# The Nuclear Bomb and American Culture: A Historiographical Essay

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*"The Nuclear Bomb and American Culture: A Historiographical Essay" is an analysis of the historiographical trends regarding nuclear technology. The essay explains how historians moved from a cultural assessment of nuclear production toward an environmental interpretation. Initially, cultural historians examined the immediate societal impacts of the nuclear bomb. Later, environmental historians began to cover the environmental impacts of nuclear developments. Major environmental incidents during the 1960s and 1970s like the hazardous chemical dumping at Love Canal and the Chernobyl nuclear disaster brought attention to the potential devastation nuclear production could cause. In addition, FOIA requests during the 1980s revealed government attempts to cover up environmental contamination levels. For these reasons, historians extended the study of nuclear technology to include its environmental impacts. Additionally, the study of environmental justice continues to expand as other social sciences like sociology begin to contribute to the topic.*

## Introduction

The use of nuclear weapons during World War II shifted the trajectory of American history. These weapons were more powerful and portended destruction on a grander scale than any of their predecessors. Nuclear weapons brought a sense of fear and anxiety for some Americans, while they increased the feeling of safety and security for others. From the conclusion of World War II through the 1980s, the United States engaged in a power struggle with the USSR known as the Cold War. During this era, nuclear weapons proliferated, and production facilities expanded across the American West. The nuclear plants brought economic security as well as unknown environmental hazards to the communities that grew up around them. As Americans learned of the potential environmental effects of nuclear production, they grew more concerned about environmental issues. Due to this changing of attitude, historians changed the scope of their research. Initially, cultural historians examined the immediate societal influences of the nuclear bomb. Later, environmental historians began to cover the environmental impacts of nuclear developments. Environmental historians did not abandon cultural history in their work, however. In fact, one of the triggers of environmental consciousness regarding nuclear weapons and facilities was the rise of a "culture of dissent" that permeated "mainstream" American culture.

This paper examines how historians moved from a cultural assessment of nuclear production toward an environmental interpretation. Paul Boyer begins by explaining the creation of two cultures in the aftermath of World War II due to the presence of nuclear weapons. The consensus culture represented the majority culture and accepted the security that atomic weaponry provided, while the culture of dissent experienced anxiety and questioned their presence. Margot Henriksen expands upon Boyer's claims by asserting the dissenting culture grew in popularity throughout the 1960s, while maintaining that the two cultures remained in competition with one another. Following the expansion of the field of environmental history, environmental historians such as Michele Stenehjem Gerber used new evidence to help explain the environmental impacts

of nuclear waste and storage. Additionally, sociologist Stephanie Malin examined the direct impact nuclear production had on the communities surrounding the facilities. Malin endorses environmental justice and shows how the study of nuclear technology extends into other social sciences. These four authors reveal a trend in the historiography from cultural examinations towards environmental justice as new information on the environmental impacts of nuclear weapons, power, and production emerged.

## Two Cultures Emerge

Following World War II, Americans adjusted their attitudes in response to the new atomic age. In *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age*, cultural historian Paul Boyer proposes the idea that two cultures arose and competed, each with a different reaction to the nuclear presence. One adopted a "primal fear of extinction" while the other embraced the safety nuclear weapons created.[1] Boyer draws this conclusion by examining the five years following World War II. In this era, American society faced the threat of total annihilation, which deeply distressed many. The presence of this fear caused a change in everyday behavior as more Americans operated under the strains of increasing anxiety about the future. Whether justified or not, this portion of the population grew concerned and anxious over the expanding presence of American nuclear capabilities.

In contrast, not all Americans viewed the presence of nuclear weapons negatively. Boyer explains how some believed the Bomb acted as a deterrent to nuclear war and disregarded the fear raised by others. They group also pointed to nuclear development as a step forward for science and saw nuclear energy as a potential to provide technological advancements and social transformations, although they did not clearly state what changes nuclear energy would bring.[2] These optimists found the silver lining in the presence of the Bomb – the opportunity for atomic energy. Boyer cites a 1948 Gallup Poll that found a relation between educational level and support for atomic energy.[3] This data shows that educated Americans tried to justify the capabilities of nuclear power, while the less educated feared potential nuclear destruction.

*By the Bomb's Early Light* reflects Boyer's highly religious upbringing as well as his pacifism. Throughout his career as a cultural historian, Boyer examined moral and religious history.[4] He writes critically of the views of those who supported the Bomb's presence in society, labeling their ideas as "imprecise and contradictory."[5] Additionally, he devotes only three chapters to discussing those with positive attitudes. On the other hand, he spends eight chapters outlining the negative psychological effects and fearful reactions of Americans following the introduction of nuclear weapons.

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1. Paul Boyer, *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age* (New York: Pantheon Books, 1985), 15.

2. Boyer, 133-6.

3. Boyer, 120-1.

4. "Paul Samuel Boyer," University of Wisconsin – Madison, accessed July 25, 2017, https://history.wisc.edu/boyer_memorial.htm.

5. Boyer, 135.

**The Rise of the Culture of Dissent**

In *Dr. Strangelove's America: Society and Culture in the Atomic Age,* cultural historian Margot A. Henriksen reinterprets Boyer's concept of two cultures by arguing the atomic bomb brought about a "consensus culture" on one hand and a "dissenting culture" on the other.[6] In Henriksen's view, the consensus culture accepted the safety and security of the Bomb, while the culture of dissent exemplified disorder and rebelliousness brought on by the uncertainty of atomic weapons. Like Boyer, Henriksen views the 1950s as the era in which Americans learned to live with the Bomb. She writes how the booming post-war economy acted as a distraction from concerns about the Bomb because Americans became immersed in consumerism.[7] However, Americans were deeply conflicted internally about the Bomb's presence in society.

Henriksen's background as a cultural and popular culture historian influences her views of American society. Her binary view of consensus and dissenting cultures supports her ideas of competing cultures during the 1950s and 1960s, with the dissenting culture slowly gaining popularity in the 1960s.[8] The dissenting culture refused to adopt the consensus ideology that accepted the proliferation of the atomic bomb in society.[9] This afforded Americans the option of not having to agree with this nuclear presence and adopt their own ideas about the Bomb.

Henriksen uses popular culture as evidence for her claims, arguing that movies and literature featured characters facing similar conflicts. She maintains the dissenting culture gained in strength during the 1960s. Prior to this cultural movement, Henriksen notes how events like the Cuban Missile Crisis signaled America's flirting with Armageddon. She views this crisis as an example for how close the United States was to entering a nuclear war. Due to the fear of war, she contends this emotion influenced doomsday themes and ideas in film. In her view, the popular culture reflected the changing attitudes and became most evident first in Alfred Hitchcock's *The Birds,* then in Stanley Kubrick's *Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb. The Birds* laid the foundation for Kubrick's classic by embracing ambiguous "end of the world" themes. In it, people experience attacks from birds which Henriksen sees as a metaphor for atomic weapons.[10] The vague connections to the Bomb made in Hitchcock's films became symbols for upcoming apocalyptic interpretations. Henriksen views Kubrick's *Dr. Strangelove* as the epitome of Armageddon-like popular culture as the film concludes with a nuclear war. The movie's success indicated the beginning of a coming cultural revolution that sought to show that Americans could live without, as she wrote, "loving the Bomb or accepting the Bomb's promise of an apocalyptic future."[11] This revolution in culture also sought to overthrow the consensus

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

7. Henriksen, 5.

8. "Margot A. Henriksen," University of Hawaii at Manao, accessed July 25, 2017, http://manoa.hawaii.edu/history/people/faculty/henriksen/.

9. Henriksen, 7-9.

10. Henriksen, 300-2.

11. Henriksen, 387.

culture without completely destroying it. According to Henriksen, the dissenting culture proved the strength of the American people could outweigh the power of the Bomb.

**Trend towards Environmental Views**

During the 1960s and 1970s, historians started exploring environmental history as a discipline. Nuclear environmental incidents such as the Three Mile Island and Chernobyl nuclear disasters brought further attention to the potential devastation nuclear production could cause. Disasters such as these helped to shift American opinion as well as expand the field of environmental history to nuclear production.[12] The trends in public opinion support the idea of environmental protection as a growing ideology. The 1980s represented a resurgence in positive sentiment toward environmental issues due to the declassification of government reports at nuclear facilities across the country.[13] During this decade, the widespread impact of nuclear development for Americans became clearer as the focus from historian extended beyond cultural analyses.

**Significance of the Hanford Nuclear Site**

At the turn of the twenty first century, environmental historians examined the impacts of nuclear power on American culture. In *On the Home Front: The Cold War Legacy of the Hanford Nuclear Site*, Michele Stenehjem Gerber discusses the environmental problems of nuclear production and waste storage. Originally built in 1943, the Hanford, Washington, nuclear site manufactured plutonium for tens of thousands of nuclear bombs. Gerber explains how the products of this facility extended beyond the plutonium it produced. She claims the nuclear materials at the Hanford Nuclear Site contaminated the air, water, and land around the facility and near unknowing residents. As a result of Gerber's Freedom of Information Act requests, the government in 1986 began releasing tens of thousands of previously classified documents that revealed it knew about and tried to hide an environmental disaster on a grand scale. In Gerber's view, these documents revealed an environmental disaster on a grand scale. For example, they show that the site dumped thirty-two billion gallons of low-level processing waste between 1961 and 1965 with most ending up in Gable Mountain Pond. This excessive dumping caused radionuclide levels in the groundwater to skyrocket with contaminants reaching within one mile of the nearby Columbia River in 1963. Other areas were at or near maximum acceptable radiation levels. The Atomic Energy Committee privileged the production of plutonium over the safety of the American people and the environment around them. The fact the government concealed this information upset those in the area. Local residents trusted the government's integrity and felt betrayed by its actions.[14]

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12. K. Jan Oostehoek, "What is Environmental History?," January 3, 2005, https://www.eh-resources.org/what-is-environmental-history/.

13. Riley Dunlap, "Trends in Public Opinion Toward Environmental Issues: 1965-1990," *Society and Natural Resources* 4 (April 1991), 285-7.

14. Gerber, 70-1.

Gerber has worked as an independent historian of the Hanford Nuclear Site since 1987. In the documents from Gerber's FOIA requests, she discovered previously excluded footnotes within thousands of historical documents related to the environmental effects of the Hanford site. This new information allowed historians to decipher code words in the documents, which produced a greater understanding of the environmental significance of the site. Because Gerber also served on the committee of declassification of Department of Energy Documents for the National Academy of Sciences, she achieved access to other government documents.[15] All of these efforts allowed Gerber to study an assortment of these government documents to understand the extent of pollution in the immediate areas around nuclear production sites. Her findings exposed multi-decade government efforts to shield this pivotal information from its own citizens. This affected not only those living near nuclear plants but also other Americans. Gerber views these moments as a turning point of American's distrust of their government. Americans started to question what other environmental hazards the United States government systematically concealed during the Cold War. Gerber's intense perseverance in the pursuit of the truth provided citizens with tangible evidence of environmental hazards from nuclear facilities.

Gerber maintains the idea of two competing cultures like Boyer and Henriksen while incorporating environmental influence. She explains how these Americans banded together and discovered a system-wide problem of environmental pollution by filing lawsuits and standing up to the powerful authority of the consensus. Due to these efforts, Gerber believes the Hanford Nuclear Site is currently undergoing the largest radiation cleanup in world history. After leading the nation in plutonium production, she views the Hanford site now represents a path toward positive change. The site now pioneers advancements in "waste remediation, environmental restoration, and the preservation of democratic principles through public involvement."[16] The information drawn from studying pollution from nuclear sites brought greater attention to the environmental impacts of nuclear production.

The declassification of government documents during the late 1980s afforded Gerber access to previously unconfirmed information. Before this point, historians could not effectively study environmental aspects of nuclear capabilities due to a lack of source material. The 1980s document releases changed the direction of the historiography of nuclear science in the United States. Historians afterward were able to examine data and reports covering pollution and toxic waste dumps from nuclear facilities across the country. From this point forward, historians studied the cultural impacts of pollution and environmental disasters in the minds and attitudes of Americans within these communities and beyond.

**Environmental Justice and Nuclear Energy**

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[15]. "Michele Gerber," Daughters of Hanford, accessed July 25, 2017, http://www.daughtersofhanford.org/michele-gerber/.
[16]. Gerber, 5-9, quotation from page 10.

As the environmental effects of nuclear development became clearer in the twenty first century, historians turned their focus to those Americans living around nuclear sites. Nuclear communities, as they became known, felt the full economic and environmental effects from nuclear power; consequently, they developed their own sense of identity and perspective on nuclear power. In *The Price of Nuclear Power: Uranium Communities and Environmental Justice*, Stephanie Malin describes the development of these attitudes and how they differed among different communities.[17] Through the examination of three communities dependent on their natural nuclear resources, she depicts a dependent picture regarding their views on nuclear production in their communities.

Malin expands the study of environmentalism and nuclear capabilities through her emphasis on people of affected communities. As an assistant professor of Sociology at Colorado State University, Malin studies environmental justice, environmental health, poverty, and the political economy of energy development. She deduces how these factors influence the mindsets of those residing in rural uranium communities scattered across the western United States.[18] Because she is a sociologist, Malin interacts with those directly affected by nuclear energy development and concludes that members of these communities have differing attitudes toward uranium mining and nuclear power.

The first community is Nucla, in rural Colorado. To her, Nucla embodies a desperate support for the nuclear sector due to its residents' extreme poverty, natural resource dependence, and spatial isolation. For Nucla, the potential rewards of jobs from uranium mining outweighed the potential health risks from nuclear contamination.[19] Malin uses Nucla as an example of how economically desperate rural communities embraced economic opportunities instead of implementing strict environmental regulations that would stifle nuclear growth in the community.

On the opposite end of the spectrum, Malin tells how Telluride, Colorado, transformed from a uranium-dependent economy into a tourism-based economy and now considers the environmental and health risks of uranium extraction to be too costly. Because Telluride halted uranium mining, the number of jobs available fell. Malin details how the transition to a tourism-based economy brought with it rising property values. This forced the working class, which supported the transition, to move out of the city as they could no longer afford to live there.[20] By not allowing uranium extraction, Telluride shows that uranium communities do not have to depend on uranium as their sole source of economic security.

Malin's third community adopted an approach in the middle of the spectrum. Monticello, Utah, actively supported environmental justice, the idea of fair treatment for all people regarding the enforcement and application of environmental laws. Yet, residents of Monticello also endorsed

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17. Stephanie A. Malin, *The Price of Nuclear Power: Uranium Communities and Environmental Justice* (New Brunswick: Rutgers University Press, 2015), 26-7.

18. "Stephanie Malin," Colorado State University, accessed July 25, 2017, http://www.libarts.colostate.edu/people/samalin/.

19. Malin, 122-5.

20. Malin, 123-4.

the reopening of uranium operations.[21] Many residents in Monticello understood their local need to balance environmental protection with economic security. Due to persistent poverty and spatial isolation, the community only accepts the environmental justice they think they can reasonably obtain. Residents believe they can use the uranium resources in their surroundings to combat their economic issues.

In the communities Malin highlights throughout her book, one theme persists in each: each community possesses deep cultural and economic ties to the growth of nuclear power and energy in the American West. She criticizes the overwhelming power that town decision-makers have for choosing jobs at the risk of long-term health and environmental problems as the source of the problem of dependence. She argues economic and political concerns force these communities to commoditize the land in hope of making a living, all while sacrificing their livelihood. However, Malin also believes activism targeting these large corporations is ultimately ineffective, since the residents of the uranium communities support the reintroduction of uranium extraction facilities. Financial gains from employment and investment remain the primary motivator of these supportive sentiments.[22] To this day, nuclear capabilities continue to directly impact and shape the lives and culture of everyday Americans.

Malin offers a new perspective from those who came before her by emphasizing environmental justice. She seeks to understand the attitudes of communities affected by the environmental impacts rather than focusing exclusively on nationwide views. Because fossil fuel prices climbed higher around the time of publication of her book in 2015, Malin assessed resurgence in the demand for nuclear power could be on the horizon. She warns against making the same environmentally detrimental mistakes once again and contends that the proliferation of sustainable energy could mold the mindsets of Americans towards an even greater degree of environmental awareness, a new position on nuclear power.[23]

## Conclusion

Nuclear weapons, power, and production profoundly transformed American culture and environmental attitudes. Beginning with the fear of nuclear weapons in the aftermath of World War II, Americans dealt with the impact of nuclear capabilities. In *By the Bomb's Early Light*, Paul Boyer examines the five years following the war and assesses the positive and negative psychological effects on American society. He concludes both a culture of optimism and pessimism developed and that each took the lead in society in waves. Similarly, Margot A. Henriksen posits that the United States had two cultures vied for dominance in her book *Dr. Strangelove's America: Society and Culture in the Atomic Age*. She contends that the presence of the Bomb allowed the dissenting culture to slowly grow in popularity. These two accounts,

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21. Malin, 126-7.
22. Malin, 148-55.
23. Malin, 155-60.

published in 1985 and 1997 respectively, both examine the cultural impact of the presence of nuclear weapons but neither examined the environmental impact of nuclear technology. Historians had yet to fully engage with the environmental aspects of nuclear power and waste.

Environmental disasters in the 1960s, 1970s, and 1980s contributed to the growing awareness in pollution. In response, some historians uncovered how the government concealed the environmental impact of nuclear facilities from the American people. Michele Stenehjem Gerber's *On the Home Front* showed how questioning the government can lead to the expansion of knowledge. Her discoveries regarding pollution at the Hanford Nuclear Site spread awareness of the government's attempts to mask the environmental disasters set in motion by nuclear facilities around the country. In addition, Stephanie Malin's sociological assessment of uranium communities in *The Price of Nuclear Power* highlighted how economic dependence on resource extraction can lead to environmental injustice. She stated the nuclear industries of the future should avoid exploiting nuclear communities for profit and ameliorate nuclear energy's negative environmental impact. Because of the information from documents regarding nuclear industries and the environment, historians moved beyond cultural examinations of the nuclear capabilities and explored environmental impacts and, later, environmental justice.

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