Manhattan Project National Historical Park in Hanford, Washington, Los Alamos, New Mexico, and Oak Ridge, Tennessee, is a perfect example. Additional storytelling occurs at atomic museums and sites, such as the Nevada Test Site, the National Atomic Testing Museum, the National Museum of Nuclear Science and History, and Minuteman Missile National Historic Site. Monuments and markers are scattered across the nation and the world, the vast majority related to scientific and technological firsts in the development of nuclear power and weapons, former sites in the production chain for fissile materials, or places that once hosted a government, military, or corporate installation. These include decommissioned power plants, missile silos, and other artifacts of a mostly Cold War story of nuclear developments.¹

These interpretive efforts are important and worthwhile, particularly as remediation efforts by the Department of Energy have often razed historic structures and other physical testaments to the nuclear landscape. But what if we took the sidewalk messages seriously, as a potential corrective to the interpretation of nuclear energy writ large? Where else might we look? Where might we situate our interpretive work, and what other stories might we tell?²

I suggest that we think of these energy stories not as nuclear stories or atomic stories—terms that emphasize the scientific, technological, and military dimensions of nuclear energy—but as stories of radioactivity and radioactivism. Reframing our preservationist, interpretive, and commemorative work in this way both enlarges the field of what counts as a nuclear energy site or story and invites us to pay attention to a wider swath of people, especially the activists who resisted the proliferation of nuclear weapons and the expansion of nuclear power. It widens the scope in a way that is crucial, situating the intractable problems of nuclear waste and the horrors of nuclear war alongside the stories of innovation that drive so many atomic narratives. And it asks us to consider the ways that nuclear technologies apart from the bomb and the reactor have shaped our lives and environments. These include radioisotopic tracers in

medicine and, notably, ecology—fields where knowledge generated through nuclear means is now crucial to our understandings of environmental and health challenges related to climate change.³

By reframing the nuclear as the radioactive and radio-activist, we also re-place it, enlarging our geographic focus to include sites of nuclear resistance, as well as fields where other applications of radioactivity flourished, such as ecology and medicine, and radioactive artifacts as mundane as wristwatches and tableware. This would include not just nuclear plants, federal laboratories, and defense manufacturers, but the streets and parks and farm fields where protesters gathered or performed acts of civil disobedience, the factories where workers used radium to make consumer goods, the ponds and lakes where ecologists studied nutrient cycling using radioisotopes—and the places where the waste from all of these activities is buried, or will need to be.⁴

Finally, this framing calls us to focus on the power and agency of citizens and local people working together, and on thoughtful human choices, rather than on some sense of autonomous technological progress or the increasingly entrenched power of a federal bureaucracy, the military, commercial interests, or government contractors and other powerful corporations. Such a perspective is essential to countering climate change as a society, as well as to meeting the debates over nuclear activities that are returning to the forefront as a result. This work is increasingly urgent as we seek to interpret climate change at parks, museums, and historic sites.⁵

To this end, I will present some brief stories of radioactivism in Connecticut and New England that help explain the sidewalk message with which I began this piece, and that gesture at what a broader interpretation and placing of nuclear energy could look like.



Though Connecticut might not register in most people's mental maps of nuclear places, the state is in fact littered with them. From the ghostly remains of the Connecticut Yankee Nuclear Power Plant at the tip of Haddam Neck on the Connecticut River to the two reactors still churning out power at Millstone Nuclear Power Station on the coast in Waterford, from the dozen Nike missile sites that stood at the ready during the Cold War to the Navy's submarine base at Groton and the General Dynamics Electric Boat shipyard just downriver, Connecticut's ties to the nuclear age are deep and longstanding. They date

back before the first nuclear-powered submarines in the 1950s, to the early 20th century, when young women painted the faces of clocks and watches with radium in industrial cities like Waterbury, and to the 1940s, when the Yale biologist George Evelyn Hutchinson began using radioactive phosphorus from the university's cyclotron to study nutrient cycling in Linsley Pond in North Branford, helping found the field of radioecology.⁶

The submarine—which Connecticut has adopted as its modern mascot, appearing on state welcome signs and in the latest tourism campaign—is perhaps the most prominent symbol of the inextricability of nuclear weapons and nuclear power. Reactor technology powered the US Navy's submarine fleet beginning in January 1954, with the launch of the USS *Nautilus* from the Electric Boat shipyard in Groton. With the development of submarine-launched ballistic missiles, nuclear subs soon carried nuclear weapons as well, becoming a key component of both American and Soviet strategy in the Cold War arms race. In a state with a historically defense-dependent economy, submarines continue to inspire both technological pride and impassioned resistance.⁷

For those who opposed nuclear weapons and war, Groton became an important center for protest. Each sub's keel laying and sea trial allowed peace and disarmament advocates to focus local attention on the machines and industries supporting warfare. But from Sikorsky in Stratford to Pratt & Whitney in East Hartford and Middletown to Electric Boat in Groton, some of Connecticut's largest employers were military contractors. In 1980, Connecticut had the country's highest per capita defense spending. Military work accounted for one-quarter of the state's industrial sector, and one in four manufacturing jobs was in defense. Those employees were understandably hostile to the anti-nuclear movement because they felt it was a threat to their jobs. In Connecticut, it was crucial for activists to make an economic argument against nuclear weapons as well as a moral one.⁸

Marta Daniels helped lead this charge. On April 7, 1979, she was one of 3,000 protesters lining the streets of Groton and chaining themselves to the gates of Electric Boat to oppose the launch of the first Trident submarine. This new weapons system was part of an escalation of the arms race soon ushered in by the Reagan administration. US nuclear strategy was shifting from massive retaliation towards first strike with highly accurate nuclear missiles—Trident missiles, launched from Trident submarines. Daniels was a staff member

with the American Friends Service Committee (AFSC), the Quaker peace organization based in Philadelphia. In the 1970s and 1980s, she coordinated both the Trident/Conversation Campaign, a movement in southeastern Connecticut to halt weapons production and develop an alternative economy that could support the area in place of defense manufacturing, and the Connecticut Campaign for a U.S.–U.S.S.R. Nuclear Arms Freeze, which sought to halt the nuclear arms race between the US and the Soviet Union through local activism. Together, these efforts linked Connecticut's economic issues to the defense sector, charting an alternative path for manufacturing that could free the state from its nuclear and military ties.⁹

In a 1980 ASFC report, Daniels outlined how military dependence damaged the state's economy, and offered

Marta Daniels has coordinated movements in Connecticut to halt weapons production, develop an alternative economy that could replace defense manufacturing, and stop the nuclear arms race between the US and the Soviet Union. AMRYS O. WILLIAMS



Eventually, all the radioactive waste in New England travels thru Hartford.

Hartford "THE GARBAGE FUNNEL"

- Right now 20 shipments per week of radioactive garbage travel on Hartford's twisting highways.
- Spent fuel storage tanks for many reactors are overloaded and high-level wastes, including Plutonium 239, will soon be streaming thru Hartford.
- One millionth of a gram of Plutonium can cause lung cancer.
- New England's currently planned and already built nuclear reactors will generate 16,000 lbs of Plutonium by the year 2000.
- If only 18 lbs of Plutonium were released, the result would be 135,000 cancers (the population of Hartford) every 50 years.
- There have been 144 transportation accidents, 36 of which involved the release of radiation.

--The Federal Dept. of Transportation has only two inspectors in Connecticut. The Connecticut Department of Environmental Protection inspects less than one per cent of all waste shipments.

--To avoid the the increasing certainty that Hartford will be the scene of a major catastrophic waste accident, Mayor Athanson has introduced an ordinance restricting the transportation of radioactive materials through Hartford.

--There will be a

Public Hearing

July 17th (MONDAY) 8:00 PM
at City Hall

NEED A RIDE CONTACT:
CONN. CLAMSHELL COALITION
P. O. BOX 6346
HARTFORD, CT. 06106
PHONE 203 / 525-7168

Radioactive waste traveling on highways was one concern of radioactivists. WESLEYAN UNIVERSITY ARCHIVES

a plan for diversification and economic conversion. Outsize dependence on defense contracts meant Connecticut manufacturing went through continual cycles of boom and bust, subject to the whims of federal dollars. On a single day in October 1977, 3,000 workers at Electric Boat received pink slips and ended up in line at the New London unemployment office. Over the next three years, another 4,000 EB workers lost their jobs. Manufacturing unions wanted steadier employment for their members. Daniels's report showed that a peaceful economy in Connecticut could create more jobs and meet more of people's everyday needs through transit development, construction, health care, and education.¹⁰

Stopping Trident was one goal of the nuclear freeze campaign, which opposed the nuclear arms buildup and called for a bilateral halt to the development, testing, and production of new weapons, starting at the town level. Daniels traveled the state speaking with groups like the Middletown Nuclear Arms Study Group and the Lymes' Nuclear Arms Freeze Committee, helping them educate their neighbors, calling the freeze issue to a vote at town meetings, and picking local spokespeople to articulate their position. In 1981, Hampton became the first Connecticut town to request that members of the

state's congressional delegation sponsor or co-sponsor a resolution calling for a joint United States-Soviet Union nuclear arms freeze. By 1984, 131 of the state's 169 towns supported the measure, thanks to 115 local groups involving some 10,000 people. In May 1983, the House of Representatives approved the freeze, and in 1984, the Democrats included a freeze plank in their convention platform. Citizen pressure brought the US and the USSR to the negotiating table. The INF (Intermediate-Range Nuclear Forces) Treaty and START (the Strategic Arms Reduction Treaty) of 1987 and 1991, respectively, achieved arms control and helped mark the end of the Cold War. By the early 1990s, both countries had ceased all testing and deployment of new nuclear weapons. The freeze campaign changed many people's perceptions of the peace movement at the local level, and helped enact meaningful change at the national and international levels.¹¹

Throughout the 1970s and 1980s, anti-nuclear activism was highly grassroots and decentralized. The work proceeded through a diverse coalition of local groups that made crucial economic arguments to undercut the presumed value of the nuclear power and weapons industries, mobilizing citizens of all sorts across the state in local civic action. It brought together alternative energy advocates, environmentalists, peace and anti-war activists, clerics, and organized labor. It included rallies, teach-ins, and trainings, acts of civil disobedience large and small, and direct democracy at its New England best. It included calls for divestment, warnings about safety, and pocketbook issues like jobs and utility rates.

Those who opposed nuclear power worked to both stop the construction of planned facilities and raise awareness about the dangers of those that had already been built. One night in February 1974, a young farmer named Sam Lovejoy snuck into a field in Montague, Massachusetts, and loosened the turnbuckles holding up a 500-foot weather tower the local utility company had erected to test wind conditions in preparation for a nuclear power plant to be built on the site. Lovejoy's actions raised enough local opposition to prevent the plant's construction, and a documentary, *Lovejoy's Nuclear War*, became a touchstone for many emerging activists.¹²

In August 1976, a group of citizens organized by People's Action for Clean Energy (PACE) stood outside the gates of the Connecticut Yankee nuclear power plant on the Connecticut River and released 500 helium balloons into the air. Each balloon carried a tag informing whomever found it that they were downwind of the nuclear plant and in the zone of danger if an accident

occurred. The tag asked the finder to return it to PACE with information about where it had landed. Within six hours, some of the balloons had traveled over 50 miles and reached Narragansett Bay in Rhode Island. Paul Gionfriddo, the president of PACE, explained to a reporter that the purpose of the exercise was to raise awareness about the dangers of a radioactive release and gather information about its potential extent. “I think it is pretty clear that if Connecticut Yankee were to fail us tomorrow,” he said, “thousands of people would never really know what hit them.”¹³

PACE was emblematic of the citizens’ groups that emerged across Connecticut and New England in the 1970s to oppose nuclear power, advocate for alternative energy—especially solar—and organize for change. Alongside statewide organizations like the Connecticut Citizen Action Group (CCAG)—cofounded by Ralph Nader in 1970—PACE grounded energy issues in local concerns. It spoke out against the transport of nuclear materials on the state’s highways, highlighted the dangers of accidents on the road and at the plant, opposed the expansion of existing plants, and criticized

utility companies for increasing rates to finance new nuclear facilities. It also laid out the alternatives, giving talks, writing op-eds, hosting tours of solar-fueled homes, and sponsoring fairs on conservation, energy efficiency, and renewable power for homeowners.¹⁴

Then, as now, nuclear power existed alongside a growing interest in renewable energy, particularly solar and wind, which had burgeoned in the wake of the energy crisis of the early 1970s and the postwar environmental movement. Just as some people today see nuclear power as a tool in the fight against climate change, in the 1970s proponents saw it as a domestic energy source that could reduce both reliance on foreign oil and air pollution. But the threat of accidents, the intractable problem of nuclear waste, the security of fissile materials, and the long shadow of the atomic bomb made many Americans concerned about the proliferation of nuclear plants in the postwar years.¹⁵

If Groton was emblematic of New England’s movement against nuclear weapons, then Seabrook, New Hampshire, was the culmination of its protests against nuclear power.

▼ College campuses like Wesleyan University were important centers for anti-nuclear organizing in the 1970s and 1980s.

▼ Students like Arnie Alpert learned non-violent tactics drawn from the Civil Rights movement.

SEABROOK!

INFORMATIONAL MEETING
FOR ALL INTERESTED IN THE
JUNE 24 OCCUPATION
OF THE NUCLEAR PLANT SITE

All considering participation in any aspect of the Seabrook action—occupation/restoration, support work, canvassing, support rally—should attend.

TUES. APRIL 11, 7-9 PM

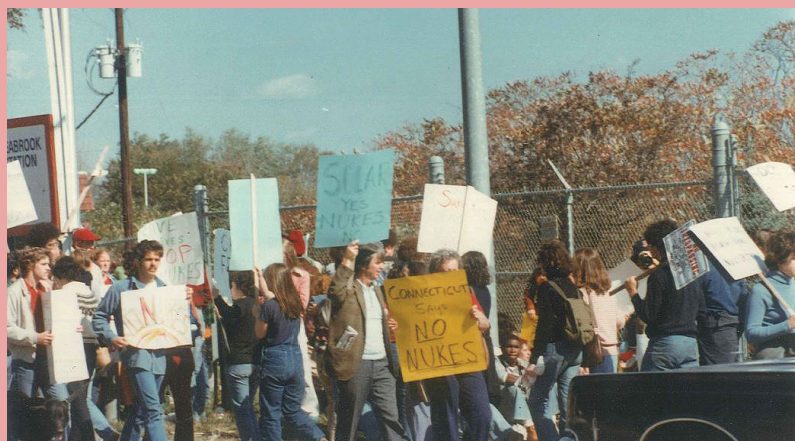
WESLEYAN PUBLIC AFFAIRS CENTER ROOM 01

Nuclear Resistance Group
347-4048 or 347-7411 ext. 463

On November 7th,
64 Seabrook Protesters,
Including 6 Wesleyan Students,
Will Go To Trial In Exeter, N.H.

Show Your Solidarity With
Them By Attending A

SUPPORT RALLY
OUTSIDE THE COURTHOUSE
Organizational Meeting Wed. Nov. 2nd
8PM 58 Science Center
Be There! Take Action Now!



▲ Connecticut activists joined protesters from across New England to oppose the Seabrook nuclear plant.

WESLEYAN UNIVERSITY ARCHIVES

WESLEYAN UNIVERSITY ARCHIVES

JANUOR, CC BY-SA 4.0 VIA WIKIMEDIA COMMONS

The planning and construction of a nuclear plant on the seacoast in the 1970s galvanized new and existing activists across New England through a coalition called the Clamshell Alliance. In the last days of April 1977, over 2,000 activists from across New England converged on Seabrook and occupied the plant site, blocking construction vehicles and using non-violent techniques to create a mass action of civil disobedience. The governor called in the police and the National Guard, and on May 1 they arrested nearly 1,500 people. Most were held for over two weeks at armories across New Hampshire before being released. Among them was Arnie Alpert, a senior in earth and environmental sciences at Wesleyan University, who had gotten involved in the Clamshell Alliance after attending a campus screening of *Lovejoy's Nuclear War*. He took incompletes in his classes and finished his earth and environmental sciences degree late. Like Daniels, his experience at Seabrook launched him on a career in peace work. After graduating, he worked as a canvasser for

CCAG, connecting anti-nuclear sentiment with economic issues such as utility layoffs and electric rate hikes. He worked for the Clamshell Alliance in 1978, driving across Connecticut to coordinate and meet with the many local groups springing up, before starting with AFSC in New Hampshire, which he served until retiring in 2020.¹⁶

▼ Radioactivists like Arnie Alpert engaged in acts of civil disobedience (here, June 4, 1989) to protest nuclear power and nuclear weapons at the sites of their creation and deployment.

MICHAEL BETTENCOURT, COURTESY OF ARNIE ALPERT



Connecticut citizens demand --

NO LAYOFFS! NO RATE HIKE!

**Rally in Hartford,
Saturday, November 19 at 12:30!**

The \$35 million rate hike isn't enough for Northeast Utilities. NU has threatened to lay off as many as 450 transmission line workers and 1200 construction workers in retaliation. NU is using Connecticut working people as pawns in their search for higher profits.

Those 450 layoffs mean that this winter, when lines come down from another ice storm, it will take twice as long to restore power to our homes.

Those 1200 layoffs mean higher unemployment in a part of the state already hard hit by massive layoffs.

As citizens who opposed NU's \$90 million rate hike request across the state, we are going to speak out just as strongly against any layoffs by NU. Northeast Utilities must be made accountable for our safety and the job security of those it employs.

Socially responsible jobs for all!

Meet: At the State Office Building (PUC), 165 Capitol Avenue, Hartford, across from Bushnell Auditorium;

March: To the HELCO office on 266 Pearl St;

Rally: At the Old State House on 800 Main st, downtown Hartford.

For Rides, Call: 527-5650



We have to stick together!

Sponsored by the Greater Hartford Utilities Coalition, Coalition Against the Rate Hike (CCAG), East Hartford Citizens Action Group, and the Connecticut Clamshell Coalition

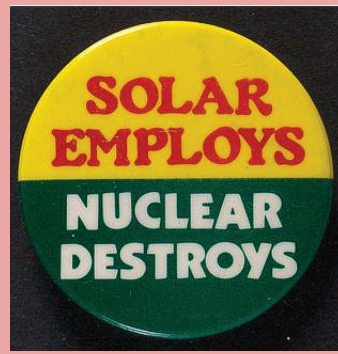
Labor Donated

▲ Anti-nuclear power organizations, including the Clamshell Alliance and local citizens' groups, connected pocketbook issues like utility rate hikes and layoffs to the costs of utilities' nuclear construction projects.

WESLEYAN UNIVERSITY ARCHIVES

► In October 1977, Arnie Alpert attended a rally organized by the Clamshell Alliance to oppose the construction of the Seabrook nuclear plant in New Hampshire.

CLAMSHELL ALLIANCE / LIBRARY OF CONGRESS



Pins and buttons help spread the many messages of radioactivists in the 1970s and 1980s. UNIVERSITY OF CONNECTICUT ARCHIVES & SPECIAL COLLECTIONS

The 1977 Seabrook protests raised the profile of the anti-nuclear movement while also launching careers like Alpert's. The partial meltdown of the nuclear reactor at Three Mile Island in Middletown, Pennsylvania, on March 28, 1979, shifted public opinion dramatically against nuclear power. In Connecticut, the General Assembly passed resolutions that legislative session banning the construction of new nuclear plants and the burial of nuclear waste in the state. Like the movement against nuclear weapons, the anti-nuclear power movement worked locally to effect change on a national scale. The Chernobyl disaster in 1986 heightened international concerns about the risks of nuclear power and nuclear disasters, adding to the groundswell of opposition against the arms race. As Alpert explained, for many activists, the issues of nuclear power and nuclear weapons could not be meaningfully separated. "They were always evil twins," he told me. "You needed to be against both."¹⁷



These stories of protest against nuclear weapons and nuclear power only hint at the possibilities of a more capacious approach to the interpretation of nuclear energy as radioactivity. Our journey has taken us from a sidewalk in Middletown, Connecticut, to the shipyards of Electric Boat, to the plains of Montague, Massachusetts, and the seacoast of New Hampshire. It has left out many places where radioactivism has flourished, and where its legacies endure. But it suggests the opportunities that exist, not only at the new places indicated by these stories, but at existing museums, parks, and historic sites as well.¹⁸

The Submarine Force Library and Museum in Groton interprets the USS *Nautilus*, the first nuclear-powered sub. Stories of local protest are absent from a series of exhibits that focus on the technological advancements and military history of America's submarine fleet. The audio tour of the ship itself offers a fascinating window into the experience of serving onboard a submarine, but

for security reasons leaves out the sections that pertain to its key innovation: the nuclear reactor that was its source of motive power. Thousands of miles away, at the Titan Missile Museum outside Tucson, Arizona, visitors similarly confront the daily realities of the Air Force crews that kept the intercontinental ballistic missile site on alert through the early 1980s, and are even asked to act out a launch sequence in the underground control room—complete with flashing lights and an alarm that made my five-year-old child believe that a missile was actually going to be launched. The message of this museum is that such a launch never happened because deterrence worked. Its interpretation downplays the hazards, not only of nuclear weapons to humanity as a whole, but also of the fuel and propellants these missiles contained to the people tasked with maintaining them and ensuring they could be launched at any moment. Apart from two Rocket Fuel Handler's Coverall Outfits hanging limply and ominously in the underground passage connecting the silo to the control center, the only allusion to the risks of keeping so many missiles ready to deter the enemy is a panel on the surface explaining the siren system that was installed after the "emergency and explosion" at a Titan missile site in Damascus, Arkansas, in 1980. The accidents, near-misses, and toxic events that litter the history of nuclear weapons are an afterthought.¹⁹

Meanwhile, at the Museum of the City of New York, an exhibition on "Activist New York" explores the movement for nuclear disarmament as one of a rotating series of case studies of social movements in the city. Centering on the 1982 march of a million people from Central Park to the United Nations to demand an end to nuclear weapons—the largest protest in American history—this exhibition offers a necessary counterpoint to the often celebratory or uncritical accounts of America's nuclear achievements—its subs, its missiles, its power plants. What would interpretation that treats these stories together look like? How might we better understand our past—and our future?²⁰



At the Titan Missile Museum outside Tucson, Arizona, the hazards to maintenance workers—and the surrounding communities—may be on display, but they go largely unmentioned. AMRYS O. WILLIAMS

Indeed, our understanding of the environment, and the perils posed by climate change, owes something to radioactivity as well. G.E. Hutchinson's pioneering studies using radioactive tracers to understand nutrient cycling at Linsley Pond were continued by his students and colleagues, and led to important work—carried out most notably by Stanley Auerbach at Oak Ridge National Laboratory and Eugene Odum at the Savannah River Site in South Carolina—that established the ecosystem as a new paradigm in ecology in the postwar period. In turn, ecosystem ecology informed and empowered the postwar environmental movement and its holistic approach to human and environmental health, most famously articulated in Rachel Carson's *Silent Spring* and the citizen science activism of Barry Commoner. Both Carson and Commoner were intimately concerned with fallout from nuclear testing, and used its effects on human health to make their cases against a reductionist science and technology that failed to take people and nature into account. By acknowledging and exploring the history of the anti-nuclear movement and its geographies, we can be better equipped to wrestle with the still unfolding legacy of nuclear energy, and radioactivity in all its forms.²¹

This work is especially urgent in light of the climate crisis. Nuclear power is experiencing a bit of a renaissance in the

environmentalist community thanks to boosters who see it as essential to moving away from fossil fuels. At the same time, burgeoning demands for computing power from the rapid expansion of cryptocurrency and generative artificial intelligence (AI) are pushing private companies towards nuclear investment. The most emblematic of these is Microsoft's recent deal to bring the infamous Three Mile Island plant back online to meet its anticipated energy needs while also adhering to its climate pledges. In 2022, Connecticut's governor signed House Bill No. 5202, which reversed the state's 1979 moratorium on new nuclear plants, paving the way for potential expansion at old plants like Millstone. It is likely that tech companies and government alike will be working hard in the years ahead to rehabilitate nuclear power's public image.²²

The potential nuclear power resurgence in the United States is happening alongside a massive reinvestment in America's nuclear arsenal, starting with the subs in Groton. *AdvanceCT*, a private non-profit economic development organization that attracts businesses to Connecticut, still boasts of the state's top position for per capita federal defense contract dollars. Though in 1987 Connecticut adopted Public Act No. 87-536 to alleviate the state's heavy dependence on military spending, the economic conversion Marta Daniels envisioned in 1980 is incomplete. Interestingly, *AdvanceCT* also touts the state's renewable energy sector, particularly offshore wind, which is growing up in New London, just across the Thames River from the Electric Boat shipyards.²³

Tackling climate change will demand a social movement at least as powerful as the anti-nuclear movement. In 1984, the Bulletin of the Atomic Scientists had set the Doomsday Clock—its barometer of nuclear and other

existential threats—at three minutes to midnight. Today it is 90 seconds to midnight, due not only to the perils of climate change and AI, but a potential three-way nuclear arms race among Russia, China, and the United States. Parks, museums, and monuments need to tell the stories of protest and resistance, the stories of alternatives. Without them we have only the stories of technological progress and achievement, a hagiography that congratulates the scientists, engineers, businessmen, and workers who built our nuclear infrastructure, and does little to grapple with the still unresolved quandaries of a radioactive world.²⁴

In a world of existential risk—from climate change, from nuclear weapons and nuclear power, from the energy-intensive computing technologies of AI and cryptocurrency that create increasing loads on a fragile energy system—we must tell the stories of the alternatives. Marta Daniels and Arnie Alpert, Rachel Carson and Barry Commoner, and countless others in the 20th and 21st centuries have sketched these for us: the alternative technologies, economies, geographies, and social arrangements that a non-nuclear world would entail. All of these stories are inextricable from one another, and must be told in concert, rather than in silos.

Too often, the public interpretation of nuclear technologies remains within the realm of the technological sublime. By paying attention to different objects, and to different places, we can break free from the fetishization of technological innovation and grapple with the very real and destructive histories of the nuclear energy regime. As one historian of technology has argued, the history of nuclear energy is perhaps not so exceptional: when we think of it as a story of managing water, it looks

a lot like the stories of other power technologies, and energy regimes from wood to coal to natural gas.²⁵

Lastly, the stories of radioactivity and radioactivism share an important feature with the stories of climate: they operate on timescales that stretch far beyond a human lifetime. Governments who steward nuclear waste must imagine how to communicate the dangers of radioactivity across tens of thousands of years and hundreds upon hundreds of human generations. How do you tell someone that far in the future, “Don’t dig here”? Anti-nuclear activists helped make concrete and meaningful the distant and invisible dangers of radioactivity to people’s everyday lives, helping them to act in the now for future generations. Those seeking action on climate challenges must make a similar move. As Peter Galison and Robb Moss have shown, storytelling is perhaps the only human activity that can be passed down over so many human lifetimes. It is the best tool we have.²⁶

When I walk across the slogan-engraved sidewalk in Middletown, I remember what has connected Connecticut’s strains of anti-nuclear protest. Whether opposing nuclear power, calling for clean energy, decrying the arms race, or demonstrating against the machinery of warfare, each sought to bring the subject home to Connecticut workers and electricity customers through pocketbook issues. Together, they showed that the paths of militarism and nuclear power, though entrenched, were neither inevitable nor economically necessary and that there were viable alternatives, other choices citizens could make, both individually and through coordinated action, to change their state’s trajectory. Like the words on the sidewalk, these lessons may have faded with time, but they still have the power to remind us what is possible. 🌱

ENDNOTES

1. Leah Glaser, *Interpreting Energy at Museums and Historic Sites* (Lanham, MD: Rowman & Littlefield, 2023), chapter 6; Jason Krupar, “The Disappearing Nuclear Landscape: Snapshots of Lost Atomic Technologies,” *Technology & Culture*, vol. 6, no. 2 (April 2020): 512–548, <https://dx.doi.org/10.1353/tech.2020.0051>; Jason Krupar, “Burying Atomic History: The Mound Builders of Fernald and Weldon Spring,” *The Public Historian*, vol. 29, no. 1 (Winter 2007): 31–58, <https://doi.org/10.1525/tph.2007.29.1.31>; Linda Marie Richards, Exhibit Review of The B Reactor National Historic Landmark, The Hanford Site Manhattan Project National Historical Park, Hanford, WA, *The Public Historian*, vol. 38, no. 4 (November 2016): 305–317, <https://doi.org/10.1525/tph.2016.38.4.305>. Searches of the Historical Marker Database (<http://www.hmdb.org/>) in November 2024 yielded 504 results for “nuclear,” 278 for “atomic,” and 23 for “radioactive.” Only a handful of these markers made any mention of individuals or social movements that critiqued or attempted to counter nuclear technologies.
2. Krupar, “The Disappearing Nuclear Landscape”; Glaser, *Interpreting Energy*, chapter 6.
3. I draw the term “radioactivism” from *The Radioactivist Flash*, the newsletter of the Nuclear Resistance Group at Wesleyan University in the late 1970s and early 1980s, and from The RadioActivist Campaign (TRAC), an important anti-nuclear organization that helped push for accountability and cleanup by the Department of Energy at nuclear sites across the United States. Anti-Nuclear Protests Collection, Collection 1000-157, Box 1,

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